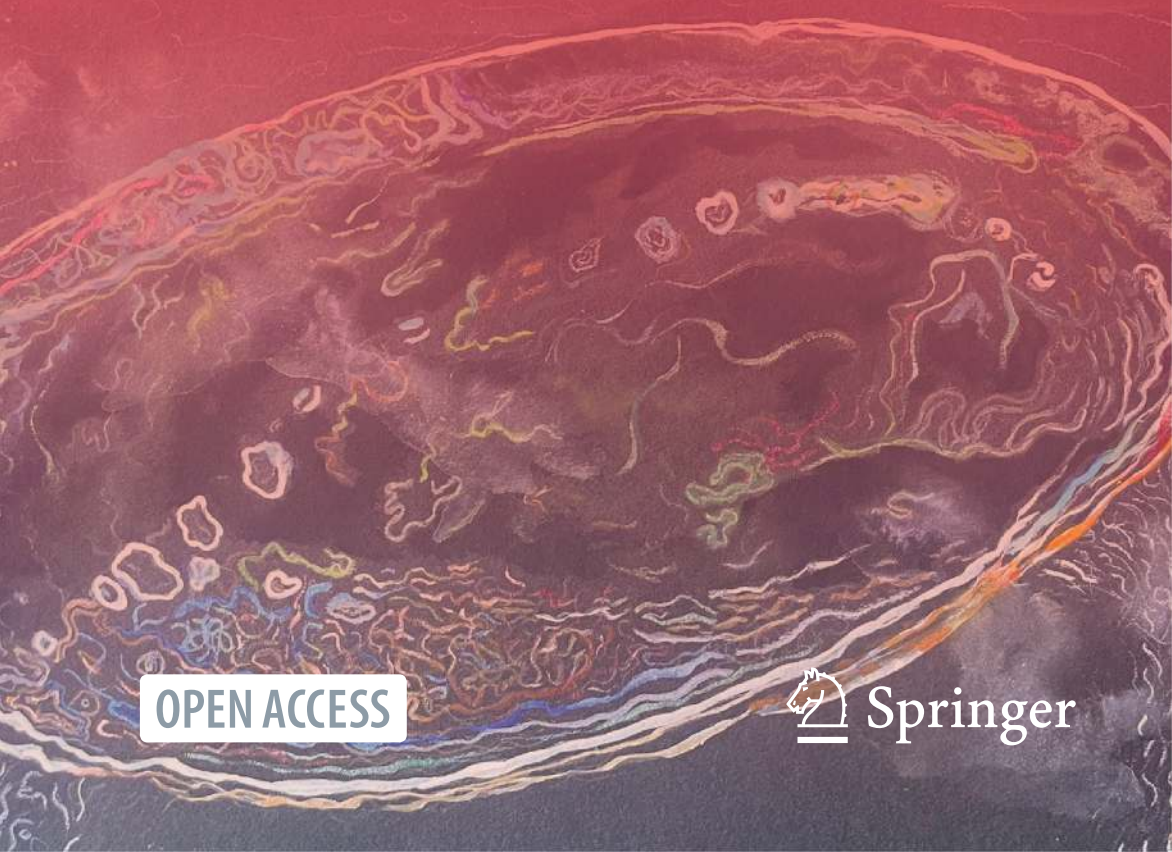
Anita Pryor · Tonia Gray
Cathryn Carpenter · Pauline Marsh
Andrea Dickmeyer · Ben Knowles
Jacob Prehn *Editors*

Outdoor Health

Caring for People and Planet



OPEN ACCESS

Springer

Outdoor Health

Anita Pryor • Tonia Gray • Cathryn Carpenter •
Pauline Marsh • Andrea Dickmeyer •
Ben Knowles • Jacob Prehn
Editors

Outdoor Health

Caring for People and Planet

Springer

Editors
Anita Pryor
Adventure Works Australia
South Hobart, TAS, Australia

Cathryn Carpenter
Independent Scholar
Barwon Heads, VIC,
Australia

Andrea Dickmeyer
University of Newcastle
Australia
Callaghan, NSW, Australia

Jacob Prehn
School of Social Sciences
University of Tasmania
Hobart, TAS, Australia

Tonia Gray
Western Sydney University
Penrith, NSW, Australia

Pauline Marsh
Wicking Dementia Centre
University of Tasmania
Hobart, TAS, Australia

Ben Knowles
Adventure Works Australia and University of Tasmania
Whitfield, VIC, Australia



ISBN 978-981-92-0584-4 ISBN 978-981-92-0585-1 (eBook)
https://doi.org/10.1007/978-981-92-0585-1

© The Editor(s) (if applicable) and The Author(s) 2027. This book is an open access publication.

Open Access This book is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.
The images or other third party material in this book are included in the book's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the book's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.
Unless otherwise expressly agreed by the Publisher in writing, the Publisher does not authorize use or reproduction of all or any part of this work in any manner for the purpose of training, fine-tuning, evaluating, or developing artificial intelligence models, technologies, or systems. In accordance with Article 4(3) of the EU Directive 2019/790 on copyright and related rights in the Digital Single Market, the Publisher expressly reserves all rights with respect to this work under the text and data mining exception of the directive.
The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.
The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Janice Margaret Ross (Lavinia Lowery Maynard), mukaminya | native track, a beautiful shell representation of sea country, 2024

This Springer imprint is published by the registered company Springer Nature Singapore Pte Ltd.
The registered company address is: 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Singapore.

If disposing of this product, please recycle the paper.

Foreword. A Serious Note: Health and Country

Sociocultural Positioning

I write this Foreword—*A Serious Note: Health and Country*—as a well known and respected Palawa Elder. I am from the Plangermairreenner clan of the Turbuna people (Mt Ben Lomond) of the north-east Midlands in Lutruwita (Tasmania). However, I now live on Cape Barren Island, part of the Furneaux Island group. Throughout my lifetime, I have held various jobs, but to many people, I am probably best known for my political activism. I am an activist, though I do not consider myself radical; asking for the return of our land is not a radical idea. I have spent many years involved in Aboriginal affairs and advocating for my people here in Lutruwita, among other things. I share this background not simply as personal history, but because it shapes how I understand the relationship between health and Country. Sociocultural Positioning matters because knowledge is never neutral; it is always informed by who speaks, from where, and for whom. With this in mind, I now turn to reflect on why the wellbeing of our people cannot be separated from the wellbeing of Country.

Caring for Health, Caring for Country

In Australia, the health and wellbeing of First Peoples is inextricably linked to the health of Country. For First Peoples, the concept of Country is a fundamentally different way of being with the natural world compared to Western societies. Before the British invasion of the Australian continent in 1788, and Lutruwita (Van Diemen's Land/Tasmania) in 1803, our People lived on Country without fences, land titles, or concepts of land ownership (Ryan, 2012). First Peoples and the land had a different framework from the European colonial ownership system.

The land did not require ownership; it was a fully sustainable relational ecosystem, maintaining balance across the natural world.

Our First Peoples evolved with Country, fulfilling a vital role in caring for Country and *All-life*. However, the traditional way of life for First Peoples has been profoundly disrupted by the ongoing structure of settler-colonialism (Wolfe, 1999), with Western-centric health programs contributing to the assimilation of our people and communities. Achieving meaningful change in health policies and programs will require (re)claiming traditional and contemporary health knowledges and practices. But can these efforts adequately address the mental health challenges First Peoples face?

Our communities continue to suffer from the destruction and pollution of Country, including land, seas, freshwater, and sky-Country. This ongoing harm is evident in every region of Australia. As Aunty Judy Atkinson (2002, p. 30) writes:

> It is important to understand people's relationship with the land in considering trauma, for Country can hold healing or traumatic memory and energy, by human activity or ceremony that has made a place unique, sacred or profane. ... In this sense, the land is central to Aboriginal identity ... and sense of wellness or wellbeing. If the Country is sick, people are sick.

Our First Peoples are unable to halt the relentless mining and oil extraction, logging of old-growth forests, plastic pollution, and the daily environmental degradation we witness. This destruction exacerbates the challenges faced by First Peoples, who understand deeply that "We are Country, Country is us." Yet, before our eyes, Country is being desecrated for profit. Colonial Australia has taken a regressive path, eroding the fundamental elements that sustain life. This regression impacts not only our relational ecosystem but also the millions of interconnected ecosystems that form the oneness of existence.

In Australia, the principles of First Peoples' societies must be central to health policies and programs, enabling the development of more effective and culturally appropriate remedies for healing, rooted in Aboriginal perspectives and knowledge. The ongoing dominance of colonial systems over First Peoples, combined with the evident shortcomings of the Closing the Gap Strategy (2020) [see, the Productivity Commission (2024)], highlights the urgent need for Aboriginal self-determination to take precedence in structuring and resourcing health and wellbeing services.

Having access to healthy Country is a key component of good holistic health and well-being for First Peoples (Williamson et al., 2020). This can only be achieved if health and wellbeing programs are developed collaboratively with local health services and led by Aboriginal health experts. Local Aboriginal community health leaders and representatives should select these experts. The importance of this approach is evident, it addresses systemic issues that health programs and service providers alone cannot solve, particularly in achieving true 'post-colonialism' (Paradies, 2020). Ultimately, this is a political issue tied to the broader pursuit of a treaty.

To advance health and wellbeing policy, greater attention must be given to fostering local Aboriginal community ownership, leadership, and direction in the development, interpretation, and delivery of services (Dawson et al., 2020).

There is no middle ground here, establishing health and well-being for our First Peoples requires overhauling the current, persistently failing services. Trauma arises from many sources, including racism, self-medicating with alcohol and drugs, poverty, and other social factors (Marmot, 2011). It is far too simplistic for governments to claim that First Peoples' challenges are merely welfare issues that can be solved with more welfare. How absurd!

Addressing these deeply entrenched issues is complex and must be resolved to satisfy all parties. While a treaty agreement may provide a pathway to a more just arrangement, it remains a distant goal for many.

In my view, trauma is a significant health issue across First Peoples' communities. The causes are evident, and some of these issues can be addressed more effectively in the short term. However, the major hurdle is the Government's need to abandon its assimilation agenda and instead embrace a reverse assimilation approach. This shift would require governments to address the ongoing trauma that continues to harm First Peoples by developing policies that acknowledge and support the cultural healing practices upheld by First Peoples Knowledge Keepers.

This change would also necessitate increased respect and resources for First Peoples health practitioners, enabling them to carry out the work that is so urgently needed. At the delivery level, we must reflect on what is required and consider the impact of the colonial system on the daily lives of First Peoples. It is essential to understand the root causes of poor health and wellbeing in First Peoples' communities and to act accordingly. To do otherwise is to cling to the status quo, leaving Australia diminished in its ability to learn from First Peoples and the invaluable knowledge they offer.

First Peoples must be empowered to fulfil their holistic connection to health, wellbeing, and care for Country, a connection that is not only vital to their communities but essential to all Australians, whether this truth is currently acknowledged or not [see, for example, the work of the Yoorrook Justice Commission (2022) in Victoria].

For Australia to thrive, we must collectively (re)learn how to live in harmony with the natural environment, abandoning the exploitative, capitalist mindset that views land as a resource rather than a living entity. By approaching this process with humility and embracing the knowledge First Peoples offer, Australia has an opportunity to reconcile with its deeply fractured past. This is not only a pathway to healing but a necessary step toward creating a sustainable future where we can all coexist with Country.

Uncle Jim Everett-Puralia Meenamatta
Cape Barren Island, TAS
kraka neka, knowledge discussion

References

Atkinson, J. (2002). *Trauma trails, recreating song lines: The transgenerational effects of trauma in Indigenous Australia*. Spinifex Press.

Closing the Gap. (2020). *National Agreement on Closing the Gap*. COAG and NIAA. https://www.closingthegap.gov.au/sites/default/files/files/national-agreement-ctg.pdf

Dawson, A., Brown, A., Morey, K., Canuto, K., & Pearson, O. (2020). Aboriginal Community Controlled Health Organisations in practice: Sharing ways of working from the ACCHO sector.

Marmot, M. (2011). Social determinants and the health of Indigenous Australians. *Med J Aust, 194*(10), 512–513.

Paradies, Y. (2020). Unsettling truths: modernity, (de-)coloniality and Indigenous futures. *Postcolonial Studies*, *23*(4), 438–456. https://doi.org/10.1080/13688790.2020.1809069

Productivity Commission. (2024). *Review of the National Agreement on Closing the Gap. Productivity Commission*. https://www.pc.gov.au/inquiries/completed/closing-the-gap-review/report/closing-the-gap-review-report.pdf

Ryan, L. (2012). *Tasmanian Aborigines: a history since 1803*. Allen & Unwin.

Williamson, L., Dent, P., & Bowman, N. (2020). Culture is Key: towards cultural determinants-driven health policy–final report. *Lowitja Institute: Melbourne, Australia*.

Wolfe, P. (1999). *Settler colonialism*. A&C Black.

Yoorrook Justice Commission. (2022). *Yoorrook with Purpose: Interim Report (2022)*. https://yoorrookjusticecommission.org.au/wp-content/uploads/2022/07/Yoorrook-Justice-Commission-Interim-Report.pdf

Acknowledgements This book emerged from a call for papers by the Australian Association for Bush Adventure Therapy (AABAT) on the topic "outdoor health and nature-based solutions" for a special issue of the *Journal of Outdoor & Environmental Education* in 2023. The overwhelming number and quality of submissions inspired the volunteer editorial team to collate and share the rich contributions. In 2024, AABAT became Outdoor Health Australia (OHA), the national body for evidence-informed nature-based health, wellbeing, and therapy practices in Australia, and those initial submissions have grown into this diverse collection of 31 chapters. The final curated collection represents a wide range of professional perspectives, geographic locations, settings, target groups, and academic disciplines.

We extend our heartfelt thanks to all 70 authors for their generous contributions, and to the 20 external reviewers whose insights helped deepen and broaden the quality of this book.

A central aim of the book is to re-centre Indigenous ways of knowing and being, and lived experience, as valid forms of practice-based evidence. In the face of the current ecological and sociocultural crises, the work of re-membering of Indigenous knowledge systems is both timely and essential. We thank all Aboriginal authors and reviewers, and in particular, Jacob Prehn who brought an Indigenous lens to the editorial process.

A significant highlight of this book is the inclusion of high quality work by first-time authors, reviewers and editors alongside seasoned contributors, through which we have collectively strengthened the capacity of the outdoor health sector to articulate stories of practice, findings from research evidence, and powerful vignettes.

The front cover design was created by Aboriginal artist Janice Ross, a strong and proud Tasmanian Aboriginal Saltwater Sister, for the 22nd annual national forum of the Australian Outdoor Health community held in Lutruwita/Tasmania in April 2024. Entitled ***mukaminya—native track***, Janice's abalone design represents sea country, inviting us to remember the tracks that link us, and the importance of connecting with Indigenous ways of knowing, being and relating. As the cover design of this book, it reminds us that we are all connected.

We are grateful for financial contributions from Outdoor Health Australia, the University of Tasmania, the Western Sydney University, and an anonymous private sponsor for support with the editorial process. We'd like to specifically thank Pam Firth who diligently copyedited and strengthened the quality of the book. A generous grant from the Victorian Government Department of Jobs, Skills, Industry and Regions enabled open access publication, expanding the reach and impact of this work.

To all who volunteered their time, expertise, and passion, we offer our sincere thanks. And to the families and loved ones (of all kinds) who supported the authors, reviewers, and editors throughout the journey of this book, we are deeply grateful for your patience, encouragement, and love.

Contents

Part I Scoping The Field 1

1 Caring for People and Planet in a Time of Crisis 3
Jacob Prehn and Anita Pryor

2 Common Elements of Effective Outdoor Health Modalities Within an Evolving Bio–Psycho–Socio–Cultural–Eco Model: A Narrative Review 25
Joshua McLean, Tom Mulvaney, and Anita Pryor

3 The Mycelium Metaphor: A Picture of Adventure and Nature Therapy in Europe 57
Alexander Rose

4 Trends Towards Transformation in Canadian Outdoor Health 77
Simon Priest and Stephen D Ritchie

5 Taiwan's Development of Adventure Therapy Practice 113
Chienhsi Hsu and Christine Lynn Norton

6 Green Care Interventions: A Review of Evidence for Outdoor Therapies and a Path to Better Health 141
Adriana Perez Angelucci, James Peak, Isabella Macpherson, and Antonio Mendoza Diaz

7 Becoming Ethical: A Reflective Journey Towards Transformative Outdoor Health Practices 165
Ben Knowles, Rebecca Harth, and Anita Pryor

Part II Evidence-Informed Practice 191

8 Country and the Cultural Determinants of Health and Wellbeing for Aboriginal Men 193
Jacob Prehn: Worimi, Luke Mabb: Wakka Wakka, Jamie Graham-blair: Trawlwoolway and Plengarmairenner, Pakana, Dewayne Everett Smith: Palawa, Anthony King: Wakka Wakka, and Pete Rae: Non-Indigenous

9 Considerations for Working in the Outdoors with Women Victim Survivors of Family Violence 211
Lani Pereira and Rachael Millsom

10 Taking Therapy Outside with "Revive": An Adventure Therapy Program for Survivors of Sexual Harm 229
Anneke Beardsley and Amy Horn

11 Occupational Therapy and Nature: Returning to Our Roots 245
Bronwyn Paynter

12 Engaging at the Pace of Trust: Tackling the Youth Mental Health Crisis with an Outdoor Health Approach 269
Meaghan Vosz and Andy Hamilton

13 Equine-Facilitated Practice: A Systemic and Reflective Road to Safe Practice 287
Kylie Peters

14 "It's Good for the Soul": Positive Impacts of the Master Gardener Volunteer Program with Vulnerable Communities 309
Katina Dimoulias, Danielle Tracey, and Tonia Gray

Part III Expanding Practice: Lived Experience 333

15 A Holistic Model of Positive Body Image and Outdoor Physical Activity 335
Joelle Breault-Hood, Tonia Gray, Jacqueline Ullmann, and Son Truong

16 Trail Tracing and Walking with Grief: A Story of Practice 355
Laura Engel

17 Underlying Social Psychological Mechanisms of Nature-Based Interventions 371
Kylie Agnew

18 Redefining Body and Self: Making Meanings of Abortion Through Embodied Experiences of Climbing in Nature 385
Chloe Paul

19 "If You Look, You Will See the Light Shining Through the Darkness": A Photovoice Study Exploring A Nature Walking Group for People Attending Mental Health Services 403
Julaine Allan, Katarzyna Olcoń, Peter Destry, and Thomas Astell-Burt

20 Taking the Group Seriously 421
Martin Ringer

Part IV Re(Centring) Nature 435

21 Aboriginal-Informed Outdoor Therapy: Values, Principles, and Practitioner Training in Australia 437
Clare Raffety, Luke Mabb: Wakka Wakka Aboriginal Man, and Anita Pryor

22 Back to Basics: The Benefits of Nature-Infused Learning for Children and Young People 461
Fiona Pigott and Tonia Gray

23 Navigating Outdoor Vulnerabilities in Dementia Using Nearby Nature 487
Nkolika Mmako, Pauline Marsh, Helen Courtney-Pratt, and Karen Ford

24 The Outdoor Health Promise of the Campus Community Garden ... 501
Pauline Marsh, Abigail Wright, Sue Pearson, Catherine Elliot, and Eliza Burke

25 Eco Coffin Project: Walking with Natural Burial 521
Abby Buckley

Part V Mutuality: Planet and People 539

26 Country-Centric Pedagogies in Initial Teacher Education for Ecological and Social Wellness and Balance 541
Michael J. Davies, Margie Appel, David Spillman, Benny Wilson, and Eli Archer

27 Ecological Restoration and Human Health 561
Todd Dudley and Dave Kendal

28 Climate Anxiety Features and Factors: A Mixed-Methods Study of Professional Perspectives 571
Clare Pitt, Kimberley Norris, and Gretta Pecl

29 Developing Choice-Making Skills Grounded in an Ethic of Care Through Adventure Therapy 593
Denise Mitten and Tanya Ginwala

30 Human Rights and Environmental Justice in Outdoor Health Practices 619
Christine Lynn Norton, Starla Simmons, Uncle Ken Jones, and Sarah O'Connell

31 Outdoor Health: Just Keep On, Opening the Possible 653
Jacob Prehn, Uncle Ken Jones: Boandik Elder, and Anita Pryor

Index 673

Editors and Contributors

About the Editors

Cathryn Carpenter (she/her) employment in the outdoor health sector spans more than 45 years. Primarily an outdoor educator, tour guide, or University academic; she has contributed innovative research and publications focusing on human and environmental health and wellbeing, as well as providing leadership and coordination in the development of adventure therapy in Australia and Internationally. Cathryn has recently retired and is enjoying more time in the outdoors and volunteering with a range of cultural and environmentally focused community based initiatives.

Andrea: Andi Dickmeyer (she/her) is a psychologist and researcher at the University of Newcastle currently investigating outdoor walk-and-talk therapy interventions for men with low mood. Andrea has explored the intersection of nature connection and mental health through outdoor therapy practices including adventure therapy, wilderness therapy, forest bathing, nature art, and guided solo practices internationally through a Thomas J. Watson Fellowship from the United States.

Tonia Gray (she/her) is a professor in the Centre for Educational Research and the World Leisure Centre for Excellence (WLCE), Western Sydney University. Her transdisciplinary research explores human–nature relationships and their impact on health and wellbeing. Tonia is a multi-award-winning educator who won the 2014 Australian award for Excellence in University Teaching and the 2019 Association of Experiential Education Distinguished Researcher of the Year. Currently, she is the Executive Editor of the *Journal of Outdoor and Environmental Education* and is the past chair of the Australian Tertiary Outdoor

Education Network (ATOEN). In 2019, Tonia journeyed to Antarctica with the Homeward Bound Project to elevate women in leadership and climate action.

Ben Knowles (he/him) has been involved in the outdoor health field since the early 2000s. He has trained in education, outdoor education, experiential learning, and narrative therapy, and lives on Minjambuta, Bpangerang, and Taungurung Lands in Northeast Victoria, Australia. Over the last two decades, he has honed his therapeutic skills with individuals, groups, and communities in diverse outdoor contexts. His PhD in public health, examining "ethics" in outdoor health practice, reflects his commitment to integrating outdoor health practices into the Australian health system. Ben was pivotal in establishing the Australian Association for Bush Adventure Therapy (AABAT) and supported its transition to Outdoor Health Australia (OHA). Alongside his PhD, he works as Co-director of Adventure Works Australia, serves on the OHA board, and is a Co-convenor of Ethical Practice and Quality for the International Association for Adventure & Nature-based Therapies.

Pauline Marsh is an interdisciplinary health geographer, who explores innovative, community and nature-based solutions to improve wellbeing and quality of life. Pauline is a senior lecturer in dementia studies, with research expertise in fields of community-based end-of-life care, therapeutic landscapes, inclusivity, ageing, living with dementia, film theory and community development. She is chief investigator on the Nature Connection Storytelling Project, and co-lead of the Venture Out Living Lab Research groups at UTAS. Over the past 20 years she has prioritised meaningful research with diverse population groups to deliver real-life impacts on health and wellbeing.

Jacob Prehn (he/him) (PhD) is a Worimi sociologist and social work academic. He serves as the Director of Research, Evaluation, and Data Governance with the Treaty Authority (Victoria). Jacob is an adjunct associate professor at the University of Tasmania and a former associate dean Indigenous. He is an executive member of the Australian Indigenous Data Sovereignty collective, Maiam nayri Wingara, and an executive member of the Global Indigenous Data Alliance (GIDA). His scholarship primarily focuses on Indigenous data sovereignty and governance; Indigenous men, masculinities, and fatherhood; social inequality; and, most recently, Indigenous–settler treaties.

Anita Pryor (she/her) (PhD) has been involved in the fields of outdoor education, bush adventure therapy, and outdoor therapy for over 30 years in various roles, including practitioner, manager, trainer, researcher, and evaluator. Having trained in outdoor education, solution-focused therapy, narrative therapy, and family therapy in the 1990s, Anita ran remote therapeutic expeditions for young people who had experienced early life trauma.

In 2009, Anita completed a PhD in public health to consolidate an evidence base for Australian outdoor adventure interventions. Since 2013, Anita has supported outdoor health practices as the co-director of Adventure Works Australia Ltd (provider of bush adventure therapy and outdoor counselling, practitioner training, and research and evaluation services). She also volunteers her time to support Outdoor Health Australia (OHA) and the International Association for Adventure & Nature-based Therapies (IAANT).

Contributors

Kylie Agnew is a senior psychologist and adventure therapy specialist. She was awarded a Churchill Fellowship in 2012. Kylie is passionate about how time spent in nature can support mental health, especially for young people navigating complex life challenges. Drawing on her background in psychology and outdoor practices, her work explores the intersection of adventure, connection, and growth.

Julaine Allan is a rural healthcare researcher who specialises in practice-based research. Their research focuses on health care for vulnerable groups experiencing substance dependence and mental health problems. They have extensive industry experience in clinical governance, leadership of work teams, and working effectively in a volatile public and philanthropic funding environment. They provide expertise in researching real-world interventions, conducting process evaluations of healthcare services for rural and remote communities and delivering services for people with multiple complex needs, including substance dependence and mental illness. Julaine has extensive experience in translational research. They have designed and led many studies that have informed mental health and substance treatment services. Their research was effectively translated into practice because it was developed through strong engagement with clinicians, with research questions emerging directly from practice problems, including how to integrate nature into mental health services.

Adriana Perez Angelucci is a Brazilian medical doctor based in Tasmania, Australia, with over 15 years of clinical experience supporting patients with complex chronic conditions. After completing a Master of Health Science in New Zealand, she transitioned into health research, where her interests span innovative and applied approaches to improving health and wellbeing. Trained in clinical UX design and strategy, Adriana is passionate about rethinking traditional models of care and exploring creative solutions that provide real, tangible benefits, particularly for vulnerable populations. Her work combines a strong clinical foundation with a focus on research translation, aiming to bridge the gap between evidence, practice, and everyday life.

Margie Appel is a White woman raised in Australia by middle-class British parents who acknowledges the privilege this background brings to her work. Her diverse teaching experience across private and public schools, at primary and secondary levels, and various cultural contexts has informed her understanding of educational systems. Her research on culturally responsive teaching is driven by a commitment to equity in education and recognising the need for diverse perspectives in our interconnected world. She is grateful for the mentoring and friendship provided by her Indigenous colleagues, Spilly, Benny, and Eli in teaching holistic health education in initial teacher education.

Elinor Archer is a Palawa woman with connections to Oyster Bay and Ben Lomond country in Northeast Lutruwita (Tasmania), who grew up in the Canberra region on Ngunnawal and Ngambri Country. She is humbled to work in a space that centres our old ways of teaching and learning. She has been a classroom teacher in arts and humanities for over 10 years and now lectures at the University of Canberra in teacher education, focusing specifically on Indigenous ways of knowing in teaching and learning.

Thomas Astell Professor of Cities and Planetary Health, works at the School of Architecture, Design and Planning at The University of Sydney. He is an Australian Research Council (ARC) Future Fellow (2023–2027, AU$1 million) focusing on nature-based solutions for wellbeing and loneliness and leads a AU-$1.5 million Medical Research Futures Fund (2023–2027) multisite randomised trial on nature prescriptions for adult cardiovascular and mental health. These projects involve coproduction, collaboration, and communication of groundbreaking research with communities, consumers, and both emerging and leading scientists across Australia and internationally. He conducts research, teaches, and leads a busy lab of urbanists, social researchers, epidemiologists, data scientists, and PhDs investigating how cities affect health and wellbeing and how we can (re) connect people with health-promoting resources (e.g., green spaces) in sustainable, scalable, and effective ways. He coleads the Population Wellbeing and Environment Research Lab (PowerLab) with Prof. Xiaoqi Feng, and alumni are employed in research and policy positions around the world.

Anneke Beardsley is from Aotearoa, New Zealand. With a master's degree in social work, she currently works in Ōtautahi (Christchurch) for Adventure Specialties Trust. Her role is adventure therapy clinician and practice lead. Anneke has a firm belief in the healing and health that comes from connecting to te taiao (the natural world). Anneke sees it as a privilege to go on outdoor adventures with people who are navigating significant challenges in their lives and to encourage and facilitate the reflection that leads to wellbeing and self-development. Also a mum to a 14- and a 12-year-old, much of her time outside of work is invested in whānau (family) adventures and exploring and appreciating the

beautiful world we live in. Her first foray into published work, she is grateful to all the participants whose stories have shaped the narrative that you'll read in this book.

Joelle Breault-Hood currently works in the public sector in New South Wales, Australia, designing and implementing developmental evaluation projects in public education. She is a researcher with over three decades of experience as a backcountry hiking guide, whitewater guide, and outdoor educator. She holds a PhD that investigated outdoor physical activity and women's body image, alongside a deep passion for outdoor learning. She also holds a Diploma of Counselling and maintains a commitment to supporting mental health through nature-based initiatives. Following brain surgery and subsequent physical impacts, her work refocused towards understanding disability and inclusion in outdoor spaces. This lived experience deepened her belief that outdoor activities support confidence and wellbeing through changing capabilities. Her research and practice contribute to the growing movement towards inclusive outdoor experiences as powerful platforms for challenging societal norms and fostering empowerment across diverse abilities and backgrounds.

Abby Buckley is a community educator, researcher, author, and social ecologist who finds guidance and inspiration from nature on how to positively embrace death in our everyday lives, helping us feel connected, empowered, and enlivened. She became interested in this field after the sudden death of her son, Robbie, in a car crash.

Eliza Burke is an independent curator, writer, and researcher based in Nipaluna/Hobart, Tasmania. She has held a variety of teaching and project coordination roles across the arts, education, and health sectors, with a particular interest in how collaborative practices engender new modes of creativity and care. She currently works in the public sector contributing to public health programs for children and young people while maintaining her own creative practice.

Helen Courtney-Pratt is an associate of the Wicking Dementia Research and Education Centre. She is a researcher with a key interest in transformational research aimed at bringing about change in both community and aged care facilities informed by evidence and, importantly, by the perspectives of people living with dementia and those who support them. She champions inclusive research designs for people living with dementia.

Michael J. Davies is a White, heterosexual, non-Indigenous man of Welsh, English, and Irish heritage. Born on Wiradjuri Country and raised on Gunaikurnai Country, Australia, he acknowledges the privileges these afford him

in his life, such as receiving a tertiary education, where he knows research holistic approaches to health and wellbeing for Australian school-aged students, which he teaches in initial teacher education. As a non-Indigenous ally, Michael recognises his obligation to Ngunnawal Country, where he lives, and to his nonhuman relatives. He is humbled to walk side by side with his Indigenous colleagues, Spilly, Benny, and Eli, to learn the old ways of facilitating learning centred on stories from, with, and in Country.

Peter Destry is an experienced social worker with a demonstrated history of working in mental health care and trauma. Skilled in social services, clinical research, and case management, Pete takes a person-centred approach to his work supporting others. He has a strong commitment to community and social services, holding a master's degree focused on peace and conflict studies from The University of Sydney.

Antonio Mendoza Diaz is a clinical psychologist with the Tasmanian Health Service and a mental health researcher, focused on the mental health of children and young people. Tony holds adjunct positions as a senior lecturer at the University of New South Wales and senior researcher at the University of Tasmania. He is lucky to live in Lutruwita, the land of the Palawa people.

Katina Dimoulias is a multidisciplinary researcher and academic in the School of Education and a Juris Doctor student at Western Sydney University. Her principal research and teaching focus is on children's rights, protection, and environmental experiences. More recently, her research has focused on nature-based community development approaches for adults. Katina is trained as an environmental designer and has consulted on the development of community service environments for young people experiencing challenging childhoods. Katina is working to combine her interests in law, education, and environmental design in research and teaching.

Todd Dudley has been active in nature conservation for over 40 years including in the areas of land use planning, environmental education, advocacy, and ecological restoration and bush regeneration. Todd leads grassroots group the North East Bioregional Network (NEBN) in North East Tasmania. He won the 2018 Peter Rawlinson Award in recognition of 20 years of protecting and restoring ecologically significant landscapes, and in 2021, NEBN won the prestigious SERA International Award for Restoration Excellence in the category of larger scale restoration (50 ha and greater) at the Society for Ecological Restoration (SER) conference in Darwin

Catherine Elliott coordinates the Sustainability Integration Program for Students (SIPS) at the University of Tasmania, a unique Sustainability Living Lab program

that creates opportunities for students to work on projects tackling real-world sustainability challenges. She is Chair of the Education for Sustainability Community of Practice (EfS CoP). Catherine loves mentoring students, seeing new projects come to life and collaborating with teams to make meaningful change across the University of Tasmania.

Laura Engel is a social worker with advanced and graduate diplomas in psychology and over 20 years of experience in mental health. Her work has focused on developing, delivering, and facilitating group therapy programs across a range of mental health settings and therapeutic modalities with a particular passion for work in trauma, addiction, and eating disorders. Most recently, she has contributed to the establishment of Australia's first integrated eating disorder day hospital, where she has developed new programs for binge eating disorders and the complex comorbidities often associated with these presentations. Laura's work is grounded in a humanistic, person-centred, and attachment-informed approach, integrating somatic and schema-informed psychotherapy into her practice. She has a strong passion for the outdoors and the emerging field of outdoor health in Australia, bringing her therapeutic work into natural settings to meet the many needs that exist beyond the traditional four walls of a therapy room.

Uncle Jim Everett Puralia Meenamatta was born on Flinders Island, Tasmania, in 1942. He is from the Plangermairreenner clan of the Turbuna (Mt. Ben Lomond) people in Tasmania. Jim currently lives on Cape Barren Island and recently completed a Master of Research at the University of Tasmania in Aboriginal philosophy. He has over 50 years of formal involvement in Aboriginal affairs, with an extensive work history in Aboriginal community controlled organisations (ACCOs) and government. Jim began writing poetry at an early age and wrote his first play, *We Are Survivors*, in 1984, which he also produced, directed, and performed in. Since then, he has written numerous works, including plays, short stories, and political papers. He has also worked as a producer and associate producer on several documentary films and a major feature film, and his writing has been published in many anthologies.

Dewayne Everett Smith is descended from both the Aboriginal community of Cape Barren Island and the Gunai/Kurnai people of Victoria. He is a singer and songwriter based in Nipaluna (Hobart), Lutruwita (Tasmania). Dewayne is known for singing in the Tasmanian Aboriginal language, palawa kani, and for his performance of melaythina, a song that speaks to the unbroken connection to Country held by himself and the Tasmanian Aboriginal community. His music is deeply grounded in heritage, and it has also been shaped by his challenging early years, his love of diverse musical styles, and the influence of great singers across genres.

Karen Ford is an adjunct associate professor at the School of Nursing, University of Tasmania. Her research interests in health and wellbeing are wide ranging, including early childhood, dementia care, and nursing practice. Karen's research activities primarily use qualitative methods, including child- and person-centred approaches and draw on participatory arts-based methods. She is an expert in grounded theory studies.

Tanya Ginwala (she/her) is a psychologist, outdoor facilitator, and adventure and nature-based therapist living in the lower Himalayas of Dharamshala, India. Her professional background spans rehabilitation for substance abuse and facilitating inclusive outdoor experiences for persons with disabilities. At her practice, Qualia, Tanya focuses on decolonising practices, place-based learning, cultural safety, and exploring issues of power, privilege, and intersectionality. She contributes to shaping the global field by collaborating with international colleagues on intercultural training and supervision, and she grounds this work locally by cocreating learning spaces with cultural knowledge holders and practitioners in India. Tanya currently serves as Co-chair of the International Association of Adventure & Nature-based Therapy (2025–2028). She is the recipient of the Karl Rohnke Creativity Award (2023) from the Association for Experiential Education (United States) for her contributions to adapting outdoor therapy practices to the Indian context.

Jamie Graham-Blair is a Trawlwoolway and Plangermaireener Pakana person and an Indigenous knowledge holder dedicated to maintaining culture through practices such as the annual mutton birding season, language revival, and ceremony. Their commitment to climate justice earned them the CSIRO Indigenous STEM Award in 2019, and they have represented their community at national and international cultural and knowledge gatherings. Jamie's artistic practice spans photography of Lutruwita (Tasmania), videography, dance, and regenerative art, blending modern technology with ancient cultural traditions to promote education, ecological conservation, and cultural continuity.

Andy Hamilton is a psychologist with over 25 years' experience in youth mental health, addiction, and justice. Since 2010, he has led the Recre8 expedition program, which integrates outdoor experiential learning and embodied practices with trauma-informed therapy. This innovative approach became the foundation of Human Nature Adventure Therapy, the charity Andy founded in 2015 to deliver nature-based therapeutic programs for vulnerable young people, emphasising the use of nature and adventure to help engage young people who are in dire need of professional mental health support but might otherwise fall through the gaps.

Rebecca Harth (Becky) grew up on Djabugay rainforest country in Far North Queensland and now lives by the beach on Dharawal country near Wollongong.

She worked as an outdoor educator while completing her university studies in psychology and teaching, and she now works to support mental health, wellbeing, and inclusion for staff and students in the outdoor education space.

Amy Horn is from Christchurch, Aotearoa New Zealand. Her early career was in outdoor instruction, always with a focus on personal and social development in the outdoors. After several years working full time in outdoor programs, she returned to pursue further studies in undergraduate psychology and eventually a Master of Counselling. She has been instrumental in developing the practice of adventure therapy at Adventure Specialties Trust. She has also been a founding part of establishing ĀTA, Adventure Therapy Aotearoa, the networking association for outdoor therapeutic approaches in New Zealand. She has served as the chair of ĀTA for many years, and she is currently in her second term as a co-chair of the International Association for Adventure & Nature-based Therapies. When she's not doing those things, she's living her life as a mother, stepmother, wife, daughter, sister, friend, and adventurer!

Chienhsi Hsu (also known as Jasper) holds a master's degree from the Graduate Institute of Psychology (Clinical Psychology Division) at National Taiwan University. He is a licensed clinical psychologist and a certified facilitator with the Asian Association for Experiential Education. Since 2009, he has integrated the principles of adventure therapy into both individual and group counselling practices. He is currently focused on three main areas of work. First, he is the founder of Adventure Calls Taiwan, a clinic that applies adventure therapy approaches to design and deliver growth-oriented programs for children, adolescents, and parents. Second, he serves as Director of Curriculum at the Gao-Shan Forest Tribal Ranch in Hualien, where he explores ways to rebuild human–nature relationships through the lens of ecological psychology. Last, he is a member of Adventure Matters, Ltd., where he collaborates on various adventure-based training and development initiatives.

Uncle Ken Jones is a proud Boandik Elder from the Limestone Coast, and his life has been devoted to caring for Country and sharing cultural knowledge. Beginning as a fisherman and boatbuilder, Ken transitioned into environmental stewardship through roles with Fisheries and Wildlife, National Parks, and later as a skipper along South Australia's coast. Witnessing the impacts of colonisation, he cofounded Bush Repair, a conservation business led by family and women, and later established Bush Adventures, educating communities in cultural land management. His long-standing partnership with SA Water showcases his innovative, low-chemical weed control and cultural site protection. A respected cultural advisor, Ken leads heritage surveys and advocates for Aboriginal procurement and leadership. Twice named NAIDOC Male Elder of the Year, he mentors youth, sits on advisory committees, and continues to inspire through storytelling, education,

and environmental care. He is the Aboriginal Cultural Advisor for Outdoor Health Australia. His legacy is one of deep connection—to land, people, and purpose.

Dave Kendall after careers as an academic, landscaper, software engineer, and noise rock musician, started Future in Nature in 2022 to have a greater impact on nature-related policy and programs in Australia and around the world. He helps cities and botanical gardens adapt landscapes to climate change, enable biodiversity to thrive, and develop our ecological, social, and cultural relationships with nature in cities and beyond. He is currently a member of the Victorian Environmental Assessment Council and was a member of Australia's Threatened Species Scientific Committee from 2015 to 2019, a member of the European Commission Expert Evaluation Committee from 2022 to 2024, and has worked as an academic at the University of Tasmania, The University of Melbourne, and the Royal Botanic Gardens Victoria.

Anthony King (AJ) is a Wakka Wakka man living in the south of Lutruwita (Tasmania). He works as a consultant across a diverse range of areas, including education, health, and Aboriginal culture. Anthony has extensive experience facilitating programs that strengthen cultural knowledge and support community wellbeing. He is committed to creating opportunities for Aboriginal voices to be heard in decision-making spaces. Beyond his professional work, Anthony is a proud father who values time spent with family and enjoys being on Country, where he finds relaxation, renewal, and connection.

Luke Mabb (he/him) is a Wakka Wakka man raised in the Tasmanian Aboriginal community, where his cultural journey was shaped by his mother, aunty, and grandmother. His connection to Country began early through Aboriginal youth camps and deepened at the age of 14 during a transformative bush adventure therapy program. Since the age of 19, Luke has worked in Aboriginal land management, conservation, firefighting, wilderness therapy, and guiding, while also facilitating Aboriginal men's groups. His healing journey—of body, mind, and spirit—mirrors his commitment to healing Country. As a cultural mentor and trainer with Adventure Works, Luke brings Aboriginal ways of knowing into therapeutic spaces, fostering connection and community. He serves as a cultural advisor to Outdoor Health Australia (OHA) and led the 2024 OHA Forum in Lutruwita/Tasmania. A member of IAANT's "Intersectional and Global Perspectives" Working Group, Luke continues to advocate for cultural leadership, therapeutic practice, and Aboriginal-led care for Country and people.

Isabella Macpherson is a psychology student at the University of Tasmania. She has a strong interest in clinical psychology and equine-assisted therapy, particularly its application in supporting individuals with complex diagnoses. Prior to her studies, Isabella developed an interest in equine-assisted therapy,

which led her to work with an equine-facilitated learning centre where she gained practical experience in green care approaches. Her interests focus on the integration of nature- and animal-based interventions within psychological practice, with the aim of expanding evidence-based options for treatment and recovery.

Joshua McLean is a lecturer, mental health social worker, and bush adventure therapy practitioner with a background in public health, trauma-informed care, and sensorimotor art therapy. He holds master's degrees in public health and social work, and has worked across community, education, and clinical settings for over a decade. Joshua teaches both undergraduate and postgraduate social work programs at Deakin University and maintains a private mental health practice. From 2019 to 2024, he co-led the development of a bush adventure therapy program in regional Victoria and continues to explore the integration of nature-based modalities, depth psychology, and ecosocial work through his practice and research. Since completing his Master of Social Work in 2020, he has been involved with Outdoor Health Australia.

Rachael Millsom is a counsellor, social worker, and yoga instructor who utilises strengths-based, mindfulness, and nature-based practices and inquiry in her work. Rachael is currently employed by the Department of Education (Victoria, Australia) as a mental health practitioner in schools. Rachael also runs her own business where she offers private counselling sessions, yoga classes, and nature-based retreats (https://www.rachaelmillsom.com.au/). Rachael also remains connected to NatureConnect, the program mentioned in the chapter she coauthored, which currently runs as a peer-based program for victim survivors of family violence at a city farm.

Denise Mitten PhD, is internationally recognised for her innovative scholarship in outdoor and environmental pedagogy, ethics, and gender. A widely experienced adventure guide, from SCUBA to mountaineering, Denise has led climbs in the Swiss Alps, the Himalayas, and the United States, including Denali. She has led international bicycle trips, guided rafting and kayaking trips down the Colorado, Green, and Rio Grande rivers, and taught rock climbing, skiing, and whitewater canoeing. Beginning in the 1980s, Professor Mitten applied trauma-informed leadership in her work with women including those recovering from abuse—highlighting the relevance of social, emotional, and spiritual safety in group dynamics and risk management. Denise has been involved with ecofeminism and socioecological justice since the 1970s and has developed ecopsychology, nature-based, and leadership programs for people recovering from substance misuse, women felons, and economically disadvantaged women and children, based on strengthening relationships among humans and between humans and more-than-human worlds.

Nkolika Mmako obtained her PhD at the Wicking Dementia Research and Education Centre, University of Tasmania. She holds a Master of Public Health degree from Deakin University, Australia, and has been active in both biomedical and public health research for over a decade. Her current research interests include living well with dementia and healthy ageing. She promotes research with people living with dementia and those who support them to provide evidence-based information on how to navigate psychosocial issues related to dementia.

Tom Mulvaney is a registered psychologist and an experienced senior leader in family services, family violence prevention, and mental health organisations, with over 15 years of experience in outdoor health and bush adventure therapy. Holding qualifications in outdoor education, psychology (Hons), and a Master of Clinical Psychology, Tom has held numerous leadership roles with the Australian Association for Bush Adventure Therapy (now Outdoor Health Australia). He has designed and cofacilitated nature-based programs addressing youth mental health, integrating trauma-informed clinical practice with experiential outdoor interventions.

Kimberley Norris is a psychological scientist and clinical psychologist who works across academic, research, and clinical practice settings. Her overarching research and academic interests focus on maximising human health, wellbeing, and performance in both normal and extreme environments. Her research interests include adaptation and resilience in both extreme (e.g., Antarctica, climate change) and more normative (e.g., life events) environments. Recently Kimberley has had the privilege of working with the Future Seas project, an interdisciplinary collaboration focused on addressing the climate crisis and its impacts on our oceans. Through her work, Kimberley develops new and innovative ways to provide psychological support for individuals at the individual, organisational, and relationship levels. Outside of work, Kimberley enjoys gardening and immersing herself in the natural environment.

Christine Lynn Norton LCSW-S, is a professor of social work at Texas State University with over 30 years of experience working with youth in wilderness therapy, juvenile justice, mentoring, and higher education support. She earned her PhD in social work from Loyola University Chicago and holds master's degrees from The University of Chicago and Minnesota State University–Mankato. Her research centres on positive youth development, outdoor adventure therapy, trauma-informed care, experiential education, and foster care alumni success. A Fulbright Scholar and TEDx speaker, Dr. Norton codirects the Outdoor Research Collaborative for Health, Wellbeing, and Experiential Engagement and previously served as a research scientist with the Outdoor Behavioural Healthcare

Center. She founded the Foster Care Adventure Therapy Network, has authored 60 + peer-reviewed articles, edited three books, and secured more than US$3 million in research funding.

Sarah O'Connell is a Licensed Master Social Worker who specialises in seeing children, adolescents, young adults, and families in her practice in Hailey, Idaho. Sarah is passionate about U.S. wilderness therapy reform and ethics in outdoor spaces, desiring to utilise her research to inform her creation of a nature-based therapeutic program for her local community in coming years. Sarah also works as the Director of Operations for therapy clinic Alpine Integrative Wellness in the Boise and Wood River Valley, Idaho areas, aiming to make mental health services accessible for individuals seeking care. Sarah seeks to hear individual stories in her practice and advocate for change through her research.

Katarzyna Olcoń is a senior lecturer in social work at the University of Wollongong. Her research centres on critical multiculturalism and antiracism in social work and health services, as well as community mental health and wellbeing, including nature-based interventions. She is interested in education and training for social work students and social and health service providers to effectively work with communities across racial and cultural differences and engage in antiracist practices. She also has a research program in community mental health, which stems from her prior practice experience as a Polish- and Spanish-speaking social worker in a community mental health setting in Chicago. She has been working on research projects that examine the practices supporting community mental health, workplace wellness, and the implementation of nature-based interventions in mental health services. Katarzyna is also a dedicated educator with 15 years of teaching experience, including at the University of Illinois at Chicago, St. Augustine College in Chicago, The University of Texas at Austin, and the University of Wollongong in Australia.

Chloe Paul (she/her) is an early career academic, PhD candidate, and outdoor educator. Her work draws upon intersectional, posthuman, and decolonial frameworks to explore experiences of oppression and how the more-than-human world facilitates becoming and healing. Her research uses posthuman feminist phenomenology to centre the body, combining it with biopolitics to provoke the question: What does it mean to be a body, and whose bodies are valued in outdoor spaces? Chloe's chapter challenges the dominant positivist paradigm, utilising (vulnerable) autoethnography to confront the "taboo" topic of abortion honestly and bravely with a view to creating research that connects, validates, and heals.

Bronwyn Paynter is an occupational therapist living in Adelaide, South Australia, on Kaurna Country. She has worked in occupational therapy for over 30 years, focusing on wellbeing, work, and nature connection. Personally transformative

learning through permaculture and forest and nature therapy guiding has shaped her approach, alongside postgraduate training and wide-ranging professional experience in organisational health. Bronwyn is the founder of Nature OT and a volunteer board director with Outdoor Health Australia. She supports occupational therapists in Australia and internationally to explore nature-based ways of working that are sustainable, values aligned and grounded in everyday practice. Her work is guided by curiosity, reflection, humility, and a commitment to connecting people with nature for the wellbeing of both people and the planet.

James Peak holds a PhD in behavioural neuroscience and psychology from the University of New South Wales and is a postdoctoral research fellow at the Tasmanian Centre for Mental Health Service Innovation. His work focuses on evaluating the effectiveness of innovative mental health approaches, with the goal of identifying areas for improvement and implementing new initiatives to enhance mental health care.

Gretta Pecl is a professor of marine ecology at the Institute for Marine and Antarctic Studies (IMAS) and the Director of the Centre for Marine Socioecology (CMS) at the University of Tasmania. Her work is highly interdisciplinary in nature, and she has deep expertise in exploring the impact of climate change on natural and social systems, as well as developing adaptation options for conservation, fisheries, and aquaculture. She is a lead author for the Intergovernmental Panel on Climate Change AR6 report, and she coleads the Curious Climate (https://curiousclimate.org.au/) and Future Seas 2030 (https://futureseas2030.org/) initiatives. Gretta has a strong commitment to, and passion for, science communication and engagement with the public.

Lani Pereira has been working in the human services sector for over 20 years in Brisbane and Melbourne, Australia. Now, she lives and works on Wurundjeri country in Melbourne's north as a family violence specialist in a mid-sized not-for-profit organisation, as well as private practice offering supervision, training, and consultation. Lani is passionate about community accountability to challenge gender-based violence that is also bound in other forms of oppression such as colonisation, attacks on the LGBTQIA+ communities, and ableism. Nature continues to be a big part of Lani's learning, and she will make any excuse to bring it into her work.

Sue Person is an adjunct senior researcher with the School of Medicine at the University of Tasmania. Shie is a public health expert with a background in psychology and a passion for garden-based research. Sue has supervised many masters and PhD candidates to successful outcomes.

Kylie Peters (she/her) is a registered psychologist, family therapist, equine-facilitated therapist, and trainer. She believes in helping others to achieve their fullest potential and move forward to where they want to be. She utilises a holistic strengths-based approach to assist in developing skills and helping people discover the skills and capabilities they already possess but may not recognise. Kylie is passionate about helping people improve their relationships with themselves. She takes a practical and applied approach to therapy, currently working with young people, families, and adults to address a range of issues, including family therapy, eating disorders, trauma, and equine therapy. Kylie also offers training and supervision for equine therapy internationally. Kylie has been running equine-facilitated therapy and personal development workshops, both as a trainer and practitioner, across Australia for 20 years. Kylie has developed the Invitational Framework Model for equine therapy and is a leader in her field. Barbara Rector has endorsed Kylie to run the training programs in Australia. Kylie is passionate about teaching equine-facilitated practitioner training and collaborating with colleagues at Outdoor Health Australia to develop the field of therapeutic work in outdoor spaces in a collaborative and safe way with nature.

Fiona Pigott is an experienced educator who supports children and their families to thrive and guides organisational strategy and pedagogy on educational projects. She facilitates professional learning on wellbeing, inclusive education and ecopedagogies, and contributes to research on wellbeing and place-based education. Fiona's work includes international and cross-cultural community development and educational projects. Fiona is a founding director of Green Mountain Nature Play, which offers nearby-nature and bush immersion experiences. She is the prospective principal and project lead of an initiative to open a progressive secular school that educates children On Country and In Community in Shoalhaven, New South Wales. Fiona is a PhD candidate at Western Sydney University, supervised by Prof. Tonia Gray, Prof. Pasi Sahlberg, and Dr. Marion Sturges. Her research explores educational leadership strategies for thriving school communities. She works as a research assistant on participatory resilience projects within vulnerable communities.

Clare Pitt is a psychologist and psychological scientist with experience in practice, research, and teaching. Her research investigates the connection between climate change and mental health for individuals and communities. Her key publications include a systematic review of climate emotions and mental health, possible features and factors of climate-related emotions such as climate anxiety, supportive interventions, and directions for preparing the current and future psychology workforce to face climate-related mental health concerns. In her clinical work, she supports the mental health of adults and draws from a range of evidence-based therapies. She has a background in managing outdoor education and bush

adventure therapy programs. Clare is based in Lutruwita/Tasmania, and when she gets a chance, she enjoys time away from work walking in the mountains or swimming in the ocean.

Simon Priest was a university professor of adventurous and environmental outdoor learning in Ontario. Internationally, he has served as a dean, provost, vice-chancellor, senior vice president, president, commissioner, and advisor to a minister for education. He has received numerous awards and accepted over 30 visiting scholar positions around the world in outdoor learning. Now early retired in British Columbia, he spends his time hiking, mountain biking, and gardening. As a recovering academic, he still researches, teaches, and writes for fun.

Pete Rae (he/him) is a non-Indigenous man who has worked alongside the Tasmanian Aboriginal community for over two decades. As a director of Adventure Works, he brings expertise in program development, administration, and management. Pete has extensive experience in outdoor health, working directly with children, young people, and adults across diverse settings. His work has included supporting youth at risk, adults recovering from mental illness, and participants in alternative education programs. With a focus on the "coalface," Pete is committed to ensuring programs remain responsive, accessible, and impactful for the communities he serves.

Clare Raffety (she/her) has been involved in holistic health and the interconnectedness of the natural world and human wellbeing for around 40 years. Qualified in various body–mind–heart integrative practices and certified as a Courage & Renewal Facilitator and Map of Meaning Practitioner, Clare has developed, facilitated, and cofacilitated numerous workshops and trainings. In 2002, she founded a yoga studio in Hobart, Tasmania, and directed it until 2019. From 2019 to 2024 she was a lecturer at the University of Tasmania in health and human services leadership. Clare now directs Aligned Living Tasmania, works with nongovernment organisations, facilitates various retreats and programs, and cofacilitates practitioner training with Adventure Works Australia.

Martin Ringer is a socioanalyst and group dynamics trainer and is a member of the International Society for the Psychoanalytic Study of Organizations (ISPSO.org). His life has been enlivened by participating in outdoor activities since his teens, and he has found joy, learning, and satisfaction from being actively involved in the field of adventure therapy since the late 1980s. Martin has participated in adventure therapy and outdoor healthcare conferences since the mid 1990s and greatly appreciates the vibrancy and originality of this broad field. Semiretirement has enabled him to develop a passion for stone carving and to continue writing and publishing in a range of fields, including outdoor-based programs. He gains inspiration from the natural settings where he lives, both in Western Australia and in France.

Stephen D. Ritchie is a full professor in the School of Kinesiology and Health Sciences at Laurentian University in Sudbury, Ontario, Canada. His current research and teaching interests focus on (1) understanding ecohealth promotion in the context of achieving personal growth and holistic health outcomes through outdoor learning, adventure, and nature, and (2) applying diverse program evaluation approaches in outdoor learning, Indigenous health, and other contexts. He currently coordinates the graduate programs in the School of Kinesiology and Health Sciences at Laurentian University.

Alexander Rose is a clinical and health psychologist, Gestalt and trauma psychotherapist, sports scientist, and a pioneering figure in Adventure and Nature Therapy (ANT) in Spain since 2008 and in Latin America since 2022. As CEO of Grupo Terapia Aventura (Spain), Co-CEO of the Adventure Therapy Institute (Germany), and a university lecturer, he has developed and led nature-based programs for at-risk youth, adults facing addiction and severe mental health challenges, cancer survivors, and professionals experiencing burnout. He is an honorary member of the International Adventure Therapy Committee, cofounder of European Adventure Therapy, author of the first Spanish-language book on ANT, and has published over 20 articles, with two more books currently in progress.

Janice Margaret Ross: Lavinia Lowery Maynard was born in nipaluna country of Hobart and live in lutruwita my homelands. mina pakana muka nawnta rrala. A strong and proud Tasmanian Aboriginal Saltwater Sister. Her family, people of the Bass Strait islands, Flinders and Cape Barren Island, are direct descendants to their Sealers and Ancestor Manalargenna, Chief Warrior of the trulwulway, people North East of Tasmania. They are the Moon Bird people of the Bass Strait Islands. Janice visualises as a Tasmanian Aboriginal artist to expose the lutruwita milaythina Tasmanian Landscape through her eyes, and the Communities' eyes, the connections they have with Country and the experiences that they continue together. The country shares its story with us. *I am gathering with my Ancestors, by myself or with my Family/Community and gifted by mother earth through Spirit.*

Starla Simmons is a Clinical Assistant Professor and Director of the Earl Maxwell Scholar Program at the UT Steve Hicks School of Social Work. She is strongly rooted in racial justice and liberation, with a passion for supporting the vitality, resilience, and collectivism of Black, Indigenous, and communities of color. Starla is a skilled and experienced facilitator around racial equity, social justice and holistic practices such as mindfulness and eco-therapy. She loves exploring natural swimming holes, sitting under trees, camping and creative expression.

David Spillman is a Mallion (eagle) and Bunda (red kangaroo), strongly connected and obligated to Country cared for by the Karilkiyalu, Ngemba-speaking

people from south of Brewarrina, New South Wales, Australia. He is a career educator, having worked in teaching and leadership positions in remote, rural, regional, and urban areas of Northern Territory and Queensland. With his brother Ben Wilson, David works in teacher education and school-based professional learning and research in the Australian Capital Territory to assist schools in rebalancing their teaching and learning by refocusing on local stories, histories, and ecological communities. Through the daily enactment of Indigenous ways of knowing, being, and doing, schools can help students and families to become great local citizens, knowing about their places and committed to caring for them.

Danielle Tracey is a professor in the School of Education at Western Sydney University. Her research and teaching interests focus on educational and developmental psychology, disability studies, and evaluation. Her research expertise has attracted over AU$6 million in local, national, and international funding, while she has co-led teacher training programs to further inclusive education in Papua New Guinea, Indonesia, and Ghana. Her expertise is underpinned by substantial experience as an educational and developmental psychologist and program manager in the community sector.

Son Truong is an Associate Professor and Division Head of the Recreation and Leisure Studies program in the School of Health and Human Performance at Dalhousie University. He is also a recreation therapist and holds cross-appointments in the College of Sustainability and the School of Social Work, and is an Affiliated Scientific Researcher at the IWK Health Centre. His research focuses on child and youth wellbeing, nature-based programming, place-based outdoor learning, and participatory methodologies. His work is grounded in critical, cultural ecological, culturally responsive, anti-oppressive, and transformative learning approaches. He is currently leading a Research Nova Scotia-funded project entitled Outdoor Health Nova Scotia: Mobilizing the health benefits of being in nature through community-based participatory research and youth engagement.

Jacqueline Ullman is an associate professor in the School of Education's Centre for Educational Research at Western Sydney University. Her research focuses on student motivation, access, belonging, and the impact of inclusive classroom cultures. Jacqueline has published in a range of well-regarded journals in the field and is the current co-editor-in-chief of *Gender and Education*. She is the coauthor of *Gender and Sexuality Diversity in a Culture of Limitation: Student and Teacher Experiences in Schools* (2020, Routledge) and has edited multiple research-informed collections, including three editions of *Understanding Sociological Theory for Educational Practices* (2015, 2018, 2024, Cambridge University Press), required reading in preservice teacher education courses globally.

Meaghan Vosz (she/her) works at Southern Cross University conducting participatory, codesigned research to drive systemic change that makes systems, services, practices, organisations, and policies more human centred and responsive to diverse community needs. Meaghan has over 20 years' experience in critical community work with communities experiencing multiple intersecting forms of disadvantage, marginalisation, and exclusion. Her community work and research mobilise people to engage with diverse forms of knowledge and expertise to build social justice, belonging, inclusion, and equity.

Ben Wilson is a Jagera man from Meanjin Brisbane with cultural connections to Darkinjung Country on the Central Coast of Australia and Karulkiyalu Country near Brewarrina, New South Wales, Australia. He is a professor at the University of Technology Sydney where his research focuses on story, place, and the connections between the two.

Abigail Wright holds a PhD in Architecture, Design and Human Geography and a passion for ethical branding. She works with communities to design sustainable spaces for inclusion and empowerment.

List of Figures

Fig. 1.1 Evidence-informed outdoor health practice (Adventure Works Australia, 2025) (This figure is the original work of the 2nd author's organisation, Adventure Works Australia. Permission to share has been granted) 12
Fig. 2.1 Emerging outdoor health modalities (Outdoor Health Australia, n.d.) (Public source: https://outdoorhealth.Org.Au/about-2/) 27
Fig. 2.2 Outdoor health family tree (McLean, 2021) (This is the original unpublished work of the 1st author who grants permission for its inclusion) 29
Fig. 2.3 Original bio–psycho–socio–eco (BPSE) framework (Pryor et al., 2018) (This figure is the original work of the 3rd author. Her organisation Adventure Works Australia grants permission for its inclusion) 30
Fig. 2.4 Expansion of the bio–psycho–socio–eco (BPSE) model in 2021 (McLean, 2021) (This figure is the original work of the 1st author who grants permission for its inclusion) 31
Fig. 2.5 The bio–psycho–socio–cultural–eco (BPSCE) model (adapted from Pryor et al., 2023) (This figure is the original work of the 3rd author who grants permission for its inclusion) 33
Fig. 4.1 The dual continua model of outdoor health (developed by Ritchie et al., in review) 81
Fig. 4.2 Graphic portrayal of the holistic model of ecohealth promotion (adapted from Ritchie et al., 2023) 98
Fig. 5.1 Facilitated Wave Model (adapted from Alvarez et al., 2020). *Source* All figures developed by Hsu 117

Fig. 5.2 Professional background of presenters (The lead author Hsu drew this data from the Taiwan Therapeutic Adventure Professional Group (TTAPG) with permission) 120
Fig. 5.3 Issues of concern to presenters (The lead author Hsu drew this data from the Taiwan Therapeutic Adventure Professional Group (TTAPG) with permission.) 121
Fig. 5.4 Target population (The lead author Hsu drew this data from the Taiwan Therapeutic Adventure Professional Group (TTAPG) with permission) 121
Fig. 5.5 Types of adventure activities (The lead author Hsu drew this data from the Taiwan Therapeutic Adventure Professional Group (TTAPG) with permission) 122
Fig. 5.6 Practitioners' gender 124
Fig. 5.7 Professional backgrounds of practitioners (multiple-choice question: the numbers represent the percentage of workers possessing this profession) 124
Fig. 5.8 Employment modes among practitioners 124
Fig. 5.9 Practitioners' ages 125
Fig. 5.10 Practitioners' years of experience in helping professions versus years of experience in adventure therapy 125
Fig. 5.11 Proportion of cases classified as "therapeutic adventure" versus "rigorous adventure therapy" 126
Fig. 5.12 Proportion of cases that implement objective outcome evaluation 126
Fig. 5.13 Types of organisations utilising adventure therapy 127
Fig. 5.14 Age range of the served population. *Note* Multiple-choice question. Some cases serve two age groups simultaneously. The numbers represent the percentage of that age group among all cases 127
Fig. 5.15 Proportion of service cases: individual, family, or group based. *Note* Multiple-choice question. Some cases are composite. The numbers represent the percentage of that type among all cases 128
Fig. 5.16 Types of issues addressed. *Note* Multiple-choice question. Some cases address multiple issues simultaneously. The numbers represent the percentage of that issue among all cases 128
Fig. 5.17 Utilisation of adventure tools. *Note* Multiple-choice question. Some cases use multiple adventure tools simultaneously. The numbers represent the percentage of that adventure tool among all cases 129
Fig. 5.18 Time patterns. *Note* Multiple-choice question. Some cases simultaneously involve different time patterns. The numbers represent the percentage of that time pattern among all cases ... 129

Fig. 5.19 Healing processes that practitioners believe can be effectively facilitated by adventure therapy. *Note* Multiple-choice question. The numbers represent the percentage of workers who agree with each item 130
Fig. 5.20 Common challenges faced by practitioners. *Note* Multiple-choice question. The numbers represent the percentage of workers who agree with each item 131
Fig. 5.21 Methods employed by practitioners to enhance their adventure therapy practice. *Note* Multiple-choice question. The numbers represent the percentage of workers who agree with each item 131
Fig. 5.22 Practitioners' confidence in the future development of adventure therapy 132
Fig. 6.1 Methodological appraisal of included umbrella reviews (The authors developed this Figure.) 146
Fig. 7.1 AABAT Inc. Ethical Practice Principles (OHA, n.d.-b) 169
Fig. 7.2 OHA ethical practice framework (OHA, n.d.-b) 182
Fig. 8.1 Thematic analysis of benefits attained from on-Country therapeutic program (The authors devloped this Figure) 200
Fig. 9.1 Empowerment star (Rakar-Szabo et al., 2019 [The authors (Rakar-Szabo et al.) Provided their permission to include this Figure] 219
Fig. 11.1 Occupational therapy: the person–environment–occupation model of occupational performance (adapted from Law et al., 1996) 249
Fig. 11.2 The relative influence of doing/occupation and being/environment in aspects of a dragon boating experience (The author developed this Figure) 258
Fig. 11.3 Nature-based occupational therapy ways of working (The author developed this Figure) 259
Fig. 11.4 Nature occupational therapy program design framework (The author developed this Figure) 260
Fig. 12.1 Human Nature model (This model is used with permission from Human Nature) 278
Fig. 13.1 Widening the lens: The horse–human connection (Peters, 2023b) (The author developed this Figure) 294
Fig. 13.2 The what, how, and why of equine-facilitated practice (Peters, 2024b) (The author developed this figure) 298
Fig. 13.3 The groundwork therapy learning road map (Peters, 2024a) (The author developed this figure) 300
Fig. 13.4 Questions to consider for the practitioner (Peters, 2025) (The author developed this Table) 301
Fig. 13.5 The practitioner concept map (Peters, 2023a) (The author developed this Table) 302

Fig. 15.1 Holistic model of positive body image and outdoor physical activity (the lead author developed this figure) 341
Fig. 16.1 Growing around grief: the all-consuming nature of grief and expectation it will diminish over time (adapted from Tonkins Tonkin, 2017) 359
Fig. 16.2 Growing around grief (adapted from Tonkins Tonkin, 2017) 360
Fig. 17.1 The impact of attending the program vs control on willingness to change significantly mediated by genuine self-forgiveness (The author developed this Figure.) 376
Fig. 17.2 Relationship between mediators (value affirmation and self-affirmation) and the impact of the program on genuine self-forgiveness (The author developed this Figure.) 377
Fig. 19.1 "It helps you feel at ease"(The image and quote are shared with permission from participants of the research) 409
Fig. 19.2 Representing water (The image and quote are shared with permission from participants of the research) 410
Fig. 19.3 "It reminds me of the desert" (The image and quote are shared with permission from participants of the research) 411
Fig. 19.4 "Darkness can appear in your life, but the light is always shining" (The image and quote are shared with permission from participants of the research) 412
Fig. 19.5 Acceptance of life course (The image and quote are shared with permission from participants of the research) 412
Fig. 19.6 "I could control the world inside the jar' cause I couldn't control the world outside." (The image and quote are shared with permission from participants of the research) 413
Fig. 19.7 Lonely tire (The image and quote are shared with permission from participants of the research) 413
Fig. 19.8 The waterfall (The image and quote are shared with permission from participants of the research) 414
Fig. 19.9 Getting back in nature (The image and quote are shared with permission from participants of the research) 415
Fig. 21.1 Ten elemental training modules of the Adventure Works Australia Foundations of Outdoor and Adventure Therapy practitioner training course (This Figure is shared with permission from Adventure Works Pty Ltd.). *Note* BPSCE = bio–psycho–socio–cultural–ecological 440
Fig. 21.2 Aboriginal-informed values, principles and practices centred within the Adventure Works Australia Foundations of Outdoor and Adventure Therapy practitioner training course (This Figure was developed by the authors.). *Note* OAT = Outdoor and Adventure Therapy 442

Fig. 21.3 The BPSCE bio–psycho–socio-cultural–eco framework [Adventure Works Australia, 2025 (This image is shared with permission from Adventure Works Pty Ltd.)] 444
Fig. 22.1 Coastal Wattle in Bloom. Sydney Harbour, Australia [Photo Credit: Fiona Pigott (The lead author produced this image.)] 465
Fig. 22.2 Inner Development Goals (https://docs.google.com/presentation/d/1dEnAv1_z-WtXlSR2k-KZTNeYMddGwLpV/edit?slide=id.G3b9431c067b_0_2459#slide=id.G3b9431c067b_0_2459) 472
Fig. 22.3 Children of different ages explore and observe Sydney Harbour rock platform [Photo Credit: Fiona Pigott (The lead author produced this image that includes unidentifiable participants.)] 473
Fig. 22.4 Satisfied ecostewards after a day adventuring and crafting in the bush [Photo credit: Fiona Pigott (The lead author produced this image. Permission was gained from participants for its use.)] 473
Fig. 22.5 Embedding connection in schools: Representations of the earth, child, and Aboriginal Peoples are placed in meetings to raise awareness of considering these perspectives when making decisions [Photo credit: Fiona Pigott (The lead author produced these images.)] 475
Fig. 22.6 Facilitation model for outdoor learning emerging from 30 years of reflective practice [adapted from Gray and Pigott (2018) (Permission provided by authors for inclusion of this Figure.)] 476
Fig. 22.7 Taking meetings outside: “slideshow-frees strategic planning Meeting (top row), class discussion (bottom left), and school community information session (bottom right) [Photo Credit: Fiona Pigott (The lead author produced these images.)] 477
Fig. 22.8 Removal of 400-year-old tree amidst community protest [Photo Credit: Illawarra Mercury, Jessica Long, March 14, 2014 (https://www.Illawarramercury.Com.Au/story/2149000/photos-bum-tree-comes-down-amid-chants-of-shame/)] 478
Fig. 23.1 Maple the avid birdwatcher having a “rendezvous” with a cockatoo (Photo credit: Maple) (Permission is given to include this image) 493
Fig. 23.2 Photo of a water dragon (named Boris) in his neighbourhood park (Photo credit: Jaca) (Permission is given to include this image) 494
Fig. 23.3 Butcherbird in a neighbourhood park (Photo credit: Maple) (Permission is given to include this image) 494
Fig. 24.1 Theme 1: Belonging and subthemes (The 2nd author developed this Figure) 506

Fig. 24.2 Theme 2: Ownership and subthemes (The 2nd author developed this Figure) 508
Fig. 24.3 Theme 3: Learning and subthemes (The 2nd author developed this Figure) 510
Fig. 24.4 Theme 4: Sustainability and subthemes (The 2nd author developed this Figure) 512
Fig. 24.5 Theme 5: The calm and subthemes (The 2nd author developed this Figure) 514
Fig. 26.1 The Story of Googar. Pencil drawing by David Spillman with permission from Damu Paul Gordon (Country et al., 2020) (Figure 26.1 is a representation of a cultural artefact that is not 'owned' by anyone, and as such is not subject to anyone making a legal copyright claim over it in the future. However, it nevertheless requires permission to be used by traditional custodians and lore-keepers. It has been recreated here with permission of the appropriate knowledge holders (one of whom is Author Four). The figure has appeared in previous publications by the Authors—Country et al. (2020)—which uses the protocol of naming Country as co-author.) 547
Fig. 27.1 Before (top) and after (bottom) images of the Restore Skyline Tier project. Top photo after harvesting and ecological burn of radiata pine plantation. Bottom photo 7 years later, native forest regeneration after weeding pine wildlings [Photo credit: Todd Dudley (Photos provided by the lead author, used with permission.)] 564
Fig. 27.2 The Restore Skyline Tier crew on site [Photo source: Fitzgerald & Dudley, 2015 (Lead author provides permission for use of this image, which includes participants who gave their permission.)] 565
Fig. 27.3 Number and percentage of visitors undertaking nature-based activities 2008–2018 Tourism Research Australia, (DCCEW, 2021) 568
Fig. 31.1 Outdoor health: socioecological practices to re-member the whole (This Figure was collaboratively developed for this chapter by the 3rd author, together with Gazala Leela Singh and Clare Raffety, as described in the chapter acknowledgements) 665

List of Tables

Table 1.1 Late modernity with liquid modernity Insights: How outdoor health practices can respond 8
Table 2.1 Integrating the "cultural" dimension into the bio–psycho–socio–eco model 32
Table 2.2 Outdoor health mechanisms matrix: summary of bio–psycho–social–cultural–ecological (BPSCE) model mechanisms and outcomes 34
Table 2.3 Seminal studies included in the review 47
Table 4.1 Examples of positive nature benefits across six well-being dimensions (with brief definitions) 79
Table 4.2 An abbreviated summary of the Truth and Reconciliation Commission's 94 *Ca*lls to Action for Indigenous reconciliation in Canada 86
Table 4.3 Indications and contraindications for outdoor therapies and healthcare (used with permission) 95
Table 4.4 Self-evident wellness practices related to outdoor health across six dimensions of ecohealth 99
Table 6.1 Scope of identified umbrella reviews 144
Table 6.2 FT1: Summary of results, as presented by the authors 148
Table 6.3 FT2: Summary of results, as presented by the authors 149
Table 6.4 HT1: Summary of results, as presented by the authors 150
Table 6.5 AAT1: Summary of results, as presented by the authors 152
Table 6.6 AAT2: Summary of results as presented by the authors 154
Table 6.7 AAT3: Summary of results, as presented by the authors 155
Table 6.8 Summary of conclusions from umbrella reviews on forest therapy, horticultural therapy, and animal-assisted therapy ... 158

Table 7.1 Outdoor Health Australia ethical practice principles and practice attributes 176
Table 16.1 Mapping the terrain of trail tracing therapeutic walks 364
Table 17.1 Mean differences between groups (standard deviation) 376
Table 17.2 Summary of hierarchical regression analysis for variables predicting willingness to change including gender ($N = 49$) 380
Table 17.3 Summary of hierarchical regression analysis for variables predicting genuine self-forgiveness including gender ($N = 49$) 380
Table 17.4 Mean changes (pre–post) within groups (standard deviation) ... 381
Table 17.5 Correlations matrix between pre- and postprogram scores on all dependent variables 381
Table 17.6 Mean postprogram differences between groups taking into account covariance of preprogram (standard error) 381
Table 17.7 Analysis of variance for attending the program on postprogram dependent variables calculating for covariance of preprogram score 382
Table 22.1 Actions within a teacher's locus of control to infuse education setting and teaching program with nature 478
Table 24.1 Participant details 505
Table 28.1 The 5P Model of Case Formulation 575
Table 28.2 Prticipant profession category 578
Table 28.3 Most prevalent features of climate anxiety 579
Table 28.4 Most frequently suggested factors contributing to climate anxiety 580
Table 30.1 The first national people of color environmental leadership summit's 17 principles of environmental justice (First national people of color environmental leadership summit, 1991) 628
Table 31.1 Outdoor health orientations as relational movements 662

Part I
Scoping The Field

Chapter 1
Caring for People and Planet in a Time of Crisis

Jacob Prehn and Anita Pryor

Sociocultural Positioning

We write this introductory chapter as one Worimi man and one non-Indigenous Australian woman of Celtic-Kernow and Anglo-European ancestry. Both are privileged to call Lutruwita (Tasmania), the traditional lands of the Palawa, our home.

Alongside our five fellow editors, diverse in culture, gender, age, sexuality, and social positioning, we share common privileges of being relatively able-bodied, tertiary educated, English speaking, and financially secure enough to contribute to this book. These privileges underpin our capacity to participate in this work. What unites us is a deep connection with and love of Country and nature. Our personal and professional experiences have shown us both the healing power of nature and the value of evidence-informed nature-based practices. In a time of ecological and social crisis, sharing the benefits of outdoor health feels both urgent and necessary.

Throughout this book, we asked each chapter author to articulate their worldview and social positioning. This is important because all knowledge is produced from a particular standpoint. As Palawa Distinguished Professor Maggie Walter and Métis Professor Chris Andersen argue in their seminal work Indigenous Statistics: A Quantitative Research Methodology, the academy has often privileged particular forms of knowledge under the guise of "objectivity," while marginalising other ways of knowing (Walter & Andersen, 2013). Making our own sociocultural

J. Prehn (✉)
School of Social Sciences, University of Tasmania, Hobart, TAS, Australia
e-mail: jacob.prehn@utas.edu.au

A. Pryor
Adventure Works Australia, Hobart, TAS, Australia;
Outdoor Health Australia, Templestowe, VIC, Australia;
International Association for Adventure and Nature-based Therapies, Templestowe, VIC, Australia
e-mail: anita@adventureworks.org.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_1

standpoints explicit helps reveal the perspectives and assumptions that shape academic work, challenges the dominance of a singular Western epistemology, and creates greater space for Indigenous and other knowledge systems (Connell, 2007). In doing so, we aim to contribute to rebalancing historical inequities in knowledge production (Prehn & Guerzoni, 2024) and to enrich the field of outdoor health through diverse voices, experiences, and values.

We invite you, the reader, to reflect on your own worldview and social positioning, and to consider how these shape your engagement with the chapters that follow.

> The health of the people cannot be separated from the health of the land; to heal one, we must learn to care for the other.
> Adapted from Robin Wall Kimmerer (Potawatomi), Braiding Sweetgrass (2013)

Rationale and Purpose

This book grew from a call for papers on the topic "outdoor health and nature-based solutions" for a Special Issue of the *Journal of Outdoor & Environmental Education*, which led to the publication of six exemplary research papers (Brennan et al., 2024; Fernee et al., 2023; Flies et al., 2023; Knowles et al., 2024; Pitt et al., 2024; Reis et al., 2023). The overwhelming number of quality submissions received by the volunteer editor team led us to feel a responsibility to collate and share the body of work (Pryor et al., 2024). Three years on, that seed has grown into this rich collation of evidence-informed practice wisdom.

A defining feature of this book is its diverse authorship, encompassing a wide range of professional perspectives, geographic locations, settings, target groups, and academic disciplines. In this collection, the work of seasoned practitioners with over four decades of experience (Carpenter, Gray, Mitten, Priest, Raffety and Ringer) sits alongside first-time authors, reviewers, and editors. Though slow in the making, the process has helped build capacity in the emerging outdoor health sector to share evidence-informed practices, practice-informed research, and Aboriginal-informed approaches. A generous grant from the Victorian Government has enabled open access publication, widening the audience and multiplying the benefits of the book.

This book consciously challenges dominant academic conventions and assumptions about whose knowledges are valued. By intentionally recognising diverse ways of knowing, including elevating lived and embodied experiences (see Engel, In press), the book seeks to stretch positivist Western conventions. In particular, by valuing and centring Aboriginal-informed ways of knowing, being, and doing, such as notions of "right time," "right way," place-based wisdom and Indigenous knowledges, we hope to help re-centre knowledges that have been devalued through colonisation (see Raffety et al., In press), an important step towards the broader project of decolonising academia. To support recognition of diverse sources of evidence, this chapter also provides a framework for evidence-informed practice,

research, and policy development. We hope these small acts of resistance can help disrupt the unconscious perpetuation of late modernist values, and support a shift away from anthropocentric ways of thinking and acting towards greater planetary equilibrium (Prescott et al., 2022) and a more realigned future.

By chance, or perhaps synchronicity, the 30 chapters span topics that include elements, ethics, ecologies, evidences, practices, lived experiences, wild and urban nature, human nature, and Indigenous knowing. Organised into five broad themes, they guide readers towards a future that holds grief, joy and beauty, and everything in between: **Scoping the field**—elements, evolution, and ethics; **Evidence-informed practice**; **Expanding practice**—lived experience and practice wisdom; **(Re)centring nature**—for wellbeing, health, and quality of life; and **Mutuality: planet and people**.

At its heart, this book models ethical outdoor health practices that can reconnect personal, cultural, and planetary wellbeing. As Prescott and colleagues (2022) remind us, the current intersecting crisis call for cultural transformation, a return to nature-relatedness, and a recentring of reciprocity, empathy, and mutualism.

Emergence and Scope

Outdoor Health terminology emerged in Australia in 2018 as an evolution and expansion of nature-based practice and research, and an identified need to better engage with government to open funding avenues for therapeutic outdoor services.

We acknowledge at the outset that Aboriginal and Torres Strait Islander peoples have practiced health promotion, cultural wellbeing, and healing on Country for millennia (Dudgeon et al., 2014). Before colonisation, hundreds of Aboriginal nations maintained intricate cultural systems for preventing illness, intervening early, treating illness and disease, and supporting quality of life throughout the life course (Skuthorpe & Morrill, personal communication, April 2005, as cited in Pryor, 2009). While colonisation disrupted or destroyed many Indigenous healing practices, some have been maintained and are being adapted to meet evolving community needs (Atkinson, 2002).

Pryor (2009) investigated Australian outdoor adventure interventions and developed a chronology of influences in which anecdotal evidence and focus groups suggested that therapeutic outdoor practices emerged in post-invasion Australia as early as the 1950s through initiatives such as scouting, bush schools, youth camps, and the establishment of Outward Bound Australia. For at least four decades, Australian outdoor interventions have combined "nature-contact, adventure and small groups within cultural frameworks, to promote the physical, psychological, social, cultural, spiritual, economic and environmental wellbeing of [individuals and] whole communities" (Pryor, 2009, p. 200).

By the 1960s and 1970s, therapeutic outdoor programs were being delivered via Duke of Edinburgh initiatives, church groups, and educational settings, increasingly shaped by models and research from the United Kingdom (U.K.)

and the United States (U.S.). The 1980s saw government support for outdoor fitness and leadership certification, which supported the proliferation of outdoor programs. By the 1990s, therapeutic outdoor programs were active across all states and territories of Australia, especially in Victoria, with many still operating two decades later. 1990–2010 was a strong era in the provision of therapeutic outdoor practices in Australia. By the early 2000s, research was catching up with what people intuitively knew: that active social experiences in nature are generally beneficial for human health and wellbeing (Maller et al., 2008b; Pryor et al., 2005, 2006).

Australian outdoor practices were shaped by historical, sociopolitical, and international influences, as well as by community needs, visionary leaders, and long-standing programs. Despite limited peer-reviewed Australian literature (Bowen, 2016; Pryor, 2009), a national community has been collaborating since the mid-1990s through informal networks such as the Youth at Risk Network (YARN), the Wilderness Enhanced Program Network (WEPNET), and the Bush Adventure Therapy Network (BATNet). These networks laid the foundation for the first International Adventure Therapy Conference in Western Australia in 1997 (Itin, 1997), the first South Pacific Wilderness Adventure Therapy Forum in Victoria, Australia, in 2002 (Pryor & Carpenter, 2003), and the formal incorporation of the Australian Association for Bush Adventure Therapy (AABAT) in 2008 (AABAT, n.d.). In 2009, AABAT published a list of guiding ethical principles. In a literature review on outdoor adventure interventions, Pryor et al. (2019) identified the need for therapeutic outdoor practices to be 'trauma-informed and -responsive, and culturally aware and-responsive' (p.3) and presented a set of evidence-informed service attributes to guide ethical practice. In 2024, AABAT transitioned to become Outdoor Health Australia (OHA; a company limited by guarantee) and established a Quality Framework to support quality outdoor health practice. OHA is now the national body for evidence-informed nature-based health, wellbeing, and therapy practices.

Since 1997, the Australian community has been closely involved in the International Adventure Therapy community, which hosts triennial conferences in different locations around the world (IAT, n.d.). In 2025, the international community transitioned to become the International Association for Adventure and Nature-based Therapies.

Recent trends in outdoor health in Australia include: **funding shifts**—towards individualised, medicalised care, favouring large providers over flexible, group-based programs; **growth in nature research**—since 2010, research on nature's health benefits has surged, affirming its therapeutic value; **rising awareness**—the COVID-19 Pandemic heightened public and professional recognition of nature's role in wellbeing, prompting more practitioners to work outdoors; and **sector challenges**—climate change, climate anxiety, insurance limitations, and narrowing definitions for who is qualified to provide therapeutic outdoor practices are just a few current constraints (Personal communications within the OHA Policy & Advocacy Committee, August 2025).

OHA is currently led by a volunteer Board, together with pairs of Committee Convenors who enable progress in the areas of quality practice, research evidence, community engagement, policy advocacy, and business administration (OHA, n. d.). The national community of practice continues to meet at annual national Outdoor Health Forums held in rotating states and territories. Most events are Aboriginal-informed and strive to centre inclusion, diversity, and a sense of belonging. It is through robust and caring collegiality that the national community has flourished over the last two decades.

While this chapter does not offer a comprehensive history of outdoor health practices, the 30 chapters in this book provide a rich description of past, present, and emerging outdoor health practices, and their potential to care for both people and the planet.

Context and Need

Outdoor health practices are emerging in response to the intertwined challenges of the Anthropocene and late modernity—periods marked by ecological degradation, social fragmentation, and widespread disconnection from nature (Giddens, 2023; Lewis & Maslin, 2018). As societies become increasingly urbanised and digitised, dominant health systems, rooted in clinical, biomedical, and anthropocentric models, often marginalise nature and overlook the relational, cultural, and ecological dimensions of wellbeing (Paradies, 2020).

Wakaya Distinguished Professor Yin Paradies (2020) and sociologist Anthony Giddens (2023) note that contemporary Western societies, and increasingly non-Western societies through globalisation, have become progressively commodified, with relationships to land, place, and collective care reshaped in ways that contribute to both health inequities and planetary degradation. Modern health systems, embedded in biomedical logics and anthropocentric hierarchies, frequently render nature peripheral, obscuring the social, cultural, and ecological determinants of wellbeing.

Outdoor health practices offer a transformative alternative. Grounded in relational care, ecological awareness, and cultural connection, they can reconfigure how health is understood and delivered, working both within and beyond existing institutional and environmental systems. Giddens's concept of late modernity frames outdoor health as a reflexive, systemic practice, while Bauman's (2013) notion of liquid modernity highlights the rapidly changing, flexible, fluid, and dynamic social context that practitioners work within and must navigate. Outdoor health engages directly with the insecurities, shifting identities, and consumer-driven relationships with nature that Bauman identifies.

Table 1.1 explores eight key dimensions across late modernity (Giddens, 2023) alongside liquid modernity (Bauman, 2013), ranging from institutions and agency to identity, knowledge, time, and technology. Insights from late and liquid modernity can illuminate both the challenges and opportunities for outdoor health, and how the sector can respond.

Table 1.1 Late modernity with liquid modernity insights: How outdoor health practices can respond

Dimension	Late Modernity (primary frame)	Liquid Modernity (relevant insights)	How Outdoor Health Practices can Respond
Institutions and structures	Enduring institutional, ecological, and political systems continue to organise health, care, and environmental management.	Highlights where these systems are unstable or fragmented, reminding us that institutional responses are not always reliable or equitable.	Work within and beyond formal systems to model inclusive, adaptive, and culturally responsive approaches to health and environmental care.
Change and agency	Reflexivity enables individuals and institutions to examine and modify practices critically.	Draws attention to the precarity and insecurity many people experience, which can limit their capacity to engage with outdoor health practices.	Create accessible, supportive opportunities for participation, fostering personal empowerment alongside systemic and relational transformation.
Relationality and care	Emphasises the potential for rebuilding relationships of care within structured systems.	Cautions that relationships are often commodified or transient, underscoring the need to resist individualised or consumerist framings of outdoor health.	Cultivate sustained, place-based relationships grounded in reciprocity, kinship, and collective wellbeing.
Ecology and risk	Frames ecological and planetary health crises as systemic risks.	Reminds us that for many, these risks are experienced as personal insecurity and disconnection, conditions that outdoor health must address empathetically.	Engage communities in shared environmental stewardship, blending embodied connection with coordinated, collective responses to ecological crises.
Identity and belonging	Recognises that identity can be shaped through stable cultural, social, and environmental connections.	Highlights how identities are increasingly fluid, fragmented, and mediated by consumer culture and digital spaces.	Provide grounded, place-based experiences that strengthen cultural identity, belonging, and intergenerational connection.
Knowledge and learning	Frames knowledge as something developed through structured institutions and formal education.	Notes that knowledge flows rapidly, is often unverified, and is shaped by shifting online networks	Offer experiential, land-based learning that integrates Indigenous knowledges, local expertise, and ecological literacy.

(continued)

Table 1.1 (continued)

Dimension	Late Modernity (primary frame)	Liquid Modernity (relevant insights)	How Outdoor Health Practices can Respond
Time and pace	Operates within predictable schedules, seasons, and institutional timeframes.	Emphasises acceleration, unpredictability, and the erosion of slow, cyclical rhythms.	Reintroduce seasonal, place-based rhythms into health and wellbeing practices, fostering patience and long-term engagement.
Technology and mediation	Technology supports communication, record-keeping, and resource management within stable systems.	Technology increasingly mediates social and environmental relationships, sometimes replacing direct experience.	Use technology intentionally to enhance, not replace, embodied, in-place outdoor health experiences.

In countries shaped by colonisation, such as Australia, outdoor health must grapple with the legacies of dispossession and environmental exploitation, foregrounding Indigenous knowledges and sovereignty as essential to healing (Moreton-Robinson, 2020; Wolfe, 1999). Here, outdoor health is more than an alternative therapeutic approach; it represents a conceptual and political reorientation that challenges dominant paradigms of health, nature, and human–nature relations.

Globally, nature-based solutions in health are gaining recognition and traction (Barolsky et al., 2024; Gascon et al., 2017; Twohig-Bennett & Jones, 2018). A growing body of evidence links access to green and blue spaces with improved physical and mental health outcomes (Gascon et al., 2017; Twohig-Bennett & Jones, 2018; White et al., 2019), and policymakers increasingly acknowledge that nature exposure can reduce stress, support recovery from trauma, and foster social connection (Gascon et al., 2017; Lovell et al., 2018). Nevertheless, these developments risk remaining superficial if they are not grounded in relational, place-based, and justice-oriented understandings of health (Verbunt et al., 2021; Williamson et al., 2020).

As framed in this collection, outdoor health does not treat nature as a clinic, a passive backdrop for recovery, or a neutral, universally beneficial "dose." Rather, it understands nature as active, relational, embodied, and immersive, shaped by historical, cultural, and political forces (Finlay et al., 2021).

Outdoor Health: Caring for People and Planet presents a critical and inclusive vision of outdoor health, bringing together 30 chapters from across Australia, Aotearoa (New Zealand), the Americas, Europe, Asia, and the Pacific. The contributions explore how health can be reimagined through deeper relationships with land, water, and the more-than-human world. Many are grounded in Indigenous knowledges, centring sovereignty, accountability to Country, and collective responsibility as foundations for healing (Lovett et al., 2020; Prehn & Guerzoni, 2024).

Australia features prominently, not only as a site of innovation but also as a place where settler-colonialism, environmental degradation, and cultural

resilience intersect. From bush adventure therapy to Indigenous-led programs rooted in kinship and Country, case examples show both the potential and the tensions within outdoor health. They prompt critical reflection on whose knowledge counts, what forms of evidence are valued, and how care is shaped by race, class, gender, and place.

Outdoor health is not a single discipline but a constellation of practices that challenge dominant health paradigms. It asks us to rethink where and how health happens and who participates in its creation. As both a therapeutic and sociopolitical project, outdoor health responds to the alienation of modern life, the climate crisis, and the erosion of community. This collection contributes to that response by showcasing diverse, evidence-informed approaches that prioritise reciprocity, relationality, and shared wellbeing, positioning outdoor health not only as a therapeutic modality, but as part of a broader movement towards collective wellbeing and ecological care.

Key Concepts and Theoretical Foundations

Outdoor health has emerged as a response to the interconnected crises facing people and the planet. While informed by overarching frames such as the Anthropocene and late modernity, this book draws on a wide range of theoretical traditions and cultural knowledge systems, particularly those that centre relationality, reciprocity, lived experience, and care beyond Western biomedical logics.

Outdoor health is understood here as a diverse and relational field of practice. Broadly, it includes the full range of evidence-informed nature-based practices across the continuum of public health needs, including practices for strengthening wellbeing and preventing illness, practices for intervening early, treating or ameliorating identified illnesses, and supporting quality of life in palliative care. Over 30 modalities have been identified in the Australian context, including Aboriginal healing practices, animal-assisted therapies, bush adventure therapy, ecopsychology, equine-facilitated therapy, green social work, land-based cultural practices, nature connection programs, occupational therapy outdoors, outdoor therapy, therapeutic horticulture, and adventure-based youth work (OHA, n.d.). Despite their differences, these approaches share a commitment to the idea that human wellbeing is inseparable from ecological wellbeing—though this relationship is interpreted differently across disciplines, cultures, and worldviews.

The sociology of nature reminds us that "nature" is not a fixed or neutral concept but one shaped by social structures, histories, and power relations (Irwin, 2013; Macnaghten & Urry, 1995). In Australia, dominant Western views differ from Indigenous cosmologies that can position land as kin, ancestor, and sovereign entity (Moreton-Robinson, 2020).

Contributors to this book, therefore, bring with them different ontologies (ways of being in and with the world), epistemologies (ways of knowing), and axiologies (value systems) (Walter & Andersen, 2013). Some chapters are grounded in

Indigenous worldviews, where land is not a resource but a sentient being. Others adopt systems-based, trauma-informed, or ecopsychological perspectives, and still others emerge from biomedical or environmental policy contexts. This diversity is not only methodological but philosophical, reflecting profound differences in how health, nature, and care are conceptualised.

To support this plurality, the book draws on these foundational concepts and frameworks:

- **planetary health:** emphasising the interdependence of human and ecological systems and the urgent need for sustainable responses to global environmental crises;
- **ecological justice:** extending beyond human-centred justice to include accountability to ecosystems and more-than-human life;
- **connection to Country:** in many Indigenous Australian frameworks, encompassing spiritual, legal, and kinship relations between people and land, and positioning Country as a teacher, healer, and authority;
- **mutuality:** referring to reciprocal relationships between people and place, grounded in care, coexistence, and shared responsibility;
- **systems thinking:** locating individual health experiences within broader ecological, cultural, and institutional systems, and the collective;
- **culturally safe and trauma-informed practice:** recognising the impact of colonisation, racism, patriarchy, and historical violences.
  (Atkinson, 2002; Finlay et al., 2021; Giddens, 2023; Irwin, 2013; Macnaghten & Urry, 1995; Moreton-Robinson, 2020; Myers & Frumkin 2020; Norton et al., 2015; Prescott et al., 2022; Pryor et al., 2019; Vince, 2014)

These concepts are interpreted differently across the book's 30 chapters, shaped by each author's positionality and disciplinary lens.

Rather than offering a singular definition, this book embraces a pluralistic and multidimensional approach to outdoor health—one that centres connection, care, and the ongoing work of healing relationships between people, place, and planet.

Figure 1.1 presents an expanded understanding of evidence-informed practice and research in the late modern era (Centre for Community Child Health, 2017). Instead of centring empirical research and manualised treatment approaches, so dominant within modernist health systems for several decades, a range of valuable foundations for evidence are provided. The figure supports practitioners and researchers to re-member different ways of knowing (including embodied and ancestral knowledges) and helps to re-value diverse contributions to knowledge (including participants' own knowledges and insights).

The dotted line indicates a necessary reflective assessment process in which consideration is given to the strength of the evidence, its fitness for purpose, the guidance it offers, and ethical considerations relating to that form of evidence. The framework relies on practitioners and researchers having strong self-awareness of their professional scope of practice, mediated by robust and transparent peer review, ideally from within their identified community of practice. It does not propose "anything goes" but proposes clarification of values, use of sensitive

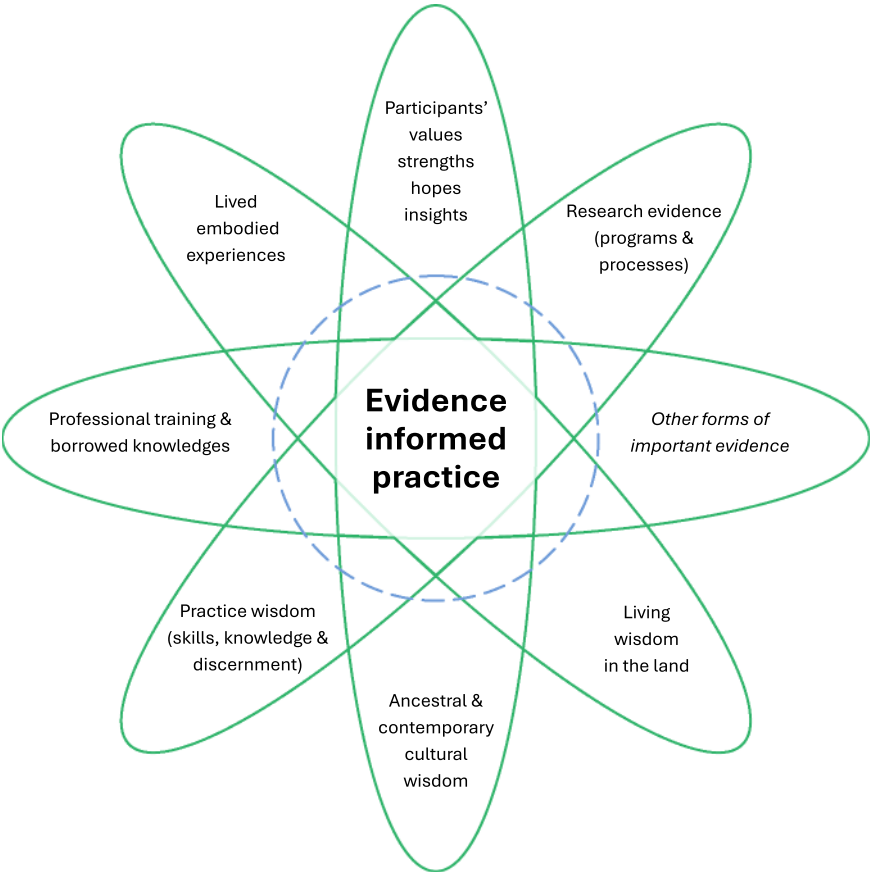


Fig. 1.1 Evidence-informed outdoor health practice (Adventure Works Australia, 2025) (This figure is the original work of the 2nd author's organisation, Adventure Works Australia. Permission to share has been granted)

discernment, and a deeper valuing of the knowledges that have served the socio-ecological evolution of humanity throughout history prior to Euro-Western-led sociocultural conformity and colonisation.

Breadth of the Collection

This book is an invitation to explore the multiple ways health, healing, and care are being reimagined in relationship with nature. It seeks to broaden the conceptual and practical horizons of outdoor health by amplifying diverse perspectives,

geographies, and traditions of knowledge. In doing so, it creates space for a richer, more inclusive understanding of what it means to care for people and the planet.

The central purpose of this collection is to document, share, reflect upon, and open conversations about outdoor health practices that are relational, justice oriented, and ecologically attuned. It features chapters from contributors working across Australia, Aotearoa (New Zealand), the Pacific, North and South America, Europe, Asia, and Africa. The authors include Indigenous Elders and scholars, health practitioners, community leaders, educators, policy specialists, artists, researchers, and people with lived experience. These contributors write from a wide range of disciplines, including public health, outdoor therapy, education, sociology, psychology, social work, environmental science, and cultural studies, and locations as varied as remote bushlands, dense urban environments, coastal communities, and desert ecologies.

This diversity is not incidental but integral. It reflects a commitment to decolonising narratives of nature and health (Williamson et al., 2020). It also recognises that what constitutes healing, wellness, or relationship to land is shaped by local knowledge, historical context, cultural identity, and social location (Lovett et al., 2020). For this reason, the book includes contributions that are deeply situated in Country, community, and cultural practice, resisting any tendency to flatten outdoor health into a set of universal principles (Finlay et al., 2021).

A key contribution of this volume lies in its effort to bring lived experience into active dialogue with scholarly and practice-based knowledge. Several chapters are authored or coauthored by individuals who have participated in outdoor health programs or who draw directly on their own experiences of recovery, displacement, cultural reconnection, or environmental activism. These voices challenge the traditional boundaries between subject and expert, practitioner and client, research, and experience. In doing so, they also challenge the narrow definitions of evidence and expertise that continue to dominate institutional health and academic systems.

Another distinctive contribution of the collection is its emphasis on reframing nature not as a neutral setting or therapeutic tool, but as an active participant or cofacilitator in the cocreation of health. Across the chapters, nature is portrayed as kin, collaborator, teacher, facilitator, therapist, and sometimes as witness. This repositioning carries significant ethical and political implications. It requires a shift away from extractive, human-centred approaches to nature-as-resource, and towards relational, reciprocal frameworks grounded in care, consent, and respect for more-than-human life (Jackson, 2016).

At the same time, this book does not idealise outdoor health as a panacea, nor as an inherently just or a universally accessible field. It acknowledges the ongoing exclusions, barriers, and structural inequities that shape who can access nature-based health programs, which practices are funded or legitimised, and whose knowledge is centred in the design and evaluation of health interventions. Several chapters critically engage with these tensions, examining how race, class, disability, gender, and geography shape experiences of nature and care.

By bringing these plurals and situated voices together, *Outdoor Health: Caring for People and Planet* offers a capacious and critical resource for reimagining

health beyond the walls of clinics and institutions. It is intended for practitioners, researchers, educators, policymakers, and communities engaged in the work of healing bodies, minds, relationships, and ecosystems. Rather than offering final answers, it provides frameworks, reflections, questions, and stories that can guide more connected, more accountable, and more ecologically grounded health practices in an era of profound social and planetary change.

Structure of the Book

This book is organised into a thematic structure that reflects the diversity and complexity of the outdoor health field. Rather than separating theory from practice or privileging any single model or worldview, the collection integrates conceptual foundations, applied knowledge, lived experience, and critical reflection. The chapters are arranged into five interrelated subsections, each contributing to a broader understanding of outdoor health as a socially, culturally, and ecologically embedded field. These are not discrete silos but overlapping domains of inquiry, reflecting the plural and evolving nature of outdoor health across diverse global contexts.

Scoping the Field

This first subsection explores the conceptual, historical, and disciplinary foundations of outdoor health, including what is common within its diversity. Contributors trace its evolution across different traditions, including nature-based therapy, Indigenous land-based practices, environmental education, and public health, while critically interrogating how outdoor health is currently defined and institutionalised. Key questions raised include who is included in the field? What epistemologies shape its dominant narratives? How are relationships to land, place, and more-than-human life framed? This section lays the groundwork for understanding outdoor health as a relational and politically situated field that must be interpreted through multiple cultural and disciplinary lenses.

Evidence-Informed Practice

The second subsection turns to the practical application of outdoor health and the ways its impacts are measured, legitimised, and scaled. Contributors share insights from a range of programmatic contexts, including wilderness therapy, bush adventure therapy, green and blue space interventions, outdoor education, and community-based ecological initiatives. These chapters critically examine what counts as

"evidence," how outcomes are evaluated, and the tensions between professionalised health systems and more grounded, community-driven approaches. Particular attention is paid to the ethical and cultural dimensions of program design, evaluation, and access.

Expanding Practice: Lived Experience

Outdoor health is shaped not only by practitioners and researchers, but also profoundly by those who experience it firsthand and who reflect with critical attunement on their embodied experiences. This subsection centres the voices and knowledges of people with lived experience of mental distress, trauma, disability, displacement, or marginalisation who have engaged in outdoor health settings. These chapters challenge dominant assumptions about who outdoor spaces are for and how health is experienced, instead highlighting the power of codesign, cultural safety, and relational care. They reveal how outdoor health can serve as a site of transformation, identity reconstruction, and resistance, particularly when informed by those most affected by systems of exclusion.

(Re)centring Nature

The fourth subsection brings together ecological, ethical, and philosophical reflections on the role of nature in health. Rather than treating the natural world as a therapeutic tool, clinic, or backdrop, contributors frame nature as a dynamic, relational presence, an active participant in the processes of healing and care. Drawing on Indigenous worldviews, deep ecology, ecopsychology, and planetary health, these chapters explore how outdoor health can foster reciprocity, ecological accountability, and a right relationship with the more-than-human world. The section culminates with a call to recognise that the wellbeing of people and planet is fundamentally intertwined, and that outdoor health must be oriented towards relational, regenerative futures to support the wellbeing of all.

Mutuality: Planet and People

The fifth and final subsection continues the theme of interconnection by bringing mutuality into sharper focus. Here, contributors consider how health initiatives can be codesigned to serve people and ecosystems. This involves moving beyond anthropocentric models of care towards frameworks that honour reciprocal relationships with the land, waters, and more-than-human life. Emphasis is placed on how outdoor health practices can simultaneously regenerate social and ecological

systems, ranging from community-led conservation and healing initiatives to nature-based practices rooted in Indigenous sovereignty and environmental justice. This section reinforces the book's central ethos: that genuine wellbeing arises from interconnectedness, responsibility, and care for Country, community, and future generations.

Together, these five subsections reflect the interdisciplinary, relational, and evolving nature of outdoor health. Rather than offering a single definition or prescriptive model, the book embraces diversity in perspective, method, and experience. Each chapter contributes to a broader dialogue about the interweaving of health, nature, and social systems. In doing so, the collection invites readers to reimagine more inclusive, ethical, and ecologically attuned futures for outdoor health practices.

Intended Audiences and Use

Outdoor Health: Caring for People and Planet is written for a broad and interdisciplinary audience, reflecting the diverse knowledges, practices, and lived experiences that the field encompasses. Due to the goodwill provided by the Victorian Government, the book is open access and can be freely shared with broad audiences, including colleagues, family, friends, and communities.

The collection is relevant to practitioners, researchers, educators, students, policymakers, and community leaders working across a wide array of sectors, including health, education, environmental studies, Indigenous studies, youth services, social and community work, and allied health. It also resonates with people working outside formal institutions—those engaged in cultural revival, land stewardship, community healing, or everyday practices of care and connection to their place.

For practitioners and program facilitators, the collection serves as a grounded, reflexive, and experience-informed resource. It features a range of case studies and reflective accounts drawn from diverse contexts, including bush adventure therapy, wilderness-based recovery programs, urban greening initiatives, cultural camps, and land-based healing. These chapters offer practical insights into program design, delivery, and adaptation, while also addressing the challenges of institutional accountability, funding pressures, cultural safety, and ethical engagement. Practitioners are invited to reflect on their own positionalities, assumptions, and the power dynamics embedded in their work with both people and place.

For researchers and scholars, the book provides a critical and pluralistic framework for understanding outdoor health as a socioecological field. It brings together international and interdisciplinary scholarship that unsettles dominant paradigms and introduces alternative ways of thinking about health, nature, and care. The chapters offer a combination of theoretical depth, applied insight, and methodological innovation, including contributions informed by Indigenous standpoint theory,

feminist praxis, environmental sociology, and participatory research approaches. Scholars will find the collection particularly valuable for advancing decolonial, relational, and ecologically literate approaches to health research.

For educators and students, the book provides a comprehensive, critically engaged, and globally relevant teaching resource. It is suitable for use in undergraduate and postgraduate courses across multiple disciplines, including public health, outdoor and environmental education, psychology, Indigenous studies, social work, and sustainability studies. Each chapter is accompanied by an author positioning statement that helps students critically consider the positionality of the author(s), encouraging them to engage in more profound reflexivity and develop critical literacy. The collection's interdisciplinary scope also makes it ideal for coursework that values the integration of academic knowledge with lived experience and practice-based wisdom.

For policymakers, commissioners, and institutional leaders, the collection offers timely, context-rich insights into the value and complexity of outdoor health as a public good. As governments and service providers grapple with intersecting crises, including climate change, biodiversity loss, mental health epidemics, social unrest, and cultural disconnection, outdoor health emerges as a promising, integrative response. However, the chapters also caution against superficial or technocratic adoption. Readers in policy and governance roles will benefit from the book's nuanced discussions of implementation, funding, evaluation, and equity, particularly in relation to Indigenous leadership, community control, and systemic reform.

For communities and cultural practitioners, this book affirms that outdoor health is not the exclusive domain of professionals or institutions. It recognises the deep knowledge embedded in community-led healing practices, Indigenous cultural traditions, intergenerational learning, and everyday acts of care for Country and kin. Community readers will find stories that resonate, challenge, and inspire, especially those grounded in lived experience, resistance to marginalisation, and the reweaving of relationships through land, ceremony, and story. The book may also be helpful as a catalyst for local discussion, codesign, and the creation of new models of care that emerge from within communities themselves.

Taken together, the chapters in this volume form a flexible and multipurpose resource. It may be used as a professional guide for practitioners, a reference text for researchers, a teaching tool in tertiary education, or a reflective companion for communities and cultural leaders. Rather than prescribing a singular vision, the book invites critical and creative engagement with the diverse and situated practices of outdoor health worldwide. It is offered in the spirit of dialogue and mutual learning, an invitation to deepen our collective capacity to care for people and planet and to do so in ways that are just, culturally accountable, and ecologically grounded.

Looking Ahead

This book emerges in the context of what many scholars describe as the ecological crisis of late modernity, a crisis not only of environmental degradation but of the dominant ways of knowing, relating, and governing that have brought us to this point (Giddens, 2023; Hamilton et al., 2015; Kefala, 2025; Moore, 2017; Paradies, 2020). Rooted in colonialism, industrial capitalism, the logic of separation, and the hierarchies and harms of anthropocentrism, humans are positioned as above or apart from nature, severing relationships that were once grounded in reciprocity, kinship, and a sense of place (Moreton-Robinson, 2020). This crisis is evident in the accelerating collapse of ecosystems, the climate emergency, widespread mental distress, increasing social unrest, and the erosion of collective belonging (Giddens, 2023). It is not simply a crisis of the environment but a crisis of culture, worldview, and values.

Weller (2022) refers to this significant moment in planetary evolution and human history as *the long dark*, a prolonged season of descent. He emphasises the importance of entering a gestational space, a time of slowing down and listening deeply, as a necessary response to the current breaking down of old systems and certainties (Weller, 2022). He also calls this an invitational space, asking for a recalibration in our relationships with body and soul, and the soul of the world. This, he believes, will allow the possibility of return to, and re-membering, into a living planetary culture that is sustainable.

In this context, outdoor health offers a vital countervailing practice. It repositions wellbeing not as a purely individual pursuit, nor as the exclusive domain of clinical systems, but as a deeply relational process emerging through connections to body, land, water, culture, and community. The practices and ideas presented in this book are not proposed as technical solutions to global problems but rather as part of a broader movement towards relational, just, and ecologically grounded ways of living. They ask what it means to care for people and planet simultaneously, and how we might do so in ways that are culturally safe, historically aware, responsive to intergenerational trauma, and responsive to local ecologies (Finlay et al., 2021; Jackson, 2016).

Outdoor health is not a fixed or uniform field; it is an evolving and creative field full of possibilities. The chapters that follow reflect diverse approaches and experiences, some complementary, others in tension. Readers are encouraged to engage with these contributions not as prescriptive models but as prompts for reflection: What does health mean in your context? What values underpin your practice? How do your relationships to land, community, and more-than-human life shape the way you understand wellbeing?

We invite readers to approach this book with curiosity, openness, and critical engagement. Whether you are a researcher, practitioner, educator, policymaker, student, or community member, your standpoint and experience matter. Outdoor health is a participatory and plural field, enriched by the interplay of knowledge systems, cultural traditions, ecological insights, and lived realities. There is no single correct way to practise outdoor health; instead, there are multiple, situated

pathways shaped by history, geography, and culture (Prehn & Guerzoni, 2024; Walter & Andersen, 2013).

Ultimately, this collection forms part of a larger paradigm shift, one that challenges the extractive, anthropocentric logics of modernity and calls for relational, regenerative, and justice-oriented futures. Outdoor health is more than a professional field or therapeutic model; it is a commitment to reweaving the relationships that sustain life. It offers both a language and a practice through which care for self, care for others, and care for Country can be brought back into alignment. As you move through this book, we invite you to reflect not only on its content but also on your own relationships to place, to health, and to the systems that shape both. Outdoor health is not something to be consumed but to be cocreated. We hope this collection supports your work, sparks new questions, and contributes to the ongoing collective task of caring for people and planet in the face of profound and necessary transformation.

Acknowledgement of Authors

This collection was initially generated through a call for papers relating to outdoor health and nature-based solutions. Over time, it has been shaped through dialogue, deep listening, reflective practice, collegial support, academic rigour, and collaboration across disciplines, geographies, and cultures. As editors, we did not begin with a rigid blueprint. Instead, we sought to create a space where diverse voices, Indigenous and non-Indigenous, academic and community-based, professional and experiential, could meet in a shared yet plural conversation about outdoor health. We were guided by the principle that health, like knowledge, is relational: formed not in isolation but through connection with people, place, purpose, and, indeed, the planet.

The chapters that follow reflect this diversity. They were written during times of both global upheaval and local resilience, amid bushfires, floods, pandemics, and urgent calls for climate justice, health equity, and decolonisation. We acknowledge the emotional and intellectual labour involved in producing these chapters and the generosity with which contributors shared their knowledge, experiences, and practices. Many of these contributions draw from contexts where knowledge is not only written but also lived, spoken, and practised. Some are grounded in ancestral relationships to land and waters that predate modern nation states; others emerge from years of grassroots practice in marginalised communities or from personal journeys of recovery and reconnection. These forms of knowledge, often undervalued in formal health and academic systems, are foundational to the future of outdoor health.

To all who contributed to this collection as authors, reviewers, collaborators, mentors, storytellers, and knowledge holders, we extend our sincere gratitude. To first-time authors, reviewers, and editors, thank you for stepping up. Your work forms part of a growing global tapestry of care, courage, and commitment to more

relational ways of living. We hope this book does justice to those contributions and trust that readers will approach your chapters with the respect, curiosity, and openness they deserve.

Outdoor Health: A Revolutionary Pathway for Recentring Planet Earth

Outdoor Health: Caring for People and Planet calls us to confront the consequences of a modern world built on separation, including the divisions between humans and nature, health and the environment, and individual wellbeing and collective responsibility. The ecological crisis of late modernity is not only about damaged ecosystems or disrupted climates; it is, more profoundly, a crisis of relationality. Rooted in colonialism, capitalism, and industrialisation, late modernity has privileged extraction, control, and domination over reciprocity, kinship, and care. These logics have shaped not only landscapes but also institutions, health systems, and understandings of what it means to live well.

Outdoor health offers a generative response to this crisis, not through a romanticised or "pure" return to nature, or as a panacea, but by engaging with it relationally, ethically, and politically. This book introduces a growing and pluralistic field, informed by many ways of knowing and being. Concepts such as mutuality, connection to Country, ecological justice, and planetary health are explored alongside diverse epistemologies and ontologies. Standpoint is central: Like health itself, knowledge is always situated, embodied, and shaped by culture, power, and place.

The chapters that follow intervene in dominant health narratives that treat nature as a passive backdrop, overlook cultural sovereignty, and silence the voices of those most affected by environmental and systemic injustice. Outdoor health is instead framed as political, relational, and dynamic, rather than a fixed model to be replicated; it is a living field of practice that must remain responsive to context, ecology, and community. It invites readers to ask foundational questions: How do different worldviews shape our understanding of nature, health, and care? What does it mean to be in the right relationship with land and more-than-human life in the wake of late modernity and the epoch of anthropocentrism? And how might outdoor health help repair relationships, not only between individuals and nature, but between peoples, histories, and futures?

In a world fractured by the legacies of modernity, outdoor health does not offer a singular cure. What it offers are practices of reconnection and regeneration that honour interdependence, uphold justice, and nurture the conditions for collective and planetary wellbeing.

References

Adventure Works Australia. (2025). *Healthy practices, healthy people: Foundations of outdoor therapy practitioner training course book* (5th ed.). Adventure Works Pty Ltd.

Atkinson, J. (2002). *Trauma trails, recreating song lines: The transgenerational effects of trauma in Indigenous Australia*. Spinifex Press.

Australian Association for Bush Adventure Therapy Inc. (AABAT, n.d.). *Home*. https://aabat.org.au/

Barolsky, V., Rodriguez Castro, L., & Paradies, Y. (2024). Reckoning with truth globally: Decolonial possibilities. *Journal of Sociology*, *60*(4), 667–685. https://doi.org/10.1177/14407833231216176

Bauman, Z. (2013). *Liquid modernity*. John Wiley & Sons.

Bowen, D. (2016). *Adventure therapy: Treatment effectiveness and applications with Australian youth* (Doctoral dissertation, University of Canberra). https://www.danielbowen.com.au/research/PhD

Brennan, M., Stain, H. J., & Marshall, J. (2024). Mapping the landscape: Surf therapy program delivery. *Journal of Outdoor and Environmental Education*, *27*, 235–254. https://doi.org/10.1007/s42322-023-00152-2

Centre for Community Child Health. (2017). *Using evidence in policy and programs* (Policy Brief No. 27). The Royal Children's Hospital. https://www.rch.org.au/uploadedFiles/Main/Content/ccchdev/1711-CCCH-PolicyBrief-27.pdf

Connell, R. (2007). *Southern theory: The global dynamics of knowledge in social science*. Allen & Unwin.

Dudgeon, P., Milroy, H., & Walker, R. (Eds.). (2014). *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice* (2nd ed.). Commonwealth of Australia.

Engel, L. (In press). Trail tracing and walking with grief: A story of practice. In A. Pryor, T. Gray, P. Marsh, C. Carpenter, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Fernee, C., Wahlgren, S., & Trangsrud, L. (2023). The potentiality of nature to tug at our heartstrings: An exploratory inquiry into supportive affordances for emotion-focused family therapy in the outdoors. *Journal of Outdoor and Environmental Education*, *27*, 187–207. https://doi.org/10.1007/s42322-023-00157-x

Finlay, S. M., Canuto, K., Canuto, K., Neal, N., & Lovett, R. W. (2021). Aboriginal and Torres Strait Islander connection to culture: Building stronger individual and collective wellbeing. *Medical Journal of Australia*, *214*, S12–S16.

Flies, E. J., Pryor, A., Henderson-Wilson, C., Turner, M., Roydhouse, J., Patrick, P., O'Shea, M., Norris, K., Martin, A., Marsh, P., Bartlett, L., Azghadi, M. R., & Neil, A. (2023). Bridging the evidence gap: A review and research protocol for outdoor mental health therapies for young Australians. *Journal of Outdoor and Environmental Education*, *27*, 37–56. https://doi.org/10.1007/s42322-023-00143-3

Foucault, M. (2020). Power/knowledge. In S. Seidman & J. C. Alexander (Eds.), *The new social theory reader* (2nd ed., pp. 73–79). Routledge. https://doi.org/10.4324/9781003060963

Gascon, M., Zijlema, W., Vert, C., White, M. P., & Nieuwenhuijsen, M. J. (2017). Outdoor blue spaces, human health and well-being: A systematic review of quantitative studies. *International Journal of Hygiene and Environmental Health*, *220*(8), 1207–1221.

Giddens, A. (2023). Modernity and self-identity. In D. M. Calhoun, J. D. Croteau, & J. G. Rhoads (Eds.), *Social theory re-wired* (3rd ed., pp. 477–484). Routledge. https://doi.org/10.4324/9781003320609-62

Hamilton, C., Bonneuil, C., & Gemenne, F. (2015). *The Anthropocene and the global environmental crisis: Rethinking modernity in a new epoch*. Taylor & Francis.

International Adventure Therapy. (n.d.). *Home*. https://internationaladventuretherapy.org/

Irwin, A. (2013). *Sociology and the environment: A critical introduction to society, nature and knowledge*. John Wiley & Sons.

Itin, C. M. (Ed.). (1997). Exploring the boundaries of adventure therapy: International perspectives. *Proceedings of the first international adventure therapy conference Perth, Western Australia*. Association for Experiential Education.

Jackson, T. (2016). *Prosperity without growth: Foundations for the economy of tomorrow*. Routledge.

Kefala, E. (2025). *The open veins of modernity: Ecological crisis and the legacy of byzantium and pre-Columbian America*. Cambridge University Press. https://doi.org/10.1017/9781009547079

Kimmerer, R. W. (2013). *Braiding sweetgrass: Indigenous wisdom, scientific knowledge and the teachings of plants*. Milkweed editions.

Knowles, B., Marsh, P., Prehn, J., & Maxwell, H. (2024). Addressing ethical issues in outdoor health practice: A scoping review. *Journal of Outdoor and Environmental Education*, *27*, 7–35. https://doi.org/10.1007/s42322-024-00160-w

Lewis, S. L., & Maslin, M. (2018). *The human planet: How we created the Anthropocene*. Yale University Press.

Lovell, R., Depledge, M., & Maxwell, S. (2018). *Health and the natural environment: A review of evidence, policy, practice and opportunities for the future*. Department Forest Environment: Food and Rural Affairs (DEFRA). https://www.gov.uk/government/publications/health-and-the-natural-environment-a-review-of-evidence-policy-practice-and-opportunities-for-the-future

Lovett, R., Brinckley, -M.-M., Phillips, B., Chapman, J., Thurber, K. A., Jones, R., Banks, E., Dunbar, T., Olsen, A., & Wenitong, M. (2020). *Marrathalpu mayingku ngiya kiyi. Minyawaa ngiyani yata punmalaka; wangaaypu kirrampili kara* [Ngiyampaa title] [In the beginning it was our people's law. What makes us well; to never be sick]. Cohort profile of Mayi Kuwayu: The national study of Aboriginal and Torres Strait Islander Wellbeing [English Title]. *Australian Aboriginal Studies*, *2*, 8–30.

Macnaghten, P., & Urry, J. (1995). Towards a sociology of nature. *Sociology*, *29*(2), 203–220.

Maller, C., Townsend, M., St Leger, L., Henderson-Wilson, C., Pryor, A., Prosser, L., & Moore, M. (2008b). *Healthy parks, healthy people: The health benefits of contact with nature in a park context. A review of relevant literature* (2nd ed.). School of Health & Social Development, Faculty of Health, Medicine, Nursing & Behavioural Science, Deakin University.

Moore, J. W. (2017). The Capitalocene, Part I: On the nature and origins of our ecological crisis. *The Journal of Peasant Studies*, *44*(3), 594–630.

Moreton-Robinson, A. (2020, November 9). *"Our story is in the land": Why the Indigenous sense of belonging unsettles white Australia*. ABC. https://www.abc.net.au/religion/our-story-is-in-the-land-indigenous-sense-of-belonging/11159992

Myers, S. S., & Frumkin, H. (Eds.). (2020). *Planetary health: Protecting nature to protect ourselves*. Island Press.

Norton, C. L., Carpenter, C., & Pryor, A. (Eds.). (2015). *Adventure therapy around the globe: International perspectives and diverse approaches*. Common Ground Publishers.

Outdoor Health Australia (OHA, n.d.-a). *Home*. https://outdoorhealth.org.au/

Paradies, Y. (2020). Unsettling truths: Modernity, (de-)coloniality and Indigenous futures. *Postcolonial Studies*, *23*(4), 438–456. https://doi.org/10.1080/13688790.2020.1809069

Pitt, C., Norris, K., & Pecl, G. (2024). Informing future directions for climate anxiety interventions: A mixed-method study of professional perspectives. *Journal of Outdoor and Environmental Education*, *27*, 209–234. https://doi.org/10.1007/s42322-

Prehn, J., & Guerzoni, M. A. (2024). Using Indigenous standpoint theory with the longitudinal study of Indigenous children. In *SAGE research methods: Diversifying and decolonizing research* (pp. xx–xx). SAGE Publishers.

Prescott, S. L., Logan, A. C., Bristow, J., Moodie, R., Redvers, N., Haahtela, T., Hancock, T., Berman, B., Rozzi, R., Warber, S., & Poland, B. (2022). Exiting the Anthropocene: Achieving

personal and planetary health in the twenty-first century. *Allergy*, *77*(11), 3498–3512. https://doi.org/10.1111/all.15419

Pryor, A. (2009). *Wild adventures in wellbeing: Foundations, features and wellbeing impacts of Australian outdoor adventure interventions (OAI)*. Doctoral dissertation, Deakin University. https://hdl.handle.net/10536/DRO/DU:30027427

Pryor, A., & Carpenter, C. (2003). *Shared conversations: Proceedings of the first South Pacific Wilderness adventure therapy forum*. Victoria University.

Pryor, A., Carpenter, C., & Townsend, M. (2005). Outdoor education and bush adventure therapy: A socio-ecological approach to health and wellbeing. *Australian Journal of Outdoor Education*, *9*(1).

Pryor, A., Gray, T., Asen, G. O., Knowles, B., Dickmeyer, A., & Smith, A. (2024). JOEE special issue: Outdoor health and nature-based solutions: Research, practice & policy. *Journal of Outdoor and Environmental Education*, *27*(1), 1–6. https://doi.org/10.1007/s42322-024-00170-8

Pryor, A., Pryor, R., & Carpenter, C. (2019). *Outdoor adventure interventions: Young people and adversity: A literature review*.

Pryor, A., Townsend, M., Maller, C., & Field, K. (2006). Health and well-being naturally: "Contact with nature" in health promotion for targeted individuals, communities and populations. Intervention and program evaluation. *Health Promotion Journal of Australia*, *17*(2), 114–123. https://doi.org/10.1071/HE06114

Raffety, C., Mabb, L., & Pryor, A. (In press). Aboriginal-informed outdoor therapy: Values, principles, and practitioner training in Australia. In A. Pryor, T. Gray, P. Marsh, C. Carpenter, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Reis, A., Gray, T., Mann, J., Mallinson, J., Katnoria, M., Seach, W., & Peel, N. (2023). Measuring nature-based health interventions: A rapid review of instrumentation and outcomes. *Journal of Outdoor and Environmental Education*, *27*, 57–186. https://doi.org/10.1007/s42322-023-00135-3

Twohig-Bennett, C., & Jones, A. (2018). The health benefits of the great outdoors: A systematic review and meta-analysis of greenspace exposure and health outcomes. *Environmental Research*, *166*, 628–637.

Verbunt, E., Luke, J., Paradies, Y., Bamblett, M., Salamone, C., Jones, A., & Kelaher, M. (2021). Cultural determinants of health for aboriginal and Torres Strait Islander people: A narrative overview of reviews. *International Journal for Equity in Health*, *20*(1), 181. https://doi.org/10.1186/s12939-021-01514-2

Vince, G. (2014). *Adventures in the Anthropocene: A journey to the heart of the planet we made*. Milkweed Editions.

Walter, M., & Andersen, C. (2013). *Indigenous statistics: A quantitative research methodology*. Left Coast Press.

Watson, I. (2014). Re-centring first Nations knowledge and places in a terra nullius space. *AlterNative: An International Journal of Indigenous Peoples*, *10*(5), 508–520. https://doi.org/10.1177/117718011401000506

Weller, F. (2022). At the threshold: Grief, initiation, and transformation. In D. Elgin (Ed.), *Choosing Earth: Humanity's great transition to a mature planetary civilization* (pp. 7–21). Choosing Earth Project. https://scienceandnonduality.com/article/choosing-earth/.

White, M. P., Alcock, I., Grellier, J., Wheeler, B. W., Hartig, T., Warber, S. L., Bone, A., Depledge, M. H., & Fleming, L. E. (2019). Spending at least 120 minutes a week in nature is associated with good health and wellbeing. *Scientific Reports*, *9*(1), 7730.

Williamson, L., Dent, P., & Bowman, N. (2020). *Culture is key: Towards cultural determinants-driven health policy* (Final report). Lowitja Institute.

Wolfe, P. (1999). *Settler colonialism*. A&C Black.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 2
Common Elements of Effective Outdoor Health Modalities Within an Evolving Bio–Psycho–Socio–Cultural–Eco Model: A Narrative Review

Joshua McLean, Tom Mulvaney, and Anita Pryor

Sociocultural Positioning

The authors include non-Indigenous, Australian-born individuals of Anglo-Celtic heritage, spanning generational perspectives across Millennial and Gen X cohorts. They were raised in both urban and regional, middle-class contexts, and write from settler/coloniser standpoints. The group includes male (he/him) and female (she/her) gender identities. Collectively, they bring lived and professional experience shaped by community development, critical social work, psychology, outdoor education, academia, public health, and bush adventure therapy.

The authors acknowledge the privileges associated with their cultural and social positioning and contribute to this work with humility, respect, and a shared commitment to cultural safety and the ongoing project of decolonising practice. Their collective work in outdoor health and nature-based modalities is informed by robust research, embodied and relational approaches, and a deep engagement with ethical and culturally responsive care. They aim to foreground Indigenous voices and support transformative, decolonising practices within therapeutic and educational contexts.

J. McLean (✉)
School of Health and Social Development, Waterfront Campus, Deakin University, Geelong, VIC, Australia
e-mail: joshua.mclean@deakin.edu.au

T. Mulvaney
Outdoor Health Australia, Melbourne, VIC, Australia
e-mail: tom@outdoorhealth.org.au

A. Pryor
Adventure Works Australia, Hobart, TAS, Australia;
Outdoor Health Australia, Templestowe, VIC, Australia;
International Association for Adventure and Nature-based Therapies, Templestowe, VIC, Australia
e-mail: anita@adventureworks.org.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_2

> The land grew the people and people grew their country. Human spiritual and cultural processes within this landscape and with other life forms were, and continue to be, dynamic, proceeding, expanding, changing, growing, flowing, being mediated according to the movements and interactions that are natural to human, and non-human, associations. (Prof. Emeritus Judy Atkinson, Trauma Trails, Atkinson, 2002)

Introduction

Biophilia theory posits that humans have an innate need to connect with nature due to millennia of living in direct contact with it and that this connection is essential for health and wellbeing (Pryor et al., 2005; Wilson, 1984). However, modern environments, altered by rapid anthropocentric changes and colonisation, have outpaced our ability to adapt, leading to health issues linked to sedentary lifestyles, industrialised diets, and other modern stressors (Dominelli, 2014; Pryor et al., 2005; Rajoo et al., 2020; Shin & Lee, 2020). Currently, the average person in industrialised countries spends only 7% of their day outdoors (Delaney, 2020), and this figure is likely worsening. This disconnection correlates with rising illnesses including obesity, diabetes, anxiety, and neurological disorders (Louv, 2005; Rajoo et al., 2020). As a result of increased understanding of the human need for nature and a heightened interest in the physical and mental health benefits of accessing nature, the field of outdoor health (OH) and its underpinning research has grown over the last two decades.

OH is a field of evidence-based and informed practices, reflecting diverse modalities, as presented in Fig. 2.1. Evidence-based practice (EBP) is a process that requires the practitioner to find empirical evidence about the effectiveness of different intervention options and to determine the relevance of that evidence to a particular client's situation (Liamputtong, 2017). In contrast, evidence-informed practice (EIP), as defined by Nevo and Slonim-Nevo (2011), combines a diverse range of evidence, including empirical findings, case studies, clinical narratives, and experiences throughout the intervention process. While EBP is often presented as a set menu of interventions or programs that have been subject to rigid research, EIP offers a flexible, multidimensional approach, emphasising the importance of clinical and client experience (Moore, 2016). In contemporary OH modalities, programs increasingly integrate a range of EBP programs and processes to provide EIP interventions. While EBP is widely used on its own, it faces implementation and feasibility challenges (Adams et al., 2009). Due to its hierarchical and rigid structure, it often places qualitative evidence and Indigenous ways of thinking and doing at the bottom of a dominant Western research hierarchy (Liamputtong, 2017; Mooney et al., 2017). In contrast, a combination of the two offers the integration of multiple evidence types and is well placed to support the practice wisdom of First Peoples while responding to the inherent complexity present in natural systems.

As this list of OH modalities expand and deepens, each new wave brings diverse evidence-informed approaches and outcomes drawn from multidisciplinary frameworks and theories when working with clients. See Fig. 2.2 for a general overview



Fig. 2.1 Emerging outdoor health modalities (Outdoor Health Australia, n.d.) (Public source: https://outdoorhealth.Org.Au/about-2/)

of the growing "family tree" of OH modalities. While this range offers choice to clients, it highlights gaps in our current models to conceptualise and cover the large volume of key common elements and mechanisms of change that are at work.

Common Elements Approach

For this research, a common elements approach (CEA) was used to identify the critical evidence-based components that can be used to structure more holistic interventions under EIP models (Chorpita et al., 2005). The importance of EIP lies in its ability to bridge the gap between rigid, evidence-based frameworks and the practical realities of "eco" and "culture" integrated praxis. It empowers practitioners to tailor their nature-based interventions to the specific needs and circumstances of their clients, thereby improving the overall effectiveness and relevance of OH.

Common elements are subtle yet significant mechanisms of change that are shared across various practice protocols for engaging effectively with clients (Outcomes Practice Evidence Network, n.d.; Moore, 2016). Understanding the key common elements of OH and their evidence base provides a suite of approaches that can be built into treatment planning through matching them with client experience and goals (Chorpita et al., 2005). Combined, this selection contributes to EIP. In the field of OH, many practitioners have proposed specific mechanisms at work within a broad range of modalities that activate nature for health and healing. A deeper analysis of the key elements of a wider range of effective OH practices may enable stronger integration of evidence-based elements of practice into intervention design and improve communication with individuals, businesses, governments, and other stakeholders, thereby enhancing safety, effectiveness, advocacy efforts and future policy (Norton, 2012).

Expanding the Bio–Psycho–Social Model to Include the "Eco" Dimension

Collaboratively developed by Pryor and colleagues (Pryor et al., 2018) with Berry Street in *A Formative Evaluation of the Gippsland Wilderness Program* for the Berry Street Childhood Institute, the BPSE model reflects the biological, psychological, social, and ecological processes at work within nature-based health practices and the resultant outcomes across the same dimensions of wellbeing (see Fig. 2.3). The BPSE furthers Engel's (1977) landmark biopsychosocial (BPS) model, Bronfenbrenner's (1986) social ecological models, and Hancock's (1985) ecological mandala to include the "eco" dimension of wellbeing, which includes both nature and human nature. The BPSE model allows us to explore the additional eco domain through analysing both processes (mechanisms that create the outcomes) and outcomes (articulated impacts) for those

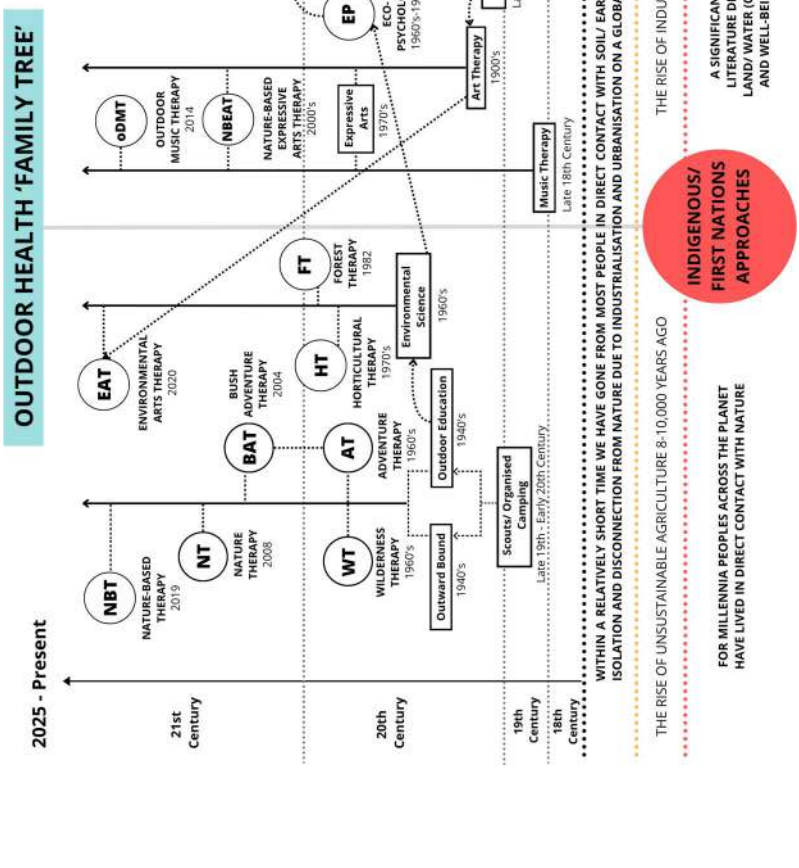


Fig. 2.2 Outdoor health family tree (McLean, 2021) (This is the original unpublished work of the 1st author who grants permission for its inclusion)



Fig. 2.3 Original bio–psycho–socio–eco (BPSE) framework (Pryor et al., 2018) (This figure is the original work of the 3rd author. Her organisation Adventure Works Australia grants permission for its inclusion)

involved in nature-based practices and investigates how those common elements interplay with one another to improve client outcomes.

The need for a cohesive evidence base for nature-based health practices, emphasising common key elements, was highlighted at the inaugural Nature & Health Online Symposium in June 2020 in Australia. In analysing nature-based health practices within the BPSE framework proposed by Pryor and colleagues (Pryor et al., 2018), it became apparent that the original BPSE model was limited in its capacity to illustrate the complex and interrelated dynamics at work within these modalities. The following model was then developed in 2021 as part of a research project by the first author with Outdoor Health Australia (OHA) to propose the "next iteration" of the BPSE model, honouring the complexities present in existing OH modalities (Pryor et al., 2023; see Fig. 2.4).

This proposed expansion of the BPSE framework was an attempt to represent the multidimensional, nonlinear, and nonhierarchical milieu of nature-based modalities and to illustrate complexity and intersectionality among the common elements and mechanisms of change in the literature. This iteration of the model endeavoured to provide a coherent yet fluid structure for navigating the inherent complexity. While the original BPSE framework provided a useful foundation for organising practices, processes, and outcomes, it was not claimed to be a conclusive framework.

The challenge of complexity and intersectionality occurs in all social science and natural science research and is comparable to the widely researched and variously defined concept of "wellbeing" (Sangha et al., 2015, p. 198). Despite significant research, there remains no single definition of human wellbeing due to the multifaceted nature of complex interactions between various contributing mechanisms, both across and within cultures. Nevertheless, there exists a basic agreement that wellbeing includes the key common elements of satisfaction of material needs, the

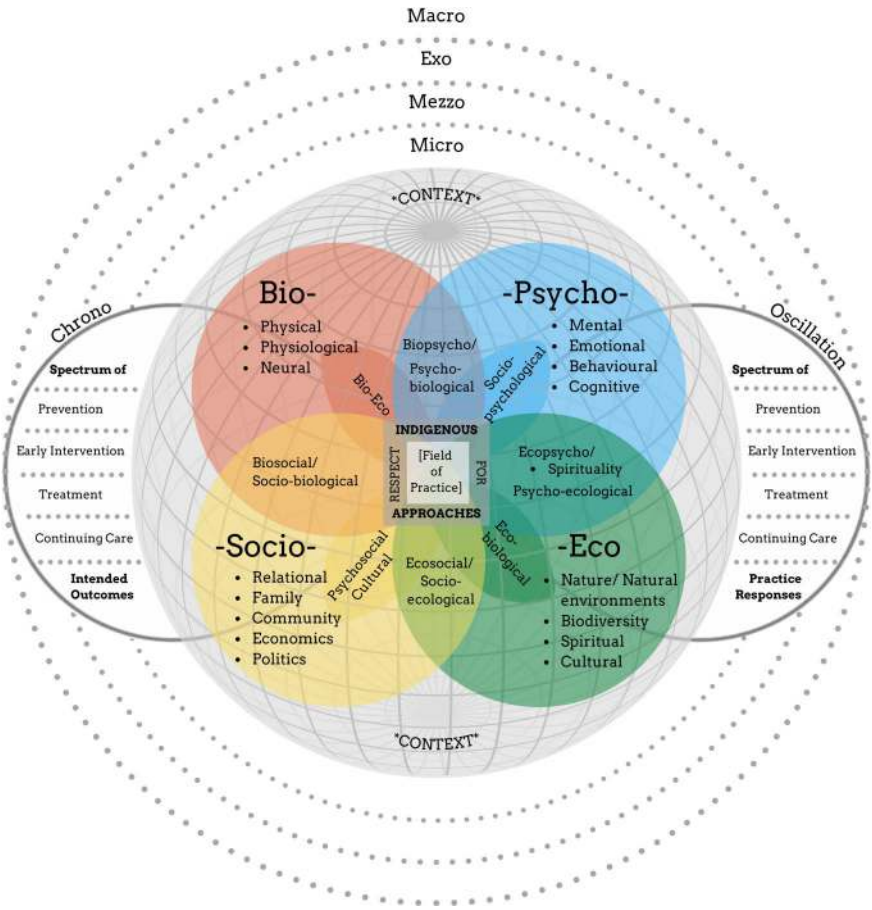


Fig. 2.4 Expansion of the bio–psycho–socio–eco (BPSE) model in 2021 (McLean, 2021) (This figure is the original work of the 1st author who grants permission for its inclusion)

experience of freedom, health, personal safety, good social relations, and a healthy natural environment (Gee et al., 2014).

Locating Culture Within the BPSE Model: BPSCE

At the Ninth triennial International Adventure Therapy Conference in Norway (2022), the BPSE model was presented to an international audience with the aim of helping international adventure therapy (IAT) position and distinguish itself more clearly from other mainstream psychological therapies and adventurous approaches. Similar features within the bio–psycho–socio–eco (BPSE) model of

Table 2.1 Integrating the "cultural" dimension into the bio–psycho–socio–eco model

Cultural		
Definition	Features: "mechanisms of change" *Promising causal and process pathways*	Intended therapeutic outcomes *Potential benefits for participating individuals*
The intentional (and accidental) awareness of cultural belief systems, which may involve intentional inclusion of sociocultural traditions and practices	Sociocultural awareness (relational dynamics, social behaviours, communication, and negotiation of power relations) and sociocultural self-awareness	Improved cultural traits, cultural self-awareness, cultural health, and wellbeing benefits

health and wellbeing were identified as essential features of IAT. However, the role of "culture" was identified as missing from most frameworks and suggested to be considered a standalone dimension within the BPSE.

Following the conference, the international team published a peer-reviewed paper entitled "Hills and Gullies of International Adventure Therapy: Exploring Common Practice Elements Towards an International Position Statement" (Pryor et al., 2023). In the paper, the cultural dimension was described in the following way (see Table 2.1).

Through follow-up exploratory conversations, both within the author group and through deeper conversations in the lead author's homeland, including with Aboriginal cultural mentors and peers from cross-disciplinary backgrounds, a subsequent visual representation of how the five elements interrelate was developed (see Fig. 2.5).

This current chapter aims to tell the story of this evolving BPSCE narrative and continues to build on this evidence to contribute to an ongoing dialogue with the OH research community. We further aim to distil the literature to identify common elements and outcomes across biological, psychological, sociological, cultural, and ecological dimensions and map these against the proposed BPSCE model in Fig. 2.5.

Methods

Under the OH umbrella, more than 30 modalities were identified. From these, 15 were selected to inform the keyword search: adventure therapy, animal-assisted therapy, bush adventure therapy, ecopsychology, eco-social work, ecotherapy, equine therapy, forest therapy, green social work, horticultural-based therapy, Indigenous approaches, nature-based mindfulness, nature-based therapy, nature therapy, and wilderness therapy. These modalities were selected by the authors based on those most commonly practised in the OH community and aligned with evidence-based and evidence-informed practice.

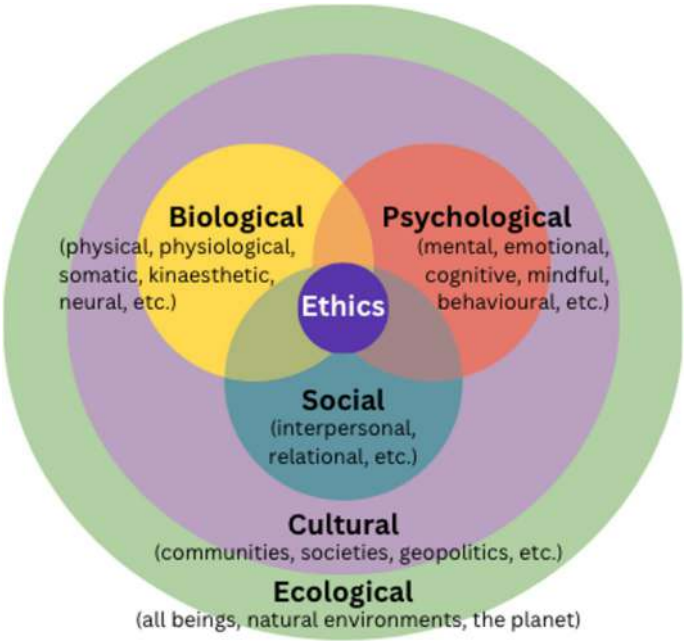


Fig. 2.5 The bio–psycho–socio–cultural–eco (BPSCE) model (adapted from Pryor et al., 2023) (This figure is the original work of the 3rd author who grants permission for its inclusion)

Given the large volume of various OH modalities and types of literature underpinning these practices, a narrative review with a systematic search protocol was selected for this chapter. We searched the literature across academic databases (PubMed, EBSCOhost, ProQuest Central, Taylor & Francis Online) as well as grey literature and Google Scholar. The search was further enhanced through purposive snowball sampling by including articles identified in the reference lists of key articles and consulting key informants in their respective fields to ensure we included seminal works that informed their practices (see Appendix for the final list of included seminal works). This approach, while time consuming, enhanced the effectiveness and overall scope of the review by including essential sources that might have been missed in a rigid academic literature search alone (Liamputtong, 2017).

Studies were reviewed for eligibility and included based on the following criteria:

(a) addressed an outdoor health intervention as described;
(b) aligned with the outdoor health community values and ethics;
(c) was published no earlier than 1995; and
(d) followed a code of ethics and/or aligned with safe and effective practice.

The included studies were then assessed for common elements, which were collated into a mechanism matrix, categorising them into (1) mechanisms, which

refers to what causes the outcomes, and (2) outcomes or impacts, which detail what outcomes are articulated and for whom. A simplified mechanisms matrix for the purpose of this publication is presented in the Results section (see Table 2.2).

Table 2.2 Outdoor health mechanisms matrix: summary of bio–psycho–social–cultural–ecological (BPSCE) model mechanisms and outcomes

Dimension	Mechanisms	Outcomes and impacts
Bio	• Physical activity/ kinaesthetic learning • Embodiment (felt sense of physical integration) • Outdoor activities • Nutritious food • Learning basic outdoor skills	• Optimal heart rate functionality • Increased heart rate variability (HRV) • Nervous system regulation • Improved physical health • Improved immune functioning
Psycho	• Mindfulness • Attention-focused activities • Solution-based focus on positive change • Engagement with left and right brain hemispheres • Nature as metaphor • Emotional safety	• Present, self-awareness • Personal insight and change in perspective • Reduced stress, triggers, depression, anxiety • Improved confidence, self-efficacy, sense of peace • Improved affect regulation and emotional health • Increased sense of self, responsibility, independence
Social	• Safe, supportive, and caring social environment • Holistic process • Shared experiences • Developing psychosocial skills • Therapeutic alliance or relationship • Social activities in nature	• Feeling safe enough to socially engage with others • Coregulation, reduced sense of loneliness • Improved sense of community health, belonging • Perceived support and care from others, peer connection • Developing social and interpersonal skills • Reduced interpersonal behavioural problems
Cultural	• Stewardship or Caring for Country (Indigenous lens) • Sociocultural awareness of systems and self • Foregrounding Indigenous approaches • Decolonising approaches	• Healthy Country, healthy land ecology • Decolonising perspectives and relationships • Respect for Indigenous wisdom • Respect for Indigenous people and their practices
Eco	• Contact with nature (with groups and communities) • Time alone or solo with nature • Nature as cofacilitator (including animals) • Protecting the environment	• Increased connection to nature • Increased perception of nature connectedness • Pro-nature behaviours • Improved environmental health

Results

A total of 30 studies were included in the review (see Appendix). Overall characteristics of the research included studies from different countries (mainly representing the United States and Australia), predominantly original research, reviews, systematic reviews, and meta-analyses. The research encompassed all 15 OH modalities previously specified and included a population range spanning the human lifespan, from children to elderly (65 + years). The common elements and mechanisms of change identified in these studies are summarised in a mechanisms matrix in Table 2.2.

Results support the health benefits of engaging with OH practices across each domain of the BPSCE framework, and the mechanism matrix highlights the complex interplay between the processes and their subsequent outcomes and impacts. Due to the numerous mechanisms identified within nature-based health practices and our evolving understanding of their interactions, it was difficult to distil common elements. An illustrative story from Indigenous Australian culture, described by Sveiby and Skuthorpe (2006) in the monograph *Treading Lightly*, highlights this complexity through the Rainbow Serpent creation story, which shows that everything is interconnected and underscores the importance of viewing health processes as interrelated and context dependent. It was clear through developing the mechanisms matrix that it was nonlinear, circular and continual, very much in line with Indigenous Australian ways of thinking and doing (Bessarab & Forrest, 2017, p. 11).

While the BPSCE mechanisms matrix was useful for organising OH data, categorising the complex processes and outcomes revealed limitations. The mechanisms often transcended specific dimensions, reflecting the nonlinear and dynamic nature of these practices. Fernee et al. (2017) noted similar challenges in their "black box" wilderness study, where mechanisms, outcomes, and contextual factors interrelated temporally, demonstrating the fluid dynamics within natural and social environments. Across the numerous and diverse fields of OH modalities reviewed, all shared the common element of intentional "contact with nature," situated in the ecological BPSCE dimension. Contact with nature contributed benefits across all dimensions, particularly in physical and mental health, and particularly among younger people (Fernee et al., 2015). Additionally, some practices recognised the importance of "cultural" interactions with nature in their processes and outcomes (Sangha et al., 2015). The following section summarises how each dimension was revealed in the literature review in terms of claimed benefits and the subsequent interplay between them in the mechanisms matrix (Table 2.2).

Integrated Findings: Mechanisms and Outcomes Across BPSCE Dimensions

Biological Dimension

Physical Health and Wellbeing: The literature consistently links nature exposure to improved physical health outcomes, such as increased physical activity, enhanced immune function, and reduced stress levels (Pryor et al., 2005). The mechanisms matrix further illustrates that these benefits are often mediated by direct physiological responses to natural environments, including lower blood pressure, increased heart rate variability, and decreased cortisol levels (Gehrke, 2010).

Nervous System Regulation and Risk-Taking: Exposure to nature plays a crucial role in regulating the nervous system, reducing stress responses and fostering a sense of physical safety. The literature emphasises that engaging in healthy physical risks in outdoor settings contributes to positive nervous system and psychological health outcomes (Fernee et al., 2017).

Psychological Dimension

Mindfulness and Emotional Regulation:
The literature highlights the role of nature-based mindfulness in enhancing self-awareness, emotional regulation, and cognitive flexibility (Djernis et al., 2019; Gordon et al., 2018). The mechanisms matrix identifies multiple forms of mindfulness—informal, formal, state, trait, and open awareness—that contribute to improved mental health outcomes.

Mental Presence, Reflection, and Self-Awareness: Heightened awareness and contemplation emerged as key mechanisms for psychological change in outdoor therapies (Peeters & Ringer, 2021). Opportunities for reflection, often facilitated by immersive experiences in nature, are recognised as critical agents of transformation in wilderness therapy in Norway (Fernee et al., 2017).

Resilience and Psychological Capacity: Participants engaging in OH practices report increased resilience and self-efficacy, developing greater confidence in their ability to influence their thoughts and behaviours (Fernee et al., 2015). As such, the mechanisms matrix highlights that natural settings provide structured yet flexible environments for personal growth and self-regulation.

Sociological Dimension

Relational and Therapeutic Relationships: The mechanisms matrix underscores the importance of the therapeutic relationship as a common change agent in OH interventions. The literature reinforces this by identifying therapist approachability,

presence in nature, authenticity, empathy, and a caring approach as key relational mechanisms (Fernee et al., 2017; Gass et al., 2020).

Family, Community, and Social Connection: OH practices foster stronger social bonds and a sense of belonging, enhancing trust within family and community settings (Pryor et al., 2005; Harper & Doherty, 2020). The mechanism matrix highlights social prescribing as an effective tool, positioning nature as a facilitator of meaningful human connections and shared experiences.

Economic and Political Considerations: Preventive and early intervention approaches in OH practices contribute to improved psychological, emotional, behavioural, and interpersonal functioning, therefore reducing healthcare costs and improving workforce productivity and economic function (Bowen & Neill, 2013; Ponting, 2021). The mechanisms matrix points to the need for political support to sustain these interventions, emphasising their long-term societal benefits.

Cultural Dimension

Indigenous, Spiritual Wellbeing, and Traditional Practices: A strong connection to nature or the Indigenous concept of "Country" is linked to spirituality, culture, ancestry, and family, which contribute to better physical and mental health (Gee et al., 2014). The literature emphasises the role of cultural and spiritual practices (Atkinson, 2002; Sangha et al., 2015), particularly Indigenous healing frameworks such as Dadirri, the Aboriginal process of deep listening (Ungunmerr-Baumann, Ungunmerr, 2017), as vital components of OH interventions. Decolonising approaches, such as stewardship or Caring for Country, were also highlighted as essential for fostering respect for Indigenous knowledge and promoting equity in health practices (Muller, 2007). While both Aboriginal and non-Aboriginal cultural communities and practices sit naturally within the cultural dimension, Aboriginal spirituality and non-Aboriginal spirituality also sit very naturally within the ecological dimension, as explained by Sveiby and Skuthorpe (2006), who describe the inextricable links between human cultures and spiritualities and their geographic environmental settings.

Ecological Dimension

Nature Contact and Nature Connectedness: Across all reviewed studies, contact with nature was the most commonly identified mechanism for health improvements. The mechanisms matrix reinforces this, demonstrating that nature connectedness facilitates a shared sense of place, reduced stress, and enhanced overall wellbeing (Gordon et al., 2018; Kotte et al., 2019).

Overall, the BPSCE model and mechanisms matrix collectively underscore the intricate, interrelated nature of OH interventions. While the BPSCE model provides a useful structure, mechanisms frequently overlap across dimensions, demonstrating the dynamic and nonlinear reality of nature-based therapeutic processes.

The findings suggest that integrating nature and culture into health practices is not only beneficial but essential for fostering holistic wellbeing across biological, psychological, sociological, cultural, and ecological domains.

Discussion

Using the BPSCE framework to categorise the processes and outcomes of nature-based practices revealed consistent interplay between various dimensions. The OH modalities, often delivered by multidisciplinary teams within dynamic environments, highlighted the interrelatedness of each dimension in a nonlinear, fluid, and context-dependent manner, which at times resonated with Indigenous ways of thinking and doing (Bessarab & Forrest, 2017, p. 11; Fernee et al., 2017). This iterative approach aligns with recent literature advocating for transcending older linear and hierarchical models (Peeters & Ringer, 2021). Current Western health models often view individuals as separate from their environment, focusing on individual-centric health (Gordon et al., 2018). A number of interrelationships can be found across the BPSCE dimensions.

Socioecological, Ecosocial

The interrelationship between social and ecological dimensions encompasses the health of the whole individual, the community, and their environment and how these elements interact (Norton, 2012; Pryor et al., 2005). As Atkinson (2002) highlighted in her seminal book *Trauma Trails*, from an Indigenous Australian perspective, "the land grew the people, and the people grew their country" (p. 29).

Psychosocial, Sociocultural, Sociopsychological, Ecocultural

The overlap of psychological with ecological and cultural illustrates the interplay between the individual psyche and the eco–socio–cultural contexts that shape individuals' lives collectively (Fernee et al., 2017; Gee et al., 2014; Sangha et al., 2015).

Biopsychological, Psychobiological, Psychophysiological

Interactions between environmental stimuli and individual internal factors—such as emotions, knowledge, beliefs, attitudes, behaviours, and memories—are central

in these overlapping and intersecting biopsycho dimensions (Fernee et al., 2017; Gordon et al., 2018). This includes the psychophysiological interplay between humans and animals, where research on heart rate variability (HRV) shows positive changes in heart patterns and stress regulation (Gehrke, 2010; Mistral, 2007). Gehrke's (2010) research, in partnership with the Institute of HeartMath, demonstrates that a positive emotional state in humans positively affects horses, promoting a beneficial relationship between the human and nonhuman.

Ecopsychological, Psychoecological

This overlap concerns the interplay between individual intrapsychic mechanisms and the deeper connection to the Earth (Delaney, 2020), assuming that "the psyche remains sympathetically bonded to the Earth that mothered us into existence" (Roszak et al., 1995).

Further, the review identified the importance of employing a nonlinear approach across they BPSCE framework. The key mechanisms across each occur on five distinct levels, as discussed by Bronfenbrenner (1986) and Norton (2012):

1. **micro**: assessment and intervention (practice response) of the individual and their immediate environment—for example, school, the home, workplace, etc.;
2. **mezzo**: community work and organisational environments consisting of a system of microsystems that interrelate between significant settings containing the individual;
3. **exo**: constitutes social structures that may not directly relate to the individual; however, they still provide potential influence on what goes on for the individual—for example, media, their neighbourhood, local or state and federal government agencies, etc.;
4. **macro:** relates to advocacy, policymaking, and the promotion of ecological justice through overarching institutional carriers of culture and subculture—for example, educational, economic, social, political, and legal systems that affect all the previous layers (micro, mezzo, and exo);
5. **chrono:** refers to time in Bronfenbrenner's (1986) ecological systems theory and can be happening simultaneously at all levels—that is, micro-time, which are occurrences during specific interactions or activities; meso-time, which relates to the impact of various activities and interactions on the developing person's environment; and the chronosystem, which relates to macro-time, all encompassing (Tudge et al., 2009).

The overlapping nature of these elements and the forces that influence them makes it difficult to assign each causally to specific outcomes, and due to this complex interplay, deeper analysis of the evidence-based knowledge and processes that sit within each is required.

Nature-Based Health Interventions Across the Spectrum of Interventions

The spectrum of interventions discussed by Pryor and colleagues (Pryor et al., 2005, pp. 8–10) provides a coherent map on which to identify where a specific OH practice sits in terms of it being prevention, early intervention, treatment, or continuing care. The diagram originates from the work of Mrazek and Haggerty (1994) in their landmark work titled *Reducing Risks for Mental Disorders: Frontiers for Preventive Intervention Research* and is still widely used today. The diagram provides yet another layer for the CEA, by identifying and articulating a particular field and its role and place within a large range of nature-based practice responses.

Locating the Spiritual in the Ecological

Aboriginal author Tex Skuthorpe described the deepest traditional layer of learning within traditional learning systems as involving learning at the spiritual level (Sveiby & Skuthorpe, 2006). A review of the literature demonstrated that the spiritual realm is located predominantly in the ecological dimension. This should be considered when exploring the spiritual domain within intervention design and tools (for example, when developing wellbeing plans). Perhaps the best way to present the evidence on this is by using a vignette (provided with written permission) by Aboriginal Australian elder Aunty Verna Nichols who spoke at the OH Nature and Health Symposium (McLean, 2020), describing her "connection to Country" when she returns to her "heart land" and birthplace:

> Spiritually, when I go to the beach, especially around the area where I grew up, where mum's family lived, I'd go down to the beach and take my shoes off. I have to. It's a must! I have to put my feet in the water. I have to put my feet on the sand and I have to walk where mum walked, and where my ancestors walked. And later, maybe 15–20 minutes later, you can just feel your whole body changing. It's hard to describe. It just comes up through Mother Earth and runs right up your legs, into your body, into your heart.

Context Matters

While the term *outdoor* is used to describe this emerging sector, nature-based practices can include nature in a range of contexts and are not limited to being conducted solely out of doors.

Notably, not all participants will feel comfortable or confident engaging in an outdoor setting; some will experience considerable fear and stress in settings such as remote bushland or perhaps even going outside at all (Berger, 2010; Fernee et al., 2017). This is where the act and art of facilitating nature connection in a way that meets clients where their needs are can be most beneficial, as opposed to a fixed

treatment approach, which potentially constrains both the approach and the participant to a particular formula for practice. Layered contextual factors play an influential role in OH service delivery—for example, individual human characteristics and capacities, interpersonal dynamics, practice response setting (physical location, social boundaries, norms, and customs practised at a particular program or site), and infrastructure (broader social, cultural, and economic context) (Djernis et al., 2019; Fernee et al., 2017). As identified by Djernis et al. (2019), in relation to types of mindfulness and characteristics of natural settings, further research is required to investigate the interplay of contextual factors, dimensions, and mechanisms to ensure optimal suitability for safe and effective OH practice.

Intersection of Western and Indigenous Approaches to Health

An examination of Indigenous approaches underscores the importance of the cultural dimension. Many Indigenous peoples and communities identify with the knowledge that access to their natural systems is essential for a variety of health, wellbeing, and healing benefits (Gee et al., 2014; Sangha et al., 2015; We-Al-li, n.d.). The lack of awareness, or the forgetting, of this need within Western cultures creates a mismatch of interventions and approaches for the challenges of supporting the health of both Indigenous and non-Indigenous populations. Even on a global population scale, our health, wellbeing, and healing measures fail to incorporate nature-related mechanisms of change to meet the current and evolving demands of public health crises across the planet, such as climate change and ecosystem degradation (Sangha et al., 2015).

In a comprehensive review of the literature on Indigenous healing practices in Australia, McKendrick et al. (2012) found that a combination of Western methodologies and traditional healing in their treatment protocol resulted in consistently effective healing programs. The review identified that Western methodologies on their own tend to focus primarily on cognitive processing mechanisms and may potentially miss a range of additional symptoms and patterns of distress that need to be recognised (Gee et al., 2014).

Despite a significant polarisation between Western and Indigenous approaches to health, researchers such as Ganesharajah (2009) point out that Western natural resource management needs to move towards Indigenous "caring for Country," in which relationships with nature and humans for health, wellbeing, and healing must be understood as vital for all life on the planet, not just the natural environment "out there." Indigenous peoples have been addressing health for millennia through a holistic and complex understanding of the intersecting mechanisms of change (Atkinson, 2002; Gee et al., 2014; Sangha et al., 2015). The BPSCE framework acknowledges this and offers a bridge between Western and Indigenous paradigms, helping to recentre Indigenous approaches and keep Traditional Owner wisdom alive. There is an increasing realisation that the removal of Traditional Owners and Custodians from the land and sea-Country here in Australia has had, and will continue

to have, a lasting impact on the environment and on human health and wellbeing, both here in Australia and across the globe.

The authors note that further consultation and research into the BPSCE model, especially concerning the integration of Indigenous approaches to health and wellbeing, are needed to ensure ongoing decolonisation and cultural safety (Coffin & Green, 2017).

Limitations of the Review

While this review is the first of its kind to test the enhanced BPSCE framework, which includes the cultural dimension, and successfully identifies common elements across diverse evidence-informed nature-based health practices, the following limitations should be noted:

1. **Limited scope**: The databases and search terms used were not exhaustive and may not have included key texts and other relevant OH modalities.
2. **Snowball sampling bias**: Practitioners and proponents were selected from a limited pool of interested research practitioners, leading to potential biases.
3. **Variable literature quality**: The quality of literature varied, including peer-reviewed papers, edited texts, and monographs, complicating analysis but adding depth.
4. **Publication bias:** One notable limitation is the lack of discussion on unsuccessful cases of nature-based practices. As noted by Fernee et al. (2017), academic literature is inherently biased towards positive outcomes due to convenience sampling and publication bias. For example, only a small percentage of the reviewed publications were empirical evaluations, with Bowen and Neill (2013) estimating that less than 1% of adventure therapy programs have been rigorously evaluated.

Conclusion and Recommendations

The exploration of nature-based therapeutic practices underscores the profound connection between humans and the natural world, which is essential for health, wellbeing, and vitality (Pryor et al., 2005; Wilson, 1984). With modern stressors such as sedentary behaviour, industrial diets, and artificial environments (Dominelli, 2014; Shin & Lee, 2020), our innate need for ecology and authentic cultural connections persists.

Quality Versus Type of Nature-Based Practice

Most literature identify that the quality of the therapeutic relationship often determines the efficacy of therapeutic practices more than the specific modality used (Dobud, 2017; Peeters & Ringer, 2021). However, none of the cited studies overtly

included nature-based therapies or significant ratios of Aboriginal or First Nations participants in their cohort samples. A range of studies show promising findings in relation to the integration of the eco and cultural dimensions and further exploration of the impact of these domains in moderating a therapeutic relationship is required.

Nature as Therapist, Co-Therapist, Clinic, or Guide?

Industrialisation and urbanisation have led to a paradigm of conquering nature or using it for human benefit, thus disconnecting us from relationality and wisdom (Dominelli, 2014). This chapter identifies a shift from using nature as a tool to relating to nature as a cofacilitator or guide. Ecotherapy and animal-assisted therapies emphasise the role of nature in the healing process, often minimising the therapist's role (Charry-Sánchez et al., 2018; Clinebell, 1996; Field et al., 2019). In equine-facilitated learning, studies show that consistent emotional displays by humans lead to better engagement from horses, thereby teaching participants to achieve coherent states that improve psychosocial skills (Baldwin et al., 2018).

Humans are Nature, and Nature Is Everywhere

Integrating nature-based practices starts with the practitioner, emphasising the ease of incorporating nature into therapy (Norton, 2012), we are nature, and nature is everywhere so thinking about nature in therapy simply reflects a holistic approach. This can be gradual and simple interactions with nature, such as touching wood or viewing images of flowers, can induce beneficial physiological responses (Gordon et al., 2018). However, while such practices offer a greater spectrum to applying nature within therapy, they risk not accounting for the overlapping benefits of approaches that take into account the full bio–psycho–social–cultural and ecological model. Thus, practitioners must be aware of their own professional scope of practice, including practice limitations (Pryor et al., 2005) and use evidence to ground how nature is integrated into therapy as part of the holistic 'treatment' plan.

The Paradox: Diversity of Nature-Based Practices as Both a Weakness and a Strength

The diversity of nature-based practices provides a wide range of therapeutic options but it can lead to confusion in collaborative practice (Pryor et al., 2005). Many participants in nature-based programs had previously attended conventional treatments without success, indicating that these practices can achieve different, often better, outcomes (Fernee et al., 2017). However, these benefits can be accompanied by periods of

insecurity as participants adjust to new perspectives, necessitating additional support before the learnings are transferred and embedded in daily life (Pryor et al., 2018). With common elements identified across practices, further research is required to confirm if it is the mechanism, the practice, or their interaction that creates impact.

Not a Panacea

Nature-based practices are not a cure-all but can strengthen suitable participants' life skills to cope with future hardships (Fernee et al., 2015). The ideology of 'fixing' clients is problematic and should be approached with caution as the OH sector continues to evolve (Fernee et al., 2017; Harper & Doherty, 2020).

Recommendations and Future Directions for Research and Practice

The limited narrative review and subsequent theory building underscore the importance of developing a roadmap for OH research and practice. The common elements identified across various evidence-informed nature-based health practices offer a broad, preliminary foundation. As programs are increasingly required to provide evidence of outcomes, a CEA can help align the work of diverse evidence-informed nature-based practices within the broader OH sector, particularly for government, insurers, and funders (Bowen & Neill, 2013). Berger (2010) stated the necessity of developing an ethical framework and standards for professional practice in this field, a sentiment echoed by key informants in this study, who emphasised the importance of determining the most beneficial practices for different individuals (Charry-Sánchez et al., 2018; Fernee et al., 2015). This work is currently being undertaken as a priority by OHA and its international body, the International Association for Adventure and Nature-based Therapies (IAANT, formerly the Adventure Therapy International Committee, ATIC). IAANT currently provides a triennial meeting point and collaboration hub for OH and therapy practitioners and researchers spanning 40 nations.

Key Areas for Future Research

1. **Taxonomy of evidence-based elements in outdoor health practices:** Development of the taxonomy of evidence-based elements in OH practices, their impact and how common they are across practices should be continued.
2. **Ethical standards and practice guidelines:** While OHA has developed an evidence-based quality framework, ethical principles for practice, and practice standards, these resources can be further developed to support existing practitioners and those new to the sector, along with a longer term goal of industry self-regulation.

3. **Intersectionality of factors:** Investigating how contextual factors, dimensions, and mechanisms interact can support optimal safe, ethical, effective, and cost-effective OH practices.
4. **Case studies and practice stories:** Documenting and analysing case examples will help to illustrate the dynamic elements in OH practices and support quality practice.
5. **Therapeutic relationships:** Examining the impact and role of therapeutic relationships within nature-based therapies versus therapies in indoor settings is an under researched area.
6. **Trauma-informed approaches:** Applying a trauma-informed and trauma-responsive CEA will support the tailoring of treatments across different system levels (micro, mezzo, exo, macro, and chrono) and enhance the safety and efficacy of OH practices.
7. **Heart rate variability monitoring and equine therapy:** Exploring the use of heart rate variability monitoring and horses for psychophysiological feedback in OH practice may provide valuable information for other OH modalities.
8. **Randomised controlled trial studies:** Conducting randomised controlled trials comparing nature-based interventions with conventional treatments and control groups will help to identify the unique strengths and influences of nature within OH modalities and the critical elements of effective OH modalities.
9. **Depth of intervention chart:** Categorisation of nature-based health practices based on participant needs across prevention, early intervention, treatment, and continuing care will help to illustrate the benefits of OH across the lifespan.
10. **Addressing noncompliance with ethical standards:** Studying neutral and negative outcomes will help hold the OH sector to account and assist in strengthening ethical practice guidelines.

Key Areas for Future Practice

11. **Decolonising outdoor health practice:** Especially significant in the Australian context (but also relevant to other colonised countries) are the continued efforts in OH practice to decolonise and centre Indigenous ways of being and doing, where culturally safe and appropriate to do so.
12. **Demonstrating an evidence base and evidence of outcomes:** The review highlights the difficulty in distilling common elements of practice. While there are many examples of EBP and EIP in the sector, OH practice will benefit from service providers clearly identifying the evidence base behind the elements they combine for intervention design. Theory of change or program logic modelling should match key elements to outcomes for monitoring and reporting.
13. **Using ethical biofeedback in outdoor health practice:** Practitioners could consider using biofeedback (e.g., HRV monitoring) in their OH practice to strengthen outcomes with their client groups and enhance the rigour of EIP more broadly.

14. **Common practice frameworks:** Developing frameworks to support consistent best practice and quality assurance will enhance the generalisability of effective outcomes across OH practices.
15. **Support for practitioners:** Resources and support for practitioners should be provided to enable them to integrate nature-based practices into their work, ensuring the practice is matched to client need and the evidence base is adhered to.

Policy Implications

16. **Public policy and environmental justice:** Integrate nature-based practices into public health policies to promote environmental participation, justice, and sustainability. Engage at all levels, from local to macro, to effect policy changes that support these practices.
17. **Recognition in public and private health funding at state, national, and international levels:** Strengthen the recognition of the efficacy of OH modalities to support physical and mental health within both publicly and privately funded healthcare streams, ensuring that nature-based practices are more readily available to clients who can benefit from them, including those in rural and remote areas.

Finally, to translate this knowledge into public policies and practices that support environmental justice and sustainability, engagement at all levels is crucial, as demonstrated in the revised BPSCE framework. Nature-based therapeutic practices offer a promising alternative to conventional treatments, providing unique benefits through the integration of the eco and cultural dimensions. Application of the BPSCE framework within healthcare settings supports a wider cross-disciplinary workforce and contributes to a healthier workforce. As the OH field continues to develop, ongoing research, ethical guidelines, supportive policies, and refinement of the BPSCE model will be crucial for maximising the potential of these modalities to enhance health, wellbeing, and healing, for humans, all life, and the planet.

Acknowledgements We acknowledge the First Australians and Traditional Owners, whose sovereignty was never ceded, and the ongoing impacts of colonisation on Aboriginal and Torres Strait Islander peoples. We thank Judy and Carlie Atkinson, Uncle Ken Jones, Aunty Verna Nichols, Luke Mabb, and Ruth Langford for their wisdom and ongoing contributions to outdoor health. We are grateful to our respective colleagues, friends, communities, and families for their ongoing support (and patience) with this work. We appreciate the thoughtful and encouraging comments from the reviewers on earlier versions of this chapter, as well as the insights of Dr. Hannah Capon at Deakin University. Finally, we honour the ancestors whose shoulders we stand upon and the Earth and cosmos that sustain us all.

Appendix

See Table 2.3.

Table 2.3 Seminal studies included in the review

#	Authors (year)	Title	Country	Intervention	Sample	Aims	Design
1.	Russell et al. (2016)	"An Examination of Mindfulness-Based Experiences Through Adventure in Substance Use Disorder Treatment for Young Adult Males: A Pilot Study"	United States	Adventure therapy	32 young men with an average age of 22.9 years	Examine how substance use disorders could be treated with mindfulness and adventure-based experiences	Original research
2.	Dobud (2017)	"Towards an Evidence-Informed Adventure Therapy: Implementing Feedback-Informed Treatment in the Field"	Australia	Adventure therapy	1 adolescent participant engaged on a 14-day adventure therapy program	Explore routine outcome management and illustrate the use of feedback-informed treatment	Case study
3.	Bowen and Neill (2013)	"A Meta-Analysis of Adventure Therapy Outcomes and Moderators"	Australia	Adventure therapy	197 studies of adventure therapy participant outcomes	Analyse the short- and longer term effects of adventure therapy programs compared to alternative and no treatment groups	Meta-analysis
4.	Charry-Sánchez et al. (2018)	"Animal-Assisted Therapy in Adults: A Systematic Review"	Colombia	Animal-assisted therapy	23 articles and dissertations were included	Establish the efficacy of animal-assisted therapies in the management of dementia, depression, and other conditions in adult populations	Systematic review
5.	Nimer and Lundahl (2007)	"Animal-Assisted Therapy: A Meta-Analysis"	United States	Animal-assisted therapy	49 studies were included in the review	Address the gap of no known quantitative review being conducted in this space	Meta-analysis

(continued)

Table 2.3 (continued)

#	Authors (year)	Title	Country	Intervention	Sample	Aims	Design
6.	Lundqvist et al. (2017)	"Patient Benefit of Dog-Assisted Interventions in Health Care: A Systematic Review"	Sweden	Animal-assisted therapy	18 studies were included in the review	Assess the effects of and cost-effectiveness of dog-assisted interventions in health care	Systematic review
7.	Pryor et al. (2005)	"Outdoor Education and Bush Adventure Therapy: A Socio-Ecological Approach to Health and Wellbeing"	Australia	Bush adventure therapy	N/A	Explore the cross-sectoral approach to health between outdoor education and bush adventure therapy	Original research
8.	Roszak et al. (1995)	"Ecopsychology: Restoring the Earth, Healing the Mind"	United States	Ecopsychology	N/A	First in-depth exploration of ecopsychology	Book
9.	Delaney (2020)	"Ecopsychological Approaches to Therapy"	United States	Ecopsychology/ ecotherapy	1 case study	Overview and illustrate ecopsychology and ecotherapy through case study	Chapter in edited book
10.	Mistral (2007)	"Heart to Heart. A Quantitative Approach to Measuring the Emotional Bond Between Horses and Humans"	United States	Equine therapy	N/A	Report Gehrke's research on heart rate variability (HRV) monitoring and the horse–human connection	Short report
11.	Gehrke (2010)	"The Horse–Human Heart Connection: Results of Studies Using Heart Rate Variability"	United States	Equine therapy	5 pilot studies	Examine if HRV markers can demonstrate the emotional connection between horses and humans	Case studies

(continued)

Table 2.3 (continued)

#	Authors (year)	Title	Country	Intervention	Sample	Aims	Design
12.	Baldwin et al. (2018)	"Effects of a Form of Equine-Facilitated Learning on Heart Rate Variability, Immune Function, and Self-Esteem in Older Adults"	United States	Equine therapy	24 adults aged 55 + years were tested over three weekends to measure HRV	Measure HRV simultaneously from horses and humans to determine how equine-facilitated learning affects HRV in older human subjects without diagnosed disabilities	Original research
13.	Kotte et al. (2019)	"International Handbook of Forest Therapy"	United Kingdom	Forest therapy	Contributions from 50 international authors	More than 50 authors from around the world are brought together to offer their expertise in forest therapy	Edited book
14.	Rajoo et al. (2020)	"The Physiological and Psychosocial Effects of Forest Therapy: A Systematic Review"	Malaysia	Forest therapy	27 articles met the criteria for review	Provide an in-depth analysis of current forest therapy research and encourage implementation	Systematic review
15.	Norton (2012)	"Social Work and the Environment: An Ecosocial Approach"	United States	Eco-social work	N/A	Draw on the fields of social work, ecopsychology, and ecofeminism to explore an "ecosocial approach"	Methodologies
16.	Dominelli (2014)	"Promoting Environmental Justice Through Green Social Work Practice: A Key Challenge for Practitioners and Educators"	United Kingdom	Green social work	368 interviews, 12 focus groups, 45 online questionnaires, and 35 sets of field notes	Argue for the inclusion of environmental justice in contemporary social work practice	Original research

(continued)

Table 2.3 (continued)

#	Authors (year)	Title	Country	Intervention	Sample	Aims	Design
17.	Reed (2015)	"The Origins, Development and Perceived Effectiveness of Horticulture-Based Therapy in Victoria"	Australia	Horticultural-based therapy	30 interviews with present and past practitioners, five key informants and two focus groups	Examine horticultural-based therapy in Victoria, provide an account for its origins, development, and recent practice	Original research
18.	Sangha et al. (2015)	"Ecosystems and Indigenous Well-Being: An Integrated Framework"	Australia	Indigenous approaches	N/A	Propose an integrated framework that focuses on people's belonginess to nature	Methods
19.	Gee et al. (2014)	"Aboriginal and Torres Strait Islander Social and Emotional Wellbeing"	Australia	Indigenous approaches	N/A	Examine the understanding of social and emotional wellbeing (SEWB) with the aim of clarifying mental health from an Aboriginal and Torres Strait Islander perspective	Chapter in edited book
20.	Atkinson (2002)	*Trauma Trails, Recreating Song Lines: The Transgenerational Effects of Trauma in Indigenous Australia*	Australia	Indigenous approaches	N/A	Provide a startling answer to the questions of how to solve the problems of generational trauma with Indigenous and non-Indigenous communities today	Book
21.	Sveiby and Skuthorpe (2006)	*Treading Lightly: The Hidden Wisdom of the World's Oldest People*	Australia	Indigenous approaches	N/A	Show how traditional Aboriginal stories and paintings were used to convey knowledge from one generation to the next, about the environment, law, and relationship	Book

(continued)

Table 2.3 (continued)

#	Authors (year)	Title	Country	Intervention	Sample	Aims	Design
22.	Gordon et al. (2018)	"Mindfulness and Nature"	United Kingdom	Nature-based mindfulness	N/A	Explore the human connection with nature and how nature can be used to enhance mindfulness practice and overall wellbeing	Original research
23.	Djernis et al. (2019)	"A Systematic Review and Meta-Analysis of Nature-Based Mindfulness: Effects of Moving Mindfulness Training Into an Outdoor Natural Setting"	Denmark and Sweden	Nature-based mindfulness	25 studies included, examining 2,990 participants	Systematically review and analyse effects of nature-based mindfulness practices	Systematic review and meta-analysis
24.	Harper and Doherty (2020)	*Nature-Based Therapy: A Practitioner's Guide to Working Outdoors With Children, Youth, and Families*	Canada	Nature-based therapy	Children, youth, and families	Address the underlying disconnection between humans and their ecological home, exploring theories and therapeutic practices	Book
25.	Naor and Mayseless (2020)	"The Art of Working With Nature in Nature-Based Therapies"	Israel	Nature-based therapy	26 in-depth interviews with nature-based practitioners	Shed light on how practitioners experience, perceive, and work with nature to serve therapeutic goals	Original research
26.	Berger (2010)	"Nature Therapy: Thoughts About the Limitations of Practice"	Israel	Nature therapy	N/A	Discuss the limitations of nature therapy	Original research
27.	Berger and McLeod (2006)	"Incorporating Nature Into Therapy: A Framework for Practice"	Israel and Scotland	Nature therapy	N/A	Present an alternative to therapy and develop framework to inspire other practitioners	Methods

(continued)

Table 2.3 (continued)

#	Authors (year)	Title	Country	Intervention	Sample	Aims	Design
28.	Harper and Doherty (2020)	"An Introduction to Outdoor Therapies"	Canada	Outdoor therapy	N/A	Assist mental health practitioners worldwide to go outside; explore the varied health and wellbeing opportunities in the landscape	Chapter in edited book
29.	Fernee et al. (2015)	"Therapy In the Open Air: Introducing Wilderness Therapy to Adolescent Mental Health Services in Scandinavia"	Norway	Wilderness therapy	N/A	Provide an overview of the field of wilderness therapy and identify current challenges relevant to Scandinavia	Review
30.	Fernee et al. (2017)	"Unpacking the Black Box of Wilderness Therapy: A Realist Synthesis"	Norway	Wilderness therapy	7 qualitative primary studies	Review the primary qualitative wilderness therapy studies and refine a key program theory	Review

References

Adams, K., Matto, C., & LeCroy, C. (2009). Limitations of evidence-based practice for social work education: Unpacking the complexity. *Journal of Social Work Education*, *45*, 1–22.

Atkinson, J. (2002). *Trauma trails, recreating song lines: The transgenerational effects of trauma in Indigenous Australia*. Spinifex Press.

Baldwin, A., Rector, B., & Alden, A. (2018). Effects of a form of equine-facilitated learning on heart rate variability, immune function, and self-esteem in older adults. *People and Animals: The International Journal of Research and Practice*, *1*(1), 5.

Berger, R. (2010). Nature therapy: Thoughts about the limitations of practice. *Journal of Humanistic Psychology*, *50*(1), 65–76.

Berger, R., & McLeod, J. (2006). Incorporating nature into therapy: A framework for practice. *Journal of Systemic Therapies*, *25*(2), 80–94. https://doi.org/10.1521/jsyt.2006.25.2.80

Bessarab, D., & Forrest, S. (2017). *Anggaba jina nimoonggoon*: Whose knowledge is that? Aboriginal perspectives of community development. In C. Kickett-Tucker, D. Bessarab, J. Coffin, & M. Wright (Eds.), *Mia Mia: Aboriginal community development—fostering cultural security* (pp. 1–18). Cambridge University Press.

Bowen, D., & Neill, J. (2013). A meta-analysis of adventure therapy outcomes and moderators. *The Open Psychology Journal*, *6*(1), 28–53.

Bronfenbrenner, U. (1986). Ecology of the family as a context to human development: Research perspectives. *Developmental Psychology*, *22*(6), 723–742.

Charry-Sánchez, J., Pradilla, I., & Talero-gutiérrez, C. (2018). Animal-assisted therapy in adults: A systematic review. *Complementary Therapies in Clinical Practice*, *32*, 169–180.

Chorpita, B., Daleiden, E., & Weisz, J. (2005). Identifying and selecting the common elements of evidence based interventions: A distillation and matching model. *Mental Health Services Research*, *16*(1), 5–20.

Clinebell, H. (1996). *Ecotherapy: Healing ourselves, healing the Earth*. Augsburg Fortress.

Coffin, J., & Green, C. (2017). Decolonising Australian community development tools. In C. Kickett-Tucker, D. Bessarab, J. Coffin, & M. Wright (Eds.), *Mia Mia: Aboriginal community development—fostering cultural security* (pp. 54–72). Cambridge University Press.

Delaney, M. E. (2020). Ecopsychological approaches to therapy. In N. J. Harper & W. W. Dobud (Eds.), *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives* (pp. 30–42). Routledge.

Djernis, D., Lerstrup, I., Poulsen, D., Stigsdotter, U., Dahlgaard, J., & O'toole, M. (2019). A systematic review and meta-analysis of nature-based mindfulness: Effects of moving mindfulness training into an outdoor natural setting. *International Journal of Environmental Research and Public Health*, *16*(17), 3202–3221.

Dobud, W. (2017). Towards an evidence-informed adventure therapy: Implementing feedback-informed treatment in the field. *Journal of Evidence-Informed Social Work*, *14*(3), 172–182.

Dominelli, L. (2014). Promoting environmental justice through green social work practice: A key challenge for practitioners and educators. *International Social Work*, *57*(4), 338–345.

Engel, G. (1977). The need for a new medical model: A challenge for biomedicine. *Science*, *196* (4286), 129–136.

Fernee, C., Gabrielsen, L., Andersen, A., & Mesel, T. (2017). Unpacking the black box of wilderness therapy: A realist synthesis. *Qualitative Health Research*, *27*(1), 114–129.

Fernee, C. R., Gabrielsen, L. E., & Andersen, A. (2015). Therapy in the open air: Introducing wilderness therapy to adolescent mental health services in Scandinavia. *Scandinavian Psychologist*, *2*, e14. https://psykologisk.no/sp/2015/09/e14/

Field, V., Gray, K., & Coombs-valeontis, K. (2019). *Nature heals: An introduction to nature-based therapies in Australia and New Zealand*. Bad Apple Press.

Ganesharajah, C. (2009). *Indigenous health and wellbeing: The importance of Country*. Australian Institute of Aboriginal and Torres Strait Islander Studies, Native Title Research Unit.

Gass, M. A., Gillis, H. L. L., & Russell, K. C. (2020). *Adventure Therapy: Theory, Research, and Practice* (2nd ed.). Routledge.

Gee, G., Dudgeon, P., Schultz, C., Hart, A., & Kelly, K. (2014). Aboriginal and Torres Strait Islander social and emotional wellbeing. In P. Dudgeon, H. Milroy, & R. Walker (Eds.), *Working together: Aboriginal Torres Strait Islander mental health and wellbeing principles and practice* (2nd ed., pp. 55–68). Commonwealth of Australia.

Gehrke, E. (2010). *The horse-human heart connection: Results of studies using heart rate variability* (pp. 20–23). North American Handicapped Riders Association STRIDES.

Gordon, W., Shonin, E., & Richardson, M. (2018). Mindfulness and nature. *Mindfulness*, *9*(5), 1655–1658.

Hancock, T. (1985). The mandala of health: A model of the human ecosystem. *Family, Community, Health*, *8*(3), 1–10.

Harper, N. J., & Doherty, T. J. (2020). An introduction to outdoor therapies. In N. J. Harper & W. W. Dobud (Eds.), *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives* (pp. 3–16). Routledge.

Kotte, D., Qing, L., Shin, W. S., & Michalsen, A. (2019). *International Handbook of Forest Therapy*. Cambridge Scholars.

Liamputtong, P. (2017). *Research methods in health: Foundations for evidence-based practice* (3rd ed.). Oxford University Press.

Louv, R. (2005). *Last child in the woods: Saving our children from nature-deficit disorder*. Algonquin Books of Chapel Hill.

Lundqvist, M., Carlsson, P., Sjödahl, R., Theodorsson, E., & Levin, L. Å. (2017). Patient benefit of dog-assisted interventions in health care: A systematic review. *BMC Complementary Alternative Medicine*, *17*(1), 358. https://doi.org/10.1186/s12906-017-1844-7

McKendrick, J., Brooks, R., Hudson, J., Thorpe, M., & Bennett, P. (2012). *Aboriginal and Torres Strait Islander healing programs: A literature review*. Healing Foundation.

McLean, J. (2020). Nature & Health. *Proceedings of the Outdoor Health Australia Nature and Health Symposium, Australia*, *1*(1), 1–65.

McLean, J. (2021). *Literature Review. Unpublished coursework prepared for research subject*. Deakin University.

Mistral, K. (2007). Heart to heart: A quantitative approach to measuring the emotional bond between horses and humans. *Horse Connection Magazine*, 44–47.

Mooney, J., Riley, L., & Blacklock, F. (2017). Dimensions of Aboriginal community development. In C. Kickett-Tucker, D. Bessarab, J. Coffin, & M. Wright (Eds.), *Mia Mia: Aboriginal community development—fostering cultural security* (pp. 54–72). Cambridge University Press.

Moore, T. (2016). *Towards a model of evidence-informed decision making and service delivery*. The Royal Children's Hospital Melbourne, Murdoch Children's Research Institute.

Mrazek, P., & Haggerty, R. (1994). New directions in definitions: The Mental Health intervention spectrum for mental disorders. In P. J. Mrazek & R. J. Haggerty (Eds.), *Reducing risk for mental disorders: Frontiers for preventative intervention research* (pp. 22–24). National Academy of Sciences.

Muller, L. (2007). Decolonisation: Reflections and implications for social work practice. *Journal of the Australian College of Child and Family Protection Practitioners*, *3*(1), 1–10.

Naor, L., & Mayseless, O. (2020). The Art of Working With Nature in Nature-Based Therapies. *Journal of Experiential Education*, *44*(2), 184–202. https://doi.org/10.1177/1053825920933639

Nevo, I., & Slonim-Nevo, V. (2011). The myth of evidence-based practice: Towards evidence-informed practice. *British Journal of Social Work*, *41*(6), 1176–1197.

Nimer, J., & Lundahl, B. (2007). Animal-assisted therapy: A meta-analysis. *Anthrozoös*, *20*(3), 225–238. https://doi.org/10.2752/089279307X224773

Norton, C. L. (2012). Social work and the environment: An ecosocial approach. *International Journal of Social Welfare*, *21*(3), 299–308.

Outcomes Practice Evidence Network. (n.d.). *The common elements approach for child and family services* [Fact sheet]. Centre for Excellence in Child and Family Welfare. https://outcomes.org.au/learning-system/common-elements-approach/

Outdoor Health Australia. (n.d.). *Outdoor Health Modalities*. Outdoor Health Sector. https://outdoorhealth.org.au/about-2/

Peeters, L., & Ringer, M. (2021). Experiential facilitation in the outdoors. In N. J. Harper & W. W. Dobud (Eds.), *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives* (pp. 16–30). Routledge.

Ponting, J. (2021). Surf Therapy. In N. J. Harper & W. W. Dobud (Eds.), *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives* (pp. 146–158). Routledge.

Pryor, A., Carpenter, C., & Townsend, M. (2005). Outdoor education and bush adventure therapy: A socio-ecological approach to health and wellbeing. *Australian Journal of Outdoor Education*, *9*(1), 3–13.

Pryor, A., Pryor, R., & Carpenter, C. (2018). *A formative evaluation of the Gippsland Wilderness Program*. Adventure Works Australia.

Pryor, A., Richards, K., Priest, S., Javorksi, S., & Russell, K. (2023). Hills and gullies of international adventure therapy: Exploring common practice elements towards an international position statement. *International Journal of Adventure Therapy*, *1*.

Rajoo, K., Karam, D., & Abdullah, M. (2020). The physiological and psychosocial effects of forest therapy: A systematic review. *Urban Forestry & Urban Greening*, *54*.

Reed, C. (2015). *The origins, development and perceived effectiveness of horticulture-based therapy in Victoria*. Deakin University, Thesis. https://hdl.handle.net/10536/DRO/DU:30079108

Roszak, T., Gomes, M., & Kanner, A. (1995). *Ecopsychology: Restoring the earth, healing the mind*. Sierra Club Books.

Russell, K. C., Gillis, H. L. L., & Heppner, W. (2016). An examination of mindfulness-based experiences through adventure in substance use disorder treatment for young adult males: A pilot study. *Mindfulness*, *7*, 320–328. https://doi.org/10.1007/s12671-015-0441-4

Sangha, K., Le Brocque, A., Costanza, R., & Cadet-james, Y. (2015). Ecosystems and Indigenous wellbeing: An integrated framework. *Global Ecology and Conservation*, *4*, 197–206.

Shin, W. S., & Lee, J. (2020). Forest therapy. In N. J. Harper & W. W. Dobud (Eds.), *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives* (pp. 3–16). Routledge.

Sveiby, K. E., & Skuthorpe, T. (2006). *Treading lightly: The hidden wisdom of the world's oldest people*. Allen & Unwin.

Tudge, J. R. H., Mokrova, I., Hatfield, B. E., & Karnik, R. B. (2009). Uses and misuses of Bronfenbrenner's bioecological theory of human development. *Journal of Family Theory & Review*, *1*(4), 198–210.

Ungunmerr, M.-R. (2017). To be listened to in her teaching: Dadirri: Inner deep listening and quiet still awareness. *EarthSong Journal: Perspectives in Ecology, Spirituality and Education*, *3*(4), 14–15.

We Al-li. (n.d.). *Our name: We-fire: Al-li-water: How We Al-li got the name: As told by Judy Atkinson*. https://www.wealli.com.au/our-name/

Wilson, E. (1984). *Biophilia*. Harvard University press.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 3
The Mycelium Metaphor: A Picture of Adventure and Nature Therapy in Europe



Alexander Rose

Sociocultural Positioning

I write this chapter as a white German male raised in Spain and as a clinical and health psychologist with a humanistic and existential orientation. My personal experiences and professional background may shape my perspective. Since 2008, I have been involved in the development of Adventure and Nature Therapy (ANT) in Spain and across Europe through practice and training. My experience has been shaped by North American influences and enriched and challenged through culturally grounded collaborations across European and international contexts. Grounded in nature-based settings, my work values diversity, embodied presence, relational depth, and the potential therapeutic significance of human-nature relationships.

Introduction

Description of the Metaphor

One of the most popularised mycorrhizal concepts the public is familiar with is the so-called "common mycorrhizal network" (CMN). From a seminal paper by Simard et al. (1997), CMNs are "physical, continuous linkages among the roots of at least two different individual plants, by the same genetic individual of mycorrhizal fungus" (p. 579), more commonly referred to as the "Wood Wide Web."

The mycelium metaphor helps to describe the process of the development of European adventure and nature therapy (ANT), emphasising interconnectedness,

A. Rose (✉)
Terapia Aventura, Valencia, Spain;
Adventure Therapy Institute, Lindau, Germany
e-mail: arose@terapiaaventura.es

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_3

growth, and the spreading of ideas and practices throughout different European countries and regions.

1. **Spores of inspiration**: Representing the initial ideas and concepts related to ANT, these spores may have been generated by pioneers in the field, such as therapists, educators, and outdoor enthusiasts, who recognised the therapeutic potential of outdoor experiences.
2. **Hyphal growth**: As these spores land and take root in different places, they begin to grow like mycelial hyphae, forming networks of individuals and organisations interested in ANT.
3. **Myco-communities**: Over time, these networks evolve into myco-communities, where practitioners and researchers collaborate and exchange ideas. These communities may be local, regional, or even international, fostering a sense of belonging and sharing.
4. **Rhizomorphic expansion and fruiting bodies of success**: As the networks mature, they expand rhizomorphically, spreading their influence and practices to new areas and populations. Eventually, the networks produce tangible outcomes that promote the integration of ANT into mainstream healthcare and education systems.
5. **Ecosystem resilience**: Just as the mycelium contributes to ecosystem resilience by facilitating nutrient cycling and supporting plant growth, the development of ANT networks enhances the resilience of individuals and communities by promoting mental health, wellbeing, and environmental stewardship.

By framing the history of European ANT networks through the lens of mycelium, we can appreciate the interconnectedness, growth, and transformative potential of these networks in promoting health and connection with nature.

Methodology

The methodology applied in this study encompasses a multifaceted approach aimed at comprehensively examining the history and current landscape of ANT in Europe. This approach includes the following:

- research papers: extensive review and analysis of existing research literature pertaining to the history and evolution of ANT in Europe;
- informal interviews: conducting semistructured interviews with six European adventure therapists to gather firsthand perspectives and insights, which provide valuable qualitative data regarding the experiences, perspectives, and practices of practitioners in the field;
- attendance at national and international meetings: active participation in relevant national and international conferences, seminars, and workshops focused on adventure therapy.

Spores of Inspiration

Europe has a rich historical legacy of accessing nature and the outdoors for therapeutic practice. Over the centuries, educators, philosophers, clinicians, and philanthropists have collaborated to develop programs aimed at fostering holistic child and adolescent development, as well as preventing and treating various medical and psychosomatic conditions (Rose, 2024, 2006). Among the documented pioneers within this lineage are revered figures such as Saint Francis of Assisi, Rousseau, Pestalozzi, Fröbel, Dewey, Claparéde, Montessori, Decroly, Kerschensteiner, Ferrière, Cousinet, Freinet, and Neill. Additionally, ancient traditions rooted in a deep reverence for the natural world, although often obscured by religion and the passage of time, have also contributed to this narrative (Rose, 2021).

Numerous European authors, comprising both researchers and practitioners, have undertaken specific analyses of the origins of ANT within their respective countries, mostly as part of the creation of the Adventure Therapy Europe (ATE) network. These professionals have examined the historical antecedents, theoretical foundations, and practical applications of ANT within the European context.

- Belgium (Van Hoof & Vossen, 2017)
- Germany (Fleischer, 2017)
- Hungary (Rakar-Szabó & Szabó, 2017)
- Italy (Raimondi & D'Agostino, 2017)
- Iceland (Erlendsdóttir & Friðriksdóttir, 2017)
- Spain (Rose, 2015; Rose & Ruiz de Cortázar, 2017)
- Nordic and Scandinavian countries (Fernee et al., 2015; Gabrielsen & Fernee, 2014)
- The Netherlands (Wijnands & Janssen, 2017)
- United Kingdom (Johnson, 2015; Richards, 2015; Richards et al., 2023)

Many of these scholars concur that Kurt Hahn's contributions in Germany in the 1920s, followed by his endeavours in the United Kingdom through the establishment of the Outward Bound School, served as a seminal catalyst that fused therapy with nature and outdoor activities, thus igniting a movement that transcended European borders. A notable different emergence is that of outdoor therapy in the Nordic and Scandinavian countries, which aligns with their cultural overarching outdoor philosophy known as *friluftsliv*.

A significant surge in the use of outdoor- and nature-based activities for therapeutic purposes occurred in the late 1970s in Belgium and the Netherlands. Shortly after, in the early 1980s, Iceland initiated its first programs. Formal clinical interventions commenced in Germany and Hungary during the early 1990s. Subsequently, during the first few years of the 2000s, Spain, Italy, and the Nordic countries embarked on the implementation of diverse programs, signifying a widespread adoption of this therapeutic approach across various European regions.

In a continuous cycle of influence and growth, Europe has been nourished, inspired, and shaped by multiple sources, most notably from the United States through the Association for Experiential Education (AEE) and its Therapeutic Adventure Professional Group (TAPG), as seen in the creation of the Experiential Educators Europe (EEE) network in 1997. Australia has also played a significant role, particularly since the first International Adventure Therapy Conference (1IATC) held in Perth. It is also important to highlight the international impact of U.S. institutions such as the Santa Fe Mountain Center and Florida Outward Bound in the development of ANT. In the last decades, influences from Asian approaches to forest therapy have also begun to shape and enrich the field.

Notable individuals, our "elders" who transformed these inspirations into actionable frameworks include Martin Ringer (Australia and France), Dr. Günter Amesberger (Austria), Dr. Johann Hovelynck and Luk Peeters (Belgium), Dr. Rüdiger Gilsdorf and Dr. Kilian Mehl (Germany), Björn Vilhjálmsson (Iceland), and Giulio Scoppola and Salvo Capodieci (Italy). Contributions from Dr. Anita Pryor and Dr. Cathryn Carpenter from Australia and Dr. Christine Norton from the United States have helped us draw up an international adventure therapy framework.

While acknowledging that these figures represent a significant contribution to understanding the historical trajectory of ANT in Europe, it is important to recognise that further exploration and research would undoubtedly unveil additional pioneers and influences. However, exhaustive inquiry lies beyond the scope of this chapter.

Hyphal Growth

These "spores" operated in relative isolation from other national and international practices. Their outcomes were not frequently disseminated in papers. With a lack of national or international conferences, professionals employed disparate strategies, leading to a fragmented landscape within the field in Europe.

As these spores took root, they began to grow as mycelial hyphae, forming networks. Listed below are the relevant hyphae that have facilitated the development of hyphal growth and the connection of professionals through sharing, discussion, and critical examination of knowledge, methods, and techniques.

Experiential Educators Europe (EEE) Annual Conferences

Since its inception in 1997, the EEE conference has served as a primary nexus for experiential educators, trainers, therapists, teachers, coaches, and other professionals. Numbering 33 meetings to date, this conference has convened in nearly 20 countries, ranging from Türkiye to Taiwan, and even aboard a ship traversing the Mediterranean Sea.

International Adventure Therapy Conferences (IATC) in Europe

As articulated on the official website, the International Adventure Therapy Conference (IATC) serves as a vibrant and interactive forum for adventure therapy practitioners, academics, researchers, allied professionals, managers, and students. These triennial conferences provide a dynamic platform for the global advancement and dissemination of ANT practices. Over the past two decades, four major global conferences have been hosted in Europe, facilitating practitioner engagement and collaboration within a broader international context.

- 2000: Second IATC in Augsburg, Germany. Convener: Michael Rehm. Sponsoring organisation: ZIEL Verlag
- 2009: Fifth IATC in Edinburgh, Scotland, United Kingdom. Convener: Kaye Richards. Sponsoring organisation: British Association for Counselling and Psychotherapy (BACP)
- 2012: Sixth IATC in Hrubá Skála, Czech Paradise, Czech Republic. Convener: Jiri Kirchner

At the sixth IATC in Czech Republic (2012), Luk Peeters and Lynn Van Hoof from Belgium, Gábor Timur Szabó and Natalia Rakar-Szabó from Hungary, and Alexander Rose from Spain/Germany met for the first time. Together they identified a need and formulated a wish to build a formal structure to host adventure therapy practices. This might have been a spark that helped ignite the consolidation process of the European network, as described in the next section.

- 2022: Ninth IATC and Third Gathering for Adventure Therapy Europe (GATE) in Kristiansand/Hovden, Norway. Co-convenors: Lynn Van Hoof, Leif Roar Kalleberg, Carina Ribe Fernee, and Harpa Yr Erlendsdóttir. Sponsors: Sørlandet Hospital, Kristiansand Municipality, Blå Kors, University of Agder, and Agder County Council

For the first time, the worldwide IATC and the European GATE were hosted together in 2022, gathering 400 attendees and 150 online participants from 42 nations.

As this article is published, it has been confirmed that following the 10th IATC in Taiwan (2025), the next international conference will take place in Kerry, Ireland, in April 2028 (11th IATC).

Special attention also needs to be given to the IATC Proceedings, which provide valuable information on the latest research and best practices in our field (for examples, Mitten & Itin, 2009; Pryor et al., 2012; Richards & Smith, 2003; Rose & Fernee, in press).

Adventure Therapy Europe Network

As previously described, the fifth IATC held in the Czech Republic in 2009 may have served as a catalyst for the inception of the European network. In September 2014, a specialised training event was conducted by Luk Peeters and

Martin Ringer in Belgium. Following this, in January 2015, a 4-day meeting was convened to discuss and develop the formulation of an application for funding a partnership project, with the aim of establishing a structured platform for networking (Rose et al., 2015).

In the summer of 2015, more than 20 practitioners representing eight organisations, each engaged in adventure therapy services across eight European countries came together under the auspices of the 2-year Erasmus+ Strategic Partnership entitled "Reaching Further." This collaborative initiative, led by Lynn Van Hoof, Alexander Rose and Harpa Yr Erlendsdóttir, marked the initial stride towards amalgamating previously isolated entities into a cohesive and supportive network.

The overarching objective of this endeavour was to establish a robust platform for European practitioners to exchange knowledge, share experiences, and leverage resources relating to adventure therapy, as an approach to formally consolidate the Adventure Therapy Europe (ATE) network.

Tangible outcomes of the project were a website launched alongside an e-book containing the partnership's findings, including a comprehensive literature review of key elements of adventure therapy. The first Gathering for Adventure Therapy Europe (GATE) was held in Valencia, Spain, in 2017, convened by Alexander Rose (Van Hoof et al., 2021).

Myco-Communities

The myco-communities, as elucidated by Lyytinen (2023) during the keynote address at the ninth IATC and third GATE in Norway, foster a sense of belonging and collective learning. Reflecting on the inaugural gathering of ATE in Spain (1 GATE), Lyytinen described it as "pure magic" and expressed a prevailing sentiment of feeling at home. Notably, he emphasised,

> There was no time nor need to bow around and show respect to authorities. The way of connecting was open and easy going, regardless of academic rank, personal history or merits. There was an overwhelming flow of professional information, all mixed together and implemented with strong task orientation. Important for me at that time were discussions on what is AT [adventure therapy], its ethics and client centered practices and mechanisms of change, to mention some. (p. 2)

Simultaneously with the growth of the ATE network, a spark was igniting in Scandinavian countries, leading to the formation of the Nordic Outdoor Therapy Network, a development that will be further examined below.

In 2019, a second GATE was convened by Christiane Thiesen in Schwangau, Germany, attracting more participants from additional countries and representatives. Following these initial gatherings, notable integration and collaboration between the ATE Network and the Nordic Outdoor Therapy Network emerged, culminating in a combined IATC and GATE conference held in Norway in 2022.

The myco-community ATE continued to expand and by 2025, representatives from 25 countries and regions across Europe were involved. This network currently includes representatives from Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Scotland, Slovakia, Spain, Sweden, Türkiye, and the United Kingdom.

The fourth GATE was held in Sigulda, Latvia in June 2024, convened by Unda Avota and organised by Adventure Therapy Latvia, a group of legal organisations that unites representatives of adventure therapy, ergotherapy, and the personal growth industry. This consolidating event included three keynote speakers, 54 workshops and presentations and a networking program, and hosted many out-of-Europe participants.

The next GATE, with the title "Growing (Up) Through Outdoor Experiences," will be held in Leuven, Belgium, in May 2026.

The Adventure Therapy International Committee (ATIC) currently includes representation from 18 European countries and regions, including Belgium, the Czech Republic, Denmark, England, Finland, France, Germany, Hungary, Iceland, Ireland, Latvia, the Netherlands, Norway, Scotland, Slovakia, Spain, Sweden, and Türkiye.

Rhizomorphic Expansion and Fruiting Bodies of Success

Capitalising on this momentum, and attuned to the prevailing zeitgeist, several countries have since cultivated and augmented their own national networks, contributing to the expansion of the rhizome. Within these networks, one can discern a convergence of diverse understandings and methodologies, facilitated by ongoing exchange and a sense of collective belonging. Moreover, these networks serve as platforms for integrating the practices of adventure and nature therapists within broader social and ecological contexts, thereby fostering heightened awareness of the interconnectedness between human wellbeing and environmental health.

Descriptions of a selection of four distinct European networks illustrates this expansion and fruiting:

- Belgium
- United Kingdom
- Germany
- Nordic countries

Belgium: The BOTS, a Nonformal Network of Practitioners

Belgium, recognised as one of the pioneering countries in Europe for its early adoption of ANT, presently convenes practitioners through the Belgian Outdoor Therapy Gathering, fostering the growth of a mushrooming professional community.

In 2016, a seminal event occurred when 15 practitioners from the outdoor therapy field in Belgium convened in Lustin. This gathering, which encompassed both outdoor and indoor activities, served as a platform for practitioners to acquaint themselves, exchange experiences, and envision the establishment of a Belgian platform for outdoor therapy. Thus, the Belgische Outdoor Therapie Samenkomst (BOTS) was established. This gathering also maintains ties with the Netherlands and the Lage Landen Outdoor Therapy Meeting, organised biennially.

Since its inception, each BOTS has involved approximately 30 outdoor therapy professionals in facilitated networking, inspiration, and the exchange of project ideas. Participants engage in discussions on topics pertinent to the field, establish collaborations, and explore themes relevant to various sectors, including psychiatry, mental health care, psychotherapeutic centres, integrated youth care, education, training work, forensic welfare work, business consultancy, youth work, community work, elderly care, and disability care.

In 2019, a steering group was established to support the organisation of BOTS events in Belgium and the Netherlands, tasked with collecting and disseminating information pertaining to outdoor therapy in Belgium. Additionally, every 3 years, the steering group appoints two representatives to enhance connections with ATE and ATIC.

BOTS is currently spearheading the organisation of the fifth GATE, slated for 2026, underscoring Belgium's pivotal role in advancing the discourse and practice of ANT within Europe.

United Kingdom: Collaboration Between National Professional Organisations and the Creation of the Association for Outdoor Therapy (AOT) UK and Ireland

Historically, the founding of Gordonstoun School in Scotland in the 1930s, led by the German educator Kurt Hahn, and the subsequent collaboration between Outward Bound and shipping magnate Sir Lawrence Holt—to train young British sailors in vital survival skills during World War II—are widely regarded as foundational milestones in the emergence of ANT in the United Kingdom.

Fast-forwarding to more recent developments, it is important to highlight institutional efforts to support the professionalisation of the field, promote safe and ethical practices, advance international research, create specialised platforms, and implement therapeutic programs.

In the realm of advocacy, Johnson (2015) documented a key meeting held in 2006 involving the BACP, the United Kingdom Council for Psychotherapy (UKCP), and the Institute for Outdoor Learning (IOL). An outcome of this engagement was hosting of the fifth IATC in Edinburgh, Scotland in 2009, with Kaye Richards as convener and the BACP as official sponsor.

Further reinforcing ethical standards in the field, Richards et al. (2020) developed the *Outdoor Mental Health Interventions & Outdoor Therapy: A Statement of*

Good Practice (Version 2, 2023), published on behalf of the IOL and endorsed by the British Society of Lifestyle Medicine. This statement has since become a valuable resource for outdoor and psychotherapy professionals, particularly those who are new to the broader field. It has been instrumental in securing funding for therapeutic outdoor projects, and is now adopted by the BACP as a professional guide for counsellors and psychotherapists (British Psychological Society, 2020).

Regarding research, the IOL plays a central role as a professional body uniting individuals and organisations involved in learning through outdoor experiences and ANT. Since 2000, it has published the *Journal of Adventure Education and Outdoor Learning*, a peer-reviewed academic journal based in the United Kingdom, featuring an international editorial board.

Currently, Richards et al. (2023) identify a well-established framework for safe and ethical outdoor and adventure therapy practices in the United Kingdom. These practices are further supported by a robust psychological foundation, as noted by Ogilvie (2012), particularly in the areas of personal development and facilitation.

A recent significant milestone was marked by the official launch of the Association for Outdoor Therapy (AOT) in the UK and Ireland in July 2024. AOT represents a broad range of approaches within outdoor therapies, including nature therapy, ecotherapy, adventure therapy, and outdoor counselling. Its mission is to foster safe, ethical, and sustainable practices by building a vibrant community of practitioners, promoting shared knowledge, and strengthening professional capacity in the field.

Germany: Adventure Therapy Working Group of the Federal Association of Individual and Experiential Education

In Germany, the historical application of natural environments for health promotion dates back to antiquity, notably evidenced during the Roman Empire and persisting through the nineteenth century with figures such as Sebastian Kneipp, who advocated hydrotherapy and forest-based therapeutic modalities (Zhang & Ye, 2022). The integration of *Erlebnistherapie* (a German term often used synonymously with adventure therapy) by Kurt Hahn at the Salem School before World War II further exemplifies this tradition, laying the groundwork for initiatives like Outward Bound following Hahn's exile from the Nazi regime.

Subsequent milestones in this trajectory include pivotal gatherings of mental health professionals in 1996 and 1998 at the psychosomatic Wollmarshöhe Fontane-Klinik in Motzen, where the application of experience-based methodologies in psychotherapy was deliberated (Fontane-Klinik (1997). Moreover, the convening of the second IATC in Augsburg in 2000, along with the publication of its proceedings by ZIEL Verlag (Richards & Smith, 2003), represents a notable advancement. Gilsdorf's (2004) seminal work, *From Experiential Education to Adventure Therapy*, further solidified the field's intellectual foundation.

The early introduction and ascent of experiential education in Germany in the 1960s marked the genesis of a contemporary understanding of the discipline

(Fleischer, 2017) which later proliferated. This pedagogical methodology, rooted in the utilisation of experiential learning to cultivate cognitive and affective growth, particularly in outdoor settings, began to undergo adaptation to serve varied objectives and demographic cohorts across diverse academic disciplines. Consequently, a diverse array of programs and formats emerged, tailored to address distinct needs and populations.

Foremost among these populations was the youth service sector, where practitioners, notably social workers, engaged with at-risk youth, foster children, and delinquent adolescents. Harnessing the outdoors, risk perception, challenge, and the dynamics of peer interaction, these programs endeavoured to foster personal development and social integration with participants.

However, the burgeoning popularity and diverse manifestations of experiential education prompted the need for a cohesive understanding and standardisation within the field. In response, the Bundesverband für Individual- und Erlebnispädagogik was established in 1992 to address this need. This entity, dedicated to advancing the professionalisation of experiential education, undertook initiatives to foster consensus on fundamental issues such as defining the field, establishing standards for staff training, and delineating program criteria.

Notably, experiential education initiatives in the mental health domain are not typically subsidised by mainstream health insurance or governmental agencies, instead they are considered augmentation of existing service offerings. Yet a valued paradigm exists within the realm of youth services in Germany, where governmental provisions cater to youths presenting behavioural challenges through facilitation of individualised pedagogical interventions that encompass both domestic and international travel projects. These initiatives provide alternative avenues for youths who face obstacles to their participation in traditional foster care or other youth services due to their behavioural complexities (Bous & Thiesen, 2022).

The establishment of the ATE network in 2015 marked a significant development for Germany, followed by the formation of the dedicated Adventure Therapy Working Group under the Federal Association for Individual and Experiential Education (Bundesverband Individual- und Erlebnispädagogik e.V.) in 2017, led by Christiane Thiesen, Corinna Fleischer, Annette Arla'ma Bergmann, Elmo Mesic, and Michaela Hierl. The group's efforts culminated in the organisation of the second GATE in Schwangau, Germany, in 2019, reflecting the growing interest in adventure.

In 2020, adventure therapy attained both structural and substantive recognition as a permanent specialist area within the federal association, underscoring its place and institutionalisation. Responding to the evolving landscape of ANT, the working group formulated the Mission Statement of Adventure Therapy (Adventure Therapy Working Group, 2021), which delineates the field's definition, goals, principles, and competency standards. This foundational document articulates the therapeutic approach, objectives, and requisite qualifications for practitioners.

Building upon this mission statement, the group developed the *Professional Profile of Adventure Therapists* (Adventure Therapy Working Group, 2023),

outlining the scope of practice, therapy environments, fields of work, and training guidelines. Concurrently, the Adventure Therapy Institute was established in 2021 in Lindau, and commenced the development of training programs aligned with these principles.

Presently, the working group pursues two primary strategic objectives:

- inclusion within the Association of the Scientific Medical Societies in Germany (AWMF) to advocate for the recognition of adventure therapy in the German *Clinical Practice Guidelines* register. This initiative entails the accumulation of national and international research evidence to substantiate the efficacy of adventure therapy as a primary or adjunctive therapeutic modality.
- incorporation of adventure therapy as a specialised therapeutic service within the Classification of Therapeutic Services (Klassifikation Therapeutischer Leistungen) in the German public healthcare system, thereby enabling reimbursement by health insurance companies. This endeavour aims to institutionalise adventure therapy within the formal healthcare framework, ensuring accessibility and affordability for patients.

Nordic Countries: A Transnational Network Based on Research and Best Practices

Nordic countries exhibit a distinctive relationship with nature, characterised by the concept of *friluftsliv*, which translates to "life in the open air." Gelter (2000; see also Fernee et al., 2015) describes Scandinavian *friluftsliv* as "a philosophical lifestyle rooted in experiences of freedom within nature" (p. 78), potentially representing an alternative approach to ANT within Europe.

A notable milestone occurred in 2010 when the Nordic Council of Ministers and the Norwegian Ministry of Environment initiated the project Outdoor Life and Mental Health. A primary objective was to establish a unified platform for systematically integrating outdoor activities into mental health services across Nordic countries, encompassing both preventive and therapeutic dimensions. The report underscores the interplay between ecological and psychological frameworks concerning the human imperative for nature engagement (Fernee et al., 2015).

At the seventh IATC in 2015 in Denver, USA, researchers Leiv Einar Gabrielsen and Carina Ribe Fernee from Norway met Tinna Mariager from Denmark. Subsequently, all three were invited to join the Adventure Therapy International Committee (ATIC) as initial representatives from the Nordic countries. This role entrusts representatives with two-way knowledge dissemination of adventure therapy between their nations and the ATIC.

In 2016, they embarked on establishing a Nordic collaborative network to convene practitioners, educators, students, and researchers in the field. Each country appointed two to three representatives to serve as chairs, rotating coordination responsibilities annually.

The inaugural representative assembly convened in Turku, Finland, during autumn in 2017, and a pivotal decision was made regarding nomenclature. The term "outdoor" therapy was selected to acknowledge practitioners' diverse work settings, ranging from urban parks to wilderness areas.

Subsequent gatherings, such as the meeting in Aalborg, Denmark, in spring 2019, continued to explore Nordic identity, *friluftsliv* tradition, and values such as environmental consciousness, relational dignity, and participant autonomy. National outdoor therapy organisations have since been established in each country.

As stated on its official website, the Nordic network serves as a collaborative platform established to foster inspiration, discourse, knowledge dissemination, and idea exchange among individuals engaged in outdoor therapy across its broad spectrum. Comprising practitioners, educators, students, and researchers in the realms of outdoor therapy or health care and outdoor education or *friluftsliv*, the network encompasses participants from Iceland, Denmark, Norway, Sweden, and Finland.

The network's overarching mission is to investigate and delineate a distinctive Nordic approach to outdoor therapy, while advocating for accessing of natural environments and outdoor settings for therapeutic endeavours within their geographical domain.

Fundamental core principles of this network are as follows:

- Become a community of people with interest in outdoor therapy in its broadest sense.
- Become aware of how the Nordic identity affects outdoor therapy practice.
- Work to promote outdoor health so that outdoor therapy is seen as a viable option for promoting health and wellbeing.
- Participate in the public discourse with regard to how and why to use experiences in nature as ways to promote health and wellbeing.
- Become an honest and clear voice of integrity within the international adventure therapy community.
- Strengthen research on Nordic outdoor therapy.

In 2020, Harpa Yr Erlendsdóttir from Iceland spearheaded a more structured collaboration among Nordic countries, culminating in the successful acquisition of Erasmus funding for the partnership initiative titled "Explore the Nordic Essence of a Nordic Approach to Nature-based Youth Work: Establishing a Nordic Collaboration." Despite pandemic-related postponements, a gathering convened in March 2022 in Reykjavik, Iceland, with five representatives from each Nordic nation.

In June 2022, the ninth IAT and third GATE took place for the first time in a Nordic country, Kristiansand/Hovden, Norway, co-convened by Lynn Van Hoof, Leif Roar Kalleberg, Carina Ribe Fernee, and Harpa Yr Erlendsdóttir.

The output of research from this network is noteworthy, including a multicentre randomised controlled study in progress between Sweden and Norway investigating a wilderness program for adolescents impacted by cancer.

Ecosystem Resilience

Our field is producing "fruiting bodies of success" in many diverse ways, including tangible outcomes, such as a body of theoretical and practical resources, research and data leading to evidence-based interventions, innovative nature-based therapeutic programs, ethical standards, synergies with important stakeholders, and policy initiatives that may promote the integration of ANT into mainstream healthcare and education systems.

Just as mycelium contributes to ecosystem resilience by facilitating nutrient cycling and supporting plant growth, the development of ANT networks enhances the resilience of individuals and communities by promoting mental health, wellbeing, and environmental stewardship. In order to advance towards the sustainability of the system, it is important to develop the following facets.

Taking Part in European Union and National Policies

Active engagement with European Union (EU) and national policies is paramount for the advancement of ANT networks. Filipova et al. (2020), in their comprehensive work on mental health and the environment, underscore the importance of nature-based mental health (p. 31). They advocate for the allocation of sufficient funding for biodiversity protection in Europe, emphasising its role as a pivotal investment in mitigating health risks, consistent with the objectives outlined in the European Framework for Action on Mental Health and Wellbeing. Additionally, they recommend augmenting expenditure on prevention through investments in nature-based treatments.

Furthermore, it is important to align the development of outdoor and nature therapy research projects with the objectives outlined in the Nature Action Agenda (NAA) and EU policies, strategies, and legislation. This entails leveraging funding opportunities provided by initiatives such as the NextGenerationEU funding and the EU4Health program to support research endeavours aimed at addressing the priorities delineated in the NAA and EU policy frameworks.

Openness to New Conceptualisations and Collaborations in Our Field

Adventure therapy has long served as the overarching term in Europe to delineate our practical approach. However, there is a growing trend towards the introduction and utilisation of concepts such as outdoor therapies or nature-based therapy. Alongside exploration of these terms, it may be beneficial to explore additional concepts and paradigms such as "green care" (Haubenhofer et al., 2010), "ecotherapy," and "green prescribing" (Richards et al., 2020), alongside broader terms like "wellbeing" and "mental health."

It is also important to bolster collaboration within established networks and explore engagement with other collaborative platforms. Practices such as animal-assisted therapy, horticultural therapy and forest therapy, which are closely aligned with our field, offer opportunities for knowledge exchange and research sharing that can enrich our collective understanding. In Germany, for example, the overarching objective of forest therapy is to integrate it as an adjunct therapy within the national healthcare system, aligning with the aspirations of the Adventure Therapy Working Group (Zhang & Ye, 2022).

Revisit Research and Evidence-Based Practices

Currently, in Germany, nationwide efforts are underway to investigate and ascertain the impacts of forest therapy on human health, alongside the formulation and certification of pertinent operational guidelines (Zhang & Ye, 2022). Hence, advancing towards greater collaboration in research endeavours, embracing novel methodologies, and fostering partnerships with research institutions in ANT programs could prove advantageous.

As researchers, it is essential to remain open to exploration across various disciplines, including medicine, neuroscience, forestry, anthropology, philosophy, and numerous others.

It is recommended that where possible, we encourage academics to disseminate their research findings through publication in open-access platforms. Furthermore, practitioners should be supported in publishing practice-based research, on platforms such as the European *International Journal of Adventure Therapy*.

Efforts should also be made to promote the publication of specialised books in various languages. Recent years have witnessed the publication of notable works in this regard, including the following:

- The Netherlands (2019). Per Wijnands and Monique Scheres: *Handboek Adventure Therapie met kinderen, jongeren en hun gezinnen. Ervaringsleren als therapievorm* [Handbook of Adventure Therapy with Children, Adolescents, and Their Families: Experiential Learning as a Form of Therapy]. Self-published.
- Spain (2021). Alexander Rose: *Terapia a través de la aventura. Cuando la montaña nos hizo grandes* [Adventure therapy: When the mountain helped us grow]. Ed. Desnivel.
- Norway (2023). Carina Ribe Fernee, Vibeke Palucha, Iris Anette Olsen, and Leiv Einar Gabrielsen: *Utendørsterapi, en introduksjon* [Outdoor therapy, an introduction]. Cappelen Damm Akademisk.
- Germany (2023). Annette Arla'ma Bergmann: *Systemische Erlebnistherapie—Heilprozesse in Naturräumen* [Systemic Experiential Therapy—Healing Processes in Natural Spaces]. ZIEL Verlag.

Define a Clear Code of Ethics for Our Field

It is essential to establish a clearly defined code of ethics for our field. Aligned with prevailing standards within the mental health profession, the development of an international code of ethics, characterised by stringency and comprehensiveness is imperative. This code should be subscribed and adhered to by professionals operating within our field.

Professionalisation and Qualifications

To establish the professional role of adventure and nature practitioners and/or therapists, it is important to implement quality standards, aligned with personal and training competencies, as delineated by research findings and criteria established by mental health professional associations. Developing professionalisation can be further supported through specialised training, including core aspects of ecological approaches and interventions.

Conclusions

The European meta-ecosystem

> has turned out to be a vivid, dynamic, changing and developing field of different practices run by a dedicated and enthusiastic community of professionals. Still in its early phase of development and has potential to give something urgently needed in the future for individuals in need of therapy, for communities and for nature. (Lyytinen, 2023, p. 6).

It is becoming more and more obvious that these new meta-ecosystems are growing towards the integration of the restoration of human and environmental health. We belong to nature.

The development of ANT in Europe reflects a growing, interconnected field that draws strength from collaboration, shared learning, and local cultural adaptation. Using the mycelium metaphor, we see how once-isolated initiatives have connected across regions and countries, forming resilient networks that now support training programs, ethical standards, national organisations, and policy dialogue.

To continue this momentum, it is vital to invest in professional development, strengthen research efforts, and align with national and European policy agendas. Embracing related approaches—such as ecotherapy, green care, and outdoor mental health interventions—can also foster innovation and integration.

However, as the field continues to grow, a central challenge remains: how to maintain national and cultural diversity while developing common frameworks and international standards. This balance—between unity and uniqueness—is vital to ensuring that ANT remains both context sensitive and globally coherent.

The ANT field must continue to nurture its "myco-community" through openness, cross-sectoral collaboration, and a strong ethical foundation. Just like mycelium in nature, our strength lies in the invisible connections we cultivate that supports growth, resilience, and healing across borders.

Limitations

While this chapter provides a broad overview of the development of ANT in Europe through the lens of the mycelium metaphor, several limitations must be acknowledged.

First, the selection of sources is limited. As a result, relevant contributions published in less accessible languages or informal formats may not have been included, potentially limiting the cultural and geographical representativeness of the historical review.

Second, the scope of the chapter is necessarily selective. Although it highlights significant milestones and networks across several European countries, it does not claim to comprehensively represent all national contexts or local initiatives. Some regions, especially those in earlier stages of development or lacking institutional documentation, may be underrepresented.

Finally, as ANT is a rapidly evolving field, some information presented here may soon become outdated. New developments in research, policy, and practice continue to emerge and may alter the landscape described in this chapter.

Acknowledgments My sincere thanks to Lynn Van Hoof, and Luk Peeters for their contribution regarding Belgium; to Dr. Kaye Richards for the information related to the UK; to Christiane Thiesen, Dr. Barbara Bous, and Jochen Hotstegs for providing recent updates from Germany; and to Dr. Carina Ribe Fernee, and Harpa Ýr Karínardóttir for their insights into developments in the Scandinavian countries. I would like to express also my deepest appreciation to all my colleagues and friends in this field for the endless hours of conversations, discussions, projects, and shared dreams, as well as for making this forest grow sustainably, ethically, with love, and in peace.

References

Adventure Therapy Working Group (Federal Association for Individual and Experiential Education: Bundesverband Individual- und Erlebnispädagogik e.V.). (2021). *Mission statement of adventure therapy* (English version). https://www.ati.academy/download/841/pdf-at-fachinhalt_de/2102_BE_selbstverstaendnis_erlebnistherapie_ENGLISCH.pdf?view=open

Adventure Therapy Working Group (Federal Association for Individual and Experiential Education: Bundesverband Individual- und Erlebnispädagogik e.V.). (2023). *Professional profile of adventure therapists* (English version). https://www.ati.academy/download/886/pdf-at-fachinhalt_de/2308_Berufsbild_Erlebnistherapeut_englisch.pdf

Bous, B., & Thiesen, C. (2022). Erlebnistherapie. *E&L—Erleben und Lernen: Internationale Zeitschrift für Handlungsorientiertes Lernen*, (5).

British Psychological Society. (2020). *The use of talking therapy outdoors (Guidance)*. https://cms.bps.org.uk/sites/default/files/2022-06/Use%20of%20talking%20therapy%20outdoors.pdf

Erlendsdóttir, H. Y., & Friðriksdóttir, G. (2017). *History of adventure therapy in Iceland*. Adventure Therapy Europe (Reaching Further Erasmus+ Project). http://adventuretherapy.eu/wp-content/uploads/2017/02/ATE_AT-History_ISL_2017.pdf

Fernee, C. R., Gabrielsen, L. E., Andersen, A. J., & Mesel, T. (2015). Therapy in the open air: Introducing wilderness therapy to adolescent mental health services in Scandinavia. *Scandinavian Psychologist*, *2*, e14. https://psykologisk.no/sp/2015/09/e14/

Filipova, T., Kopsieker, L., Gerritsen, E., Bodin, E., Brzezinski, B., & Rubio-Ramirez, O. (2020). *Mental health and the environment: How European policies can better reflect environmental degradation's impact on people's mental health and well-being* (Background paper). Institute for European Environmental Policy (IEEP) and the Barcelona Institute for Global Health (ISGlobal). https://www.isglobal.org/en/-/mental-health-and-the-environment

Fleischer, C. (2017). *History of adventure therapy in Germany*. Adventure Therapy Europe (Reaching Further Erasmus+ Project). http://adventuretherapy.eu/wp-content/uploads/2017/02/ATE_AT-History-DEU_2017.pdf

Fontane-Klinik Motzen (1997). *Erlebnistherapie: Dokumentation des 1. Deutschen Symposiums zur Erlebnistherapie 1996* [Adventure Therapy: Proceedings of the 1st German Symposium on Adventure Therapy 1996].

Gabrielsen, L. E., & Fernee, C. R. (2014). Psykisk helsearbeid i naturen-friluftsliv inspirert av vår historie og identitet [Mental health work in nature—Outdoor life inspired by our history and identity]. *Tidsskrift for psykisk helsearbeid*, *11*(4), 358–367. https://doi.org/10.18261/ISSN1504-3010-2014-04-08

Gelter, H. (2000). Friluftsliv: The Scandinavian philosophy of outdoor life. *Canadian Journal of Environmental Education*, *5*, 77–92.

Gilsdorf, R. (2004). *Von der Erlebnispädagogik zur Erlebnistherapie. Perspektiven erfahrungsorientierten Lernens auf der Grundlage systemischer und prozessdirektiver Ansätze* [From experiential education to experiential (adventure) therapy: Perspectives on experience-based learning grounded in systemic and process-directive approaches]. EHP—Ed. Humanistische Psychologie.

Haubenhofer, D. K., Elings, M., Hassink, J., & Hine, R. E. (2010). The development of green care in Western European countries. *Explore*, *6*(2), 106–111. https://doi.org/10.1016/j.explore.2009.12.002

Johnson, S. (2015). Outdoor therapy: Where do you stand? *Horizons*, *72*(Winter), 28–29. http://insight.cumbria.ac.uk/id/eprint/4025/

Lyytinen, P. (2023). Searching for adventure therapy: Reflections from The Finnish Sauna. *Journal of Adventure Therapy*, Year 4/2023 (9IATC/3GATE Proceedings—Special Edition). https://journal-adventure-therapy.com/product/searching-for-adventure-therapy-reflections-from-the-finnish-sauna/

Mitten, D., & Itin, C. M. (Eds.). (2009). *Connecting with the essence: Proceedings of the 4th International Adventure Therapy Conference*. Association for Experiential Education.

Ogilvie, K. (2012). *Roots and wings: A history of outdoor education and outdoor learning in the UK*. Institute for Outdoor Learning.

Pryor, A., Carpenter, C., Norton, C. N., & Kirchner, J. (2012). *Emerging Insights: Proceedings of the Fifth International Adventure Therapy Conference 2009*. European Science and Art Publishing.

Raimondi, R., & D'Agostino, M. (2017). *History of adventure therapy in Italy*. Adventure Therapy Europe (Reaching Further Erasmus+ Project). http://adventuretherapy.eu/wp-content/uploads/2017/02/ATE_AT-History-ITA_2017.pdf

Rakar-Szabó, N., & Szabó, G. T. (2017). *History of adventure therapy in Hungary*. Adventure Therapy Europe (Reaching Further Erasmus+ Project). http://adventuretherapy.eu/wp-content/uploads/2017/02/ATE_AT-History-HUN_2017.pdf

Richards, K. (2015). Overview of the Fifth International Adventure Therapy Conference. In A. Pryor, C. L. Norton, & C. Carpenter (Eds.), *Adventure therapy around the globe: International perspectives and diverse approaches* (pp. 1–4). Common Ground.

Richards, K., Hardie, A., & Anderson, N. (2020). *Outdoor mental health interventions*. Institute for Outdoor Learning. https://www.outdoor-learning.org/Good-Practice/Good-Practice/Outdoor-Mental-Health

Richards, K., Hardie, A., & Anderson, N. (2023). The Outdoor Mental Health Interventions Model: A UK statement of good practice in outdoor and adventure therapy. *Journal of Adventure Therapy*, Year 4/2023 (9IATC/3GATE Proceedings—Special Edition). https://www.journal-adventure-therapy.com

Richards, K., & Smith, B. (2003). Therapy within adventure. *Proceedings of the Second International Adventure Therapy Conference 2000*. ZIEL Verlag.

Rose, A. (2006). *La evolución del uso de las actividades en el medio natural como instrumento educativo y/o terapéutico. Una perspectiva a partir de la educación social: Desde Kurt Hahn a la actualidad* [The evolution of the use of activities in natural environments as an educational and/or therapeutic tool: A perspective from social education, from Kurt Hahn to the present day]. IV Congreso Internacional El aula naturaleza en la Educación Física Escolar. Univ. Palencia.

Rose, A. (2015). Introducing adventure therapy in Spain: Lights and shadows. In C. L. Norton, C. Carpenter, & A. Pryor (Eds.). *Adventure therapy around the globe: International perspectives and diverse approaches. Proceedings of the sixth International Adventure Therapy Conference, Hruba Skala, Czech Republic*. Common Ground Publishing.

Rose, A. (2021). *Terapia a través de la aventura. Cuando la montaña nos hizo grandes* [Adventure therapy: When the mountain helped us grow]. Ed. Desnivel.

Rose, A. (2024). *Old wood or young sprouts? A provocative conversation about nature and therapy* [Keynote speech]. Fourth Gathering for Adventure Therapy Europe.

Rose, A., & Fernee, C. R. (Eds.). (in press). *Journeying together into the future of adventure therapy: Reinventing our fundamental values and co-creating brave spaces. Proceedings of the 9th International Adventure Therapy Conference and 3rd Gathering for Adventure Therapy in Europe 2022*. ZIEL Verlag & International Journal of Adventure Therapy.

Rose, A., & Ruiz de Cortázar, N. (2017). *Historical background of adventure therapy in Spain*. Adventure Therapy Europe (Reaching Further Erasmus+ Project). http://adventuretherapy.eu/wp-content/uploads/2017/02/ATE_AT-History-ESP_2017.pdf

Rose, A., Van Hoof, L., Szabó, G. T., & Rakar-Szabó, N. (2015). *Advancing adventure therapy in Europe: Collaboration and change* (Panel discussion). Seventh International Adventure Therapy Conference.

Simard, S. W., Perry, D. A., Jones, M. D., Myrold, D. D., Durall, D. M., & Molina, R. (1997). Net transfer of carbon between ectomycorrhizal tree species in the field. *Nature*, *388*, 579–582. https://doi.org/10.1038/41557

Van Hoof, L., Rose, A., & Erlendsdóttir, H. Y. (2021). A wood-wide web of adventure therapists: Elements of a sustainable network of practitioners. *International Journal of Adventure Therapy*. https://journal-adventure-therapy.com/product/a-wood-wide-web-of-adventure-therapists-elements-of-a-sustainable-network-of-practitioners/

Van Hoof, L., & Vossen, N. (2017). *History of adventure therapy in Belgium*. Adventure Therapy Europe (Reaching Further Erasmus+ Project). http://adventuretherapy.eu/wp-content/uploads/2017/02/ATE_-AT-History-BEL_2017.pdf

Wijnands, P., & Janssen, L. (2017). *History of adventure therapy in the Netherlands*. Adventure Therapy Europe (Reaching Further Erasmus+ Project). http://adventuretherapy.eu/wp-content/uploads/2017/02/ATE_AT-History-NLD_2017.pdf

Wijnands, P., & Scheres, M. (2019). *Handboek adventure therapie met kinderen, jongeren en hun gezinnen: Ervaringsleren als therapievorm* [Handbook of adventure therapy with children, adolescents, and their families: Experiential learning as a form of therapy]. Self-published.

Zhang, Z., & Ye, B. (2022). Forest therapy in Germany, Japan, and China: Proposal, development status, and future prospects. *Forests*, *13*(8), 1289. https://doi.org/10.3390/f13081289

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 4
Trends Towards Transformation in Canadian Outdoor Health

Simon Priest and Stephen D Ritchie

Sociocultural Positioning and Standpoint

Simon Priest is a retired Full Professor of Health and Outdoor Learning. Although not Indigenous, he has lived, studied, shared, and learned with five First Nations in Canada and over twenty Indigenous Peoples around the globe.

Stephen D. Ritchie is a Full Professor of Kinesiology & Health Sciences at Laurentian University and a Faculty Investigator in the Centre for Rural & Northern Health Research. Although not Indigenous, he has collaborated on research projects with several Indigenous communities in various rural and remote regions of Canada.

Both authors believe the pluralistic society of Canada has made substantive progress related to the rematriation and reclamation movement, by recognizing Indigenous rights, economy, and jurisdiction and by returning over 2.1 million square kilometres of ancestral territory (including Nunavut in 1999 and Haida Gwaii in 2024) to the approximately one thousand recognized Indigenous communities, composed of almost 1.9 million First Nation, Metis, and Inuit Canadians to date (House of Commons, 2024; StatsCan, 2021, 2022). While "26 modern treaties have been concluded between the Crown and Indigenous peoples, covering over 40% of Canada's land mass" (Land Claims Agreement Coalition, 2025, p. 1), many territorial treaties of the past remain unresolved, and much work remains to be done in the ill-defined process of land claims legislation and Indigenous sovereignty.

S. Priest
Vancouver, BC, Canada
e-mail: simon_priest@yahoo.com

S. D. Ritchie (✉)
School of Kinesiology and Health Sciences, Faculty of Education and Health, Laurentian University, Sudbury, ON, Canada
e-mail: sritchie@laurentian.ca

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_4

Outdoor Health and Benefits of Nature

In 2022, the Australian Association for Bush Adventure Therapy resolved, at an Annual General Meeting, to change its name to Outdoor Health Australia Ltd. with a strong majority of support (AABAT, 2022). Outdoor health is an umbrella term that includes "a more diverse range of outdoor and nature-based interventions" than bush adventure therapy alone (Knowles et al., 2024, p. 1). Outdoor health interventions aim to enhance well-being and health through nature-based interactions and activities. The underlying concept of outdoor health is that humans are part of nature and should return to it for healing.

For example, here are some known direct benefits of nature in restoring human physiology. Sunlight helps with the production of vitamin D and serotonin (Nair & Maseeh, 2012). Fresh air raises the oxygenation of blood circulating throughout the body (Rowe et al., 2011). Swimming in a cold lake triggers a profusion of oxygenation in cellular tissues, including the brain (Espeland et al., 2022). Exposure to soil microbes (beneficial bacteria) increases the diversity of the body microbiome (gut bacterial community) (Blum et al., 2019). Inhaled phytoncides (plant protective secretions) boost immune functioning by producing "killer cells" that hunt cancer and other tissue anomalies (Thangaleela et al., 2022). By grounding directly to the earth's surface (e.g. walking barefoot on sand/grass/ground or swimming in a lake), electrons are known to flow up into the body to positively impact mood, support cognition, reduce inflammation, and act as an antioxidant (Sinatra et al., 2023). All of these natural benefits are absorbed through the senses, lungs, and/or skin.

Table 4.1 summarizes some additional evidence-based benefits of nature to human health. These are organized by six dimensions of well-being directly addressed by outdoor health: physical, mental, emotional, social, spiritual, and ecological (Ritchie et al., 2023). Although other well-being dimensions have been identified (financial, cultural, occupational, avocational, functional, creative, etc.), these are not usually addressed by outdoor health. The six dimensions in Table 4.1 are some of the most commonly cited in the literature (Ritchie et al., 2023; Zwart & Ewert, 2022).

Research has progressed significantly from early studies by Ulrich and colleagues, which demonstrated that merely looking at nature, or even viewing photographs of nature, had a positive impact on stress levels and surgical recovery times (Ulrich et al., 1991). Later research showed obvious benefits of nature to physical, mental, and social well-being (Fyfe-Johnson et al., 2021; Moeller et al., 2018; Tillmann et al., 2018; Zhang et al., 2017), while early life nature experiences were determined to benefit later mental health development (Li et al., 2021). Johnstone et al. (2022) also confirmed that early childhood education in nature improved children's social, emotional, and cognitive development. Qiu et al. (2021) summarized the restorative benefits of nature into four categories: physical health, psychological wellness, psychosocial development, and spiritual upliftment. In a meta-analytic investigation, Schutte and Malouff (2018) found a significant relationship between mindfulness

Table 4.1 Examples of positive nature benefits across six well-being dimensions (with brief definitions)

PHYSICAL well-being (optimal physiology)	SOCIAL well-being (connect to meaningful people)
• **Immunological function/defense** (Kuo, 2015; Li, 2010; Song et al., 2016) • **Blood pressure** (Duncan et al., 2014; Ochiai et al., 2015; Yau & Loke, 2020) • **Heart rate** (Farrow & Washburn, 2019; Miyazaki et al., 2011; Song et al., 2015) • **Sleep/rest** (Hansen et al., 2017; La Puma, 2019; Morita et al., 2011) • **Somatic/pain** (Kamioka et al., 2014; Kozlowska et al., 2020; Zhao et al., 2022)	• **Anger/aggression** (Berger, 2008; Hart, 2016; Summers & Vivian, 2018) • **Social abilities** (Ardoin et al., 2018; Roberts et al., 2020) • **Prosocial behaviors** (Holland et al., 2018) • **Social connections** (Andre et al., 2017) • **Group effectiveness** (Gillis & Speelman, 2008) • **Social skills and development** (Johnstone et al., 2022)
MENTAL well-being (optimal psychology)	SPIRITUAL well-being (connect to meaningful purposes)
• **Cognition/creativity** (Ramshini et al., 2018; Stevenson et al., 2018; Wells, 2000) • **Anxiety/fear** (Brown & Ryan, 2003; Jordan, 2014; Jordan, 2015; Wells & Evans, 2003) • **Stress/depression** (Kohlleppel et al., 2002; Poulsen et al., 2015; Wichrowski et al., 2005; Yao et al., 2021) • **Attention/hyperactivity** (Cimprich & Ronis, 2003; Tennessen & Cimprich, 1995)	• **Transcendence** (Gstaettner et al., 2018; Löetter & Welthagen, 2020; MacBride-Stewart, 2019; Pierskalla et al., 2004) • **Fatigue/energy** (Harlow, 2021; Revell & McLeod, 2017; Tarrant, 2019) • **Restoration of spirit** (Qiu et al., 2021) • **Mindfulness** (Schutte & Malouff, 2018) • **Spirituality** (Holland et al., 2018)
EMOTIONAL well-being (optimal disposition)	ECOLOGICAL well-being (connect to meaningful places)
• **Happiness** (Capaldi et al., 2014; McMahan & Estes, 2015; Pritchard et al., 2020) • **Mood/self-esteem** (Coventry et al., 2021; Hattie et al., 1997; Lee et al., 2008; McCaffrey, 2007; Roberts et al., 2020; Son et al., 2004; Taylor et al., 2002) • **Self-concept** (Cason & Gillis, 1994; Fang et al., 2021; Ferrell, 2017; Walker & Pearman, 2009)	• **Proenvironmentalism** (Bamberg & Möser, 2007; Doucette, 2004; Gkargkavouzi et al., 2019; Whitburn et al., 2020) • **Environmental sustainability** (Barragan-Jason et al., 2022; Holland et al., 2018) • **Environmental connections** (Ardoin et al., 2018; Schutte & Malouff, 2018)

and connectedness to nature, advocating for greater intentionality in programs aimed at further enhancing this relationship. Finally, Barragan-Jason and colleagues (Barragan-Jason et al., 2022) found that 59 experimental and 147 correlational studies confirmed a significant relationship between human-nature connectedness and environmental sustainability behaviors.

Natural settings have been found to be more restorative than urban ones (Menardo et al., 2021), and living, working, or playing near green spaces (nature) has been considered beneficial (Callaghan et al., 2021; Houlden et al., 2018; Jabbar et al., 2021). This was later expanded to include blue spaces, which encompass bodies of water (Britton et al., 2020; Georgiou et al., 2021). Simply exercising outdoors was found to provide more health benefits compared to exercising indoors

(Brito et al., 2022; Li et al., 2022; Thompson Coon et al., 2011). Finally, in a comprehensive systematic review of reviews, urban natural environments were found to reduce heat, improve affect, and even reduce mortality from cardiovascular disease (van den Bosch & Ode Sang, 2017).

Outdoor Health Is Transdisciplinary

The term discipline is used in the academic arena to denote subject matter separations such as: biology, chemistry, physics, medicine, arts, technology, music, education, engineering, psychology, philosophy, law, and social work. Disciplines are separated to clearly delineate a body of knowledge for the creation, maintenance, and application of theory, research, and practice. This divisiveness has served society well for hundreds of years; however, today's complex problems cannot be solved by outdated, single-disciplinary approaches. For example, solving the numerous problems, such as climate change, will require a convergence of several disciplines.

There are at least three ways to merge disciplines: multidisciplinary, interdisciplinary, and transdisciplinary (Choi & Pak, 2007). **Multidisciplinary** involves everyone working on the same problem, but within the silo boundaries of their own disciplines and under their own corresponding sets of assumptions, restrictions, and beliefs (Choi & Pak, 2006). This results in adding to the professional body of knowledge, but with very little innovation, because the assumptions, restrictions, and beliefs are mostly fixed within each discipline. **Interdisciplinary** is the overlap of disciplinary boundaries to form sub-disciplines with the blending of some common assumptions, restrictions, and beliefs (Gillis et al., 2017). This imagines new knowledge and theoretical solutions. **Transdisciplinary** is transcending disciplinary boundaries by drawing on non-traditional ideas, including those from outside academia, to cross-fertilize contradictory assumptions, restrictions, and beliefs (Choi & Pak, 2006; Gillis et al., 2017). This executes a synergy of systems or structures, improved theories or models, newly invented methods or techniques, and innovative thinking or technology, leading to practical solutions. Multidisciplinary is additive, interdisciplinary is interactive, and transdisciplinary is holistic (Choi & Pak, 2007). Outdoor health is transdisciplinary because it holistically blends multiple interactive disciplines into one collaborative experience with many variations (Aguirre et al., 2019; Neville et al., 2023; Ritchie et al., in review).

Although a discipline unto itself, health has become increasingly transdisciplinary and holistic due to the emerging consideration of multiple dimensions of well-being (Keyes, 2007; Ritchie et al., 2023). Outdoor health spans a number of disciplines with many of those listed in academic arenas. With this holistic perspective in mind, the authors have adapted Health and Welfare Canada's (1988) initial *Dual Continuum Model of Mental Health*, later empirically tested by Keyes (2002), to suit the transdisciplinary character of outdoor health (Ritchie et al., 2023; Ritchie et al., in review).

This adapted and updated model has two spectra. The first represents subjective beliefs about one's own health or what people internally assess for themselves in terms of their mental, emotional, and social well-being (Keyes, 2007). This first one ranges from strong to weak beliefs with a descending gradation of adjective states: flourishing, thriving, surviving, and languishing. The second represents objective symptoms presented by a person or what they externally display to an observer, such as a clinician. This second one ranges from many to a few symptoms with an ascending sequence of descriptors: clinical disorder, illness, wellness, and paramount health. These are placed respectively on the Y- and X-axes of Fig. 4.1. At the centre region of the diagram, where the two axes cross, is a homeostatic balance where most (or many) people exist between extremes of both continua. However, while much of the general population exist in homeostasis, individuals should be intentionally striving for strong subjective beliefs and few objective symptoms, placing themselves firmly in the upper right quadrant of Fig. 4.1 (towards flourishing and paramount health). According to this model, a single individual can be located in any of four quadrants for each of the six dimensions of well-being. Ideally, strong subjective beliefs and few objective symptoms indicate that a person is flourishing in optimal health (green quadrant), while weak subjective beliefs and numerous objective symptoms suggest that another is languishing in clinical disorder (blue). Other pairings are possible for

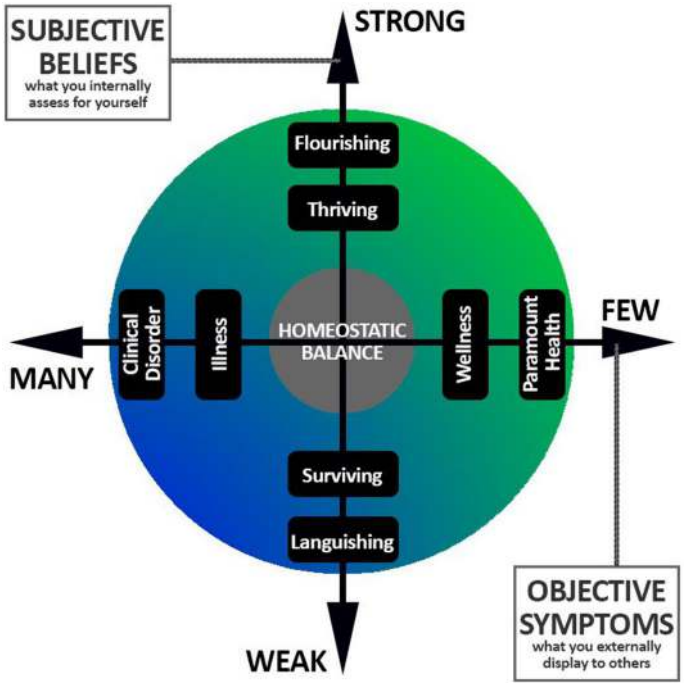


Fig. 4.1 The dual continua model of outdoor health (developed by Ritchie et al., in review)

particular dimensions of well-being. For instance, a person may have a mental illness and be thriving because they have effective coping mechanisms in place (upper left quadrant); and a person who is physically well may be surviving because they do not have coping mechanisms in place to maintain their wellness (lower right quadrant).

The model suggests that complete outdoor health should consider both continua across the six dimensions of well-being. Whereas health was traditionally examined from a pathogenic medical perspective, the Dual Continua Model provides a means to investigate and explain health through a salutogenic lens, focusing on holistic health that encompasses both the quality and quantity of life in terms of optimum homeostasis (flourishing) and paramount health.

Outdoor health reflects this framework in helping people live well or flourish (with high mental, emotional, and social well-being), regardless of their state of diminished health or dimension of well-being. For instance, if they are coping well and have access to appropriate supports and resources, they may be able to move along subjective continuum from languishing to flourishing. This is important in outdoor health, because it allows practitioners to work with any population in a particular context or program and to shift the focus of wellness practices towards paramount health, flourishing, or both.

Canada and Canadian Healthcare

Universal healthcare in Canada is delivered through its ten provincial and three territorial governments, with funding transferred to each from federal taxes. Currently guided by a Canada Health Act, the purpose of the public health system is to "protect, promote and restore the physical and mental well-being of residents of Canada and to facilitate reasonable access to health services without financial or other barriers" (1984, c. 6, s. 3). Services are delivered in locations ranging from hospitals, through rural medical clinics, to remote Arctic outposts in the second largest country in the world by land mass. Thus, any Canadian has access to healthcare anywhere, and most consider this a fundamental human right.

Financially, about three-quarters of services (physician visits, necessary surgical procedures, maternity care, and hospitalization) are covered by provincial insurance systems with direct billing from healthcare providers to the insurer. The other quarter (elective surgery, dentistry, eye care, prescription drugs, medical devices, mental health, after/home care, and various rehabilitation therapies) is user-paid out-of-pocket and often reimbursed by other social services, employers, or secondary healthcare insurance. Physicians may charge a fee for missed appointments, filling out forms, or other administrative tasks. Medical records are confidential between physician and patient and are protected by legislation.

However, services in isolated and remote regions of northern Canada are lacking and "do not meet the unique geographical, epidemiological and cultural needs in most communities" (Mew et al., 2017, p. 1). The situation is dire for

Indigenous peoples living in rural and especially remote (e.g. no permanent road access) regions. For example, most remote Indigenous communities in Ontario do not have access to emergency medical services (Mew et al., 2017), and each year ten percent of the population in these communities must board a plane or helicopter prior to hospital admission, requiring delays that span many hours and often days (Vanderburgh et al., 2020).

There have been several innovative health trends in Canada, beginning with the healthcare system gradually shifting its focus from downstream on illness and injury to an upstream focus on prevention and promotion. This shift likely began with the ratification of the International Charter on Health Promotion in 1986 at the inaugural gathering organized collaboratively by the World Health Organization and the Canadian Public Health Agency of Canada. The Charter is often referred to as the Ottawa Charter because the conference occurred in Ottawa: the national capital of Canada. Health promotion is defined simply as

> the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. (World Health Organization, 1986, p. 1)

This document was created nearly four decades ago, so it is not surprising that this definition only identifies three dimensions of well-being. Since the ratification of the Ottawa Charter, most health promotion initiatives in Canada have origins with the Public Health Agency of Canada (formerly the Canadian Public Health Agency), and in 2005 Canada's Federal/Provincial/Territorial leaders came to consensus on a declaration: "As a nation, we aspire to a Canada in which every person is as healthy as they can be—physically, mentally, emotionally and spiritually" (Public Health Agency of Canada, 2010, p. 1). This process led to the development of the Integrated Pan-Canadian Healthy Living Strategy, which focused on prevention, promotion, and healthy living (Public Health Agency of Canada, 2010). In 2016, Health Promotion Canada was launched as a professional support association following the development and ratification of the Pan-Canadian Health Promoter Competencies (Canadian Public Health Association, n.d..). Although not necessarily germane to their core vision, the Canadian Public Health Association and Health Promotion Canada do endorse promising practices in outdoor health promotion such as forest schools, unstructured play outside, and the Healthy Parks Healthy People movement (Canadian Public Health Association, n.d.).

Trends Toward Transformation

Canada has a long history of innovative solutions to problems. In response to slaves escaping from America during their Civil War over slavery, Canada was the terminus for the Underground Railroad from 1780 to 1865. Early land conservation

and resource preservation from 1887 to 1909 led to the creation of federal and provincial parks, regional wildlife refuges, and sustainable forests. During the Vietnam War, American drafted conscientious objectors were welcomed in Canada. Due to conflicts over the pollution of the Great Lakes region, which is shared by Canada and the USA, Canada led the process to develop an international model for environmental dispute resolution. More recently, and relevant to outdoor health, in the 1980, health researchers at McMaster University developed the principles for evidence-based practices in medicine. Finally, Canada has a positive track record with respect to returning ancestral lands and/or paying compensatory retributions to its colonized Indigenous Peoples.

In terms of trends that transform, there are six prominent outdoor health or nature-based interventions/initiatives in Canada that we have decided to profile: *land-based healing, nature prescription, outdoor learning, wild pedagogies, risky outdoor play, outdoor therapies, and ecohealth promotion.* These will be described in the following sections. However, first, an overview of the nations' Indigenous Peoples is warranted.

Canada's recent census counted 36,991,981 people (Statistics Canada, 2021). Then, five percent of the population (1,807,250 people) identified as Indigenous (Statistics Canada, 2022), with three distinctly different divisions that are recognized in Canada's Constitution Act (1982, s. 35): First Nations (1,048,405 people), Inuit (70,545 people), and Métis (624,220 people). **First Nations** are those peoples who were present on "Turtle Island" before the arrival of explorers and colonizers. While they are concentrated primarily in the provinces of British Columbia and Ontario, First Nations people are found throughout Canada in over 600 separate and self-governing locations with dozens of distinct languages and dialects. Previously described as "Indians" in past legislation, this term is considered pejorative today. **The Inuit** encompass those people occupying the Yukon, Northwest Territories, and Nunavut territories, as well as northern Quebec and Labrador (north of 60° latitude), and coalesce in approximately 50 unique communities. Previously described as "Eskimos" in historical literature, this term is also now considered outdated. **Métis** are the descendants of intermarriages between First Nations and European settlers or fur traders in Canada. Their ancestral home region includes the prairie provinces of Alberta, Saskatchewan, Manitoba, and part of Ontario in west-central Canada. Other groups of mixed heritage, such as the Acadians (French and First Nation unions) found in the maritime provinces of Nova Scotia, New Brunswick, Prince Edward Island, and parts of Newfoundland, have not yet been officially recognized.

The aboriginal rights and treaty rights of Indigenous Peoples in Canada are protected in the Constitution Act (1982, s. 35) and guaranteed equally to males and females. Aboriginal rights include hunting, fishing, foraging, logging, and other land management processes, including title to "own" the land. Treaty rights refer to the enforcement of all agreements established in the past and future between governments and individual Indigenous communities. While a right to self-govern is not expressly written into the Constitution, Canadian governments have affirmed this inherent right and developed policies to ensure this. Indigenous

groups may have separate justice, economic, health, education, land management, and cultural systems.

Historically, Canada has experienced typical oppression of Indigenous People through colonization. Early Indigenous interactions with settlers and fur traders were described as friendly on both sides. However, the Gradual Civilization Act (1857) and the Indian Act (1876) were passed by a Euro-Christian British government that wanted to assimilate Indigenous groups into "Canadian Culture" (Armitage, 1995). Groups were encouraged to live and farm in agricultural villages, which became the forerunners of the land reservations (Tobias, 1983). Residential boarding schools were established where many native children attended. Some children were forcibly removed from their families, and many died while attending their residential school. Many who endured this educational experience were left with lasting intergenerational trauma and a loss of language and culture (Milloy, 1999).

Status rights were removed from many through a process of enfranchisement where First Nations were encouraged to relinquish their Indian status in exchange for a fee and acquiring Canadian citizenship (McCardle, 2016). They were prohibited from testifying in court and consuming alcohol (Armitage, 1995). Amendments to the Indian Act (1884) outlawed spiritual and cultural practices, such as potlatch celebrations, wearing traditional attire, and performing dance, drumming, or music (Kirkby, 2020). Government representatives, acting authoritatively as justices of the peace, could conduct trials and sentence individuals for any matter from petty crimes to loitering (Kirkby, 2020). Thus began disproportionate incarceration rates for Indigenous Peoples. European diseases decimated Indigenous populations who lacked an appropriate immune response. Smallpox, chickenpox, and cholera wiped out vast communities (Kirkby, 2020). While some cultural traditions (the potlatch) were returned in 1951, patterns of poor health, trauma, and incarceration continued into this century (Hinge, 1985). Today, four major diseases for Indigenous populations are diabetes, obesity, respiratory illnesses and heart disease, while suicide rates are significantly higher than the Canadian average (Bruce et al., 2014).

In 2008, a Truth and Reconciliation Commission (TRC) was formed as a result of the Indian Residential Schools Settlement Agreement: a class-action accord between the federal government and about 80,000 former students of the residential (boarding) school system that paid almost $5 billion to the trauma survivors as compensation for their suffering (C-IRNAC, 2019). The TRC was formed to document and archive the survivor experiences and impacts, and to develop and support health, healing, and reconciliation initiatives that were designed to apply to both Indigenous and non-Indigenous people. Chaired by Justice Murray Sinclair, an Ojibway-Canadian lawyer, who also served as a Manitoban Judge and Canadian Senator, the TRC concluded that Canada had committed cultural genocide and subsequently issued 94 Calls to Action or C2A (TRCC, 2015). These C2A are abbreviated and summarized in Table 4.2. Terms in use over a decade ago liberally applied a synonym for Indigenous: "Aboriginal."

Table 4.2 An abbreviated summary of the Truth and Reconciliation Commission's 94 *Ca*lls to Action for Indigenous reconciliation in Canada

REDRESS THE LEGACY	ADVANCE RECONCILIATION
CHILD WELFARE 1. Reduce the number of Aboriginal children in social care 2. Publish annual reports on the number of Aboriginal children in social care 3. Fully implement Jordan's Principle (ensures children have free access to social and health services) 4. Enact Aboriginal child-welfare legislation that establishes national standards for apprehension and custody cases 5. Develop culturally appropriate parenting programs for Aboriginal families EDUCATION 6. Repeal Section 43 of the Criminal Code (justifies use of corporal punishment by parents, teachers, and others) 7. Eliminate educational and employment gaps between Aboriginal and non-Aboriginal Canadians 8. Eliminate the discrepancy in federal education funding between on-reserve and off-reserve students 9. Publish annual reports on education funding and educational and income attainments 10. Draft new Aboriginal education legislation 11. Provide adequate funding to end the backlog of First Nations students seeking a post-secondary education 12. Develop culturally appropriate early childhood education programs for Aboriginal families LANGUAGE AND CULTURE 13. Acknowledge Aboriginal rights include language rights 14. Enact an Aboriginal Languages Act as a fundamental and valued element of Canadian culture and society, 15. Appoint an Aboriginal Languages Commissioner 16. Create university and college degree and diploma programs in Aboriginal languages 17. Waive administrative costs for five years for revision of official identity documents	43. Implement the UNDRIP* as the reconciliation framework 44. Develop a national action plan, strategies, and other measures to achieve the goals of the UNDRIP* 45. Develop a Royal Proclamation of Reconciliation to be issued by the Crown 46. Develop and sign a Covenant of Reconciliation identifying principles for collaborative advancement of reconciliation 47. Repudiate concepts and reform laws and policies used to justify European sovereignty over Indigenous peoples and lands, such as the Doctrine of Discovery and terra nullius 48. Formally adopt and comply with the principles, norms, and standards of UNDRIP* for religious and faith groups 49. Repudiate religious concepts used to justify European sovereignty over Indigenous lands and peoples 50. Establish Indigenous law institutes 51. Develop policy of transparency on legal opinions upon which it acts in regard to Aboriginal and Treaty rights 52. Adopt the legal principles regarding Aboriginal title claims 53. Establish an independent NCR* oversight body 54. Provide multi-year funding for the NCR* 55. Provide annual reports or data requested by the NCR* 56. PM* to issue annual 'State of Aboriginal Peoples' report 57. Educate public servants on Aboriginal peoples' history 58. Pope to issue an apology to residential school survivors 59. Church parties of the IRSSA* to educate congregations on why public apologies are necessary 60. Develop and teach curriculum for all student clergy, and all clergy and staff who work in Aboriginal communities 61. Church parties of the IRSSA& to fund reconciliation and culture revitalization projects

(continued)

Table 4.2 (continued)

REDRESS THE LEGACY	ADVANCE RECONCILIATION
HEALTH 18. Acknowledge that the current state of Aboriginal health is a direct result of previous government policies, and to recognize and implement international health-care rights 19. Identify and close the gaps in health outcomes between Aboriginal and non-Aboriginal communities 20. Recognize, respect, and address the distinct health needs of the Métis, Inuit, and off-reserve Aboriginal peoples 21. Provide sustainable funding for existing and new Aboriginal healing centres 22. Recognize the value of Aboriginal healing practices and use them in the treatment of Aboriginal patients 23. Increase the number of Aboriginal professionals working in the health care field and provide cultural competency training for all healthcare professionals 24. Require all medical and nursing students to take a course dealing with Aboriginal health issues JUSTICE 25. Reaffirm the independence of the RCMP* to investigate crimes in which the government is a potential party 26. Review and amend statutes of limitations 27. Ensure lawyers receive cultural competency training 28. Require all law students to take a course in Aboriginal people and the law 29. Work collaboratively with plaintiffs not covered in IRSSA* 30. Eliminate the overrepresentation of Aboriginal people in custody 31. Implement and evaluate community sanctions that will provide realistic alternatives to imprisonment 32. Amend the Criminal Code to allow trial judges to depart from mandatory minimum sentences 33. Develop FASD* preventative programs that can be delivered in a culturally appropriate manner 34. Undertake reforms to the criminal justice system to better address the needs of offenders with FASD*	62. Establish permanent funding for community-controlled healing, culture and language revitalization projects 63. Make age-appropriate Indigenous-specific curriculum a mandatory requirement for K-12* students with sufficient funds, teacher training, and ministry oversight 64. Require denominational schools to teach comparative religious studies, including Aboriginal spiritual beliefs 65. Establish a national research program with multi-year funding to advance understanding of reconciliation 66. Establish multiyear funding for community-based youth organizations to deliver programs on reconciliation. 67. Canadian Museums Association to undertake a national review of museum policies and best practices 68. Mark the 150th anniversary of Confederation by funding commemoration projects on theme of reconciliation 69. Library and Archives Canada to adopt UNDRIP, ensure records on residential schools accessible to public 70. Library and Archives Canada to undertake a national review of archival policies and best practices 71. make records on the deaths of Aboriginal children available to the NCTR* 72. Develop and maintain the NRSSDR* created by the TRC* 73. Establish and maintain an online registry of residential school cemeteries with plot maps when possible 74. Inform the families of children who died at residential schools of the child's burial location and respond to their wishes for commemoration, markers, or reburial 75. Develop and implement strategies and procedures for ongoing identification, documentation, commemoration, and protection of residential school cemeteries 76. Work collaboratively with Aboriginal communities to strategize for documenting, maintaining, commemorating, and protecting residential school cemeteries

(continued)

Table 4.2 (continued)

REDRESS THE LEGACY	ADVANCE RECONCILIATION
35. Eliminate barriers to the creation of additional Aboriginal healing lodges within the federal correctional system 36. Provide culturally relevant services to inmates on issues such as substance abuse, family and domestic violence 37. Provide more supports for Aboriginal programming in halfway houses and parole services 38. Eliminate the overrepresentation of Aboriginal youth in custody 39. Publish data on the criminal victimization of Aboriginal people, especially homicide and family violence victimization 40. Create adequately funded and accessible Aboriginal-specific victim programs and services 41. Appoint a public inquiry into the causes of, and remedies for, the disproportionate victimization of Aboriginal women and girls 42. Commit to the recognition and implementation of Aboriginal justice systems	77. Work collaboratively with the NCTR* to identify and collect records relevant to the residential school system 78. Commit to making a funding contribution of $10 million over seven years to the NCTR* 79. Develop a reconciliation framework for Canadian heritage and commemoration 80. Establish, as a statutory holiday, a National Day for Truth and Reconciliation 81. Commission and install a publicly accessible, highly visible, Residential Schools National Monument in the national capital of Ottawa 82. Commission and install Residential Schools Monument in each provincial capital city 83. Canada Council for the Arts to establish a strategy and funding for Indigenous and non-Indigenous artists to undertake collaborative projects or produce works contributing to reconciliation 84. Restore and increase funding to CBC/RC*, to enable the national public broadcaster to support reconciliation 85. The APTN*, as an independent non-profit broadcaster with programming by, for, and about Aboriginal peoples, should support reconciliation by continuing to provide leadership in programming and organizational culture that reflects the diversity of Aboriginal peoples 86. Journalism programs and media schools to require education for all students on Aboriginal peoples' history 87. Tell the stories of Aboriginal athletes in history 88. take action to ensure long-term Aboriginal athlete development and growth, and continued support for the North American Indigenous Games 89. Amend the Physical Activity and Sport Act to ensure policies are inclusive to Aboriginal Peoples 90. Ensure that national sports policies, programs, and initiatives are inclusive of Aboriginal peoples 91. Ensure Indigenous Peoples' territorial protocols are respected by officials and hosts of international sports

(continued)

Table 4.2 (continued)

REDRESS THE LEGACY	ADVANCE RECONCILIATION
	92. Corporate sector to adopt the UNDRIP as a reconciliation framework and to apply its principles, norms, and standards to corporate policy and core operations 93. Revise information kit/citizenship test for newcomers to reflect a more inclusive history of Aboriginal Peoples 94. Reform the Oath of Citizenship by adding "I will faithfully observe the laws of Canada including Treaties with Indigenous Peoples"

* *Abbreviations: RCMP Royal Canadian Mounted Police (national), IRSSA Indian Residential Schools Settlement Agreement, FASD Fetal Alcohol Spectrum Disorder, UNDRIP United Nations Declaration on the Rights of Indigenous People, NCR National Council for Reconciliation, PM Prime Minister of Canada,* K-*12 Kindergarten through Grade 12, NRSSDR National Residential School Student Death Register, NCTR National Centre for Truth and Reconciliation, CBC/RC Canadian Broadcasting Corp/Radio-Canada, APTN Aboriginal Peoples' Television Network*

The C2A are divided into two parts: strategies to redress the legacy of past assimilation and strategies to advance the process of future reconciliation. The C2A are accountable to several bodies, ranging from various levels of government, through religious organizations or interfaith groups, to systems of schools, museums, archives, businesses, sports, media, or healthcare. In most cases, the involvement of Indigenous Elders, healers, people, groups, councils, or communities is vital for each C2A (TRCC, 2015).

As Chief Commissioner, Sinclair was frequently outspoken about reconciliation issues being a Canadian problem, not an Indigenous one. He was often quoted for insightful observations, such as: "precisely because education was the primary tool of oppression of Aboriginal people, and miseducation of all Canadians, that we have concluded that education holds the key to reconciliation" (Sinclair, 2014, p. 7).

In the last decade estimates by oversight groups have approximately 13 C2A completed, with 13 stalled and another 13 not yet started, but the remaining 55 were underway by 2023 (Assembly of First Nations, 2020; Beyond-94, 2024; Indigenous Watchdog, 2024; Jewell & Mosby, 2023). Nonetheless, these C2A have led to some original transformations. For example, the health-related C2A (especially #22) have led to a proliferation of land-based healing and other forms of land-based programming.

Land-Based Healing

Centuries ago, Indigenous people were tightly connected to the land and it provided sustenance that allowed them to lead healthy lives. With the arrival of explorers and settlers, the colonization process removed them from ancestral lands and

severed holistic connections to nature. Land-based healing is a return to nature and the well-being that results. Although land-based healing is a unique approach towards outdoor health developed by Indigenous groups for Indigenous people, it is also a return or revitalization of ancient practices, processes, and ceremonies. Not surprisingly, it is practiced somewhat differently from community to community, reflecting differences across Indigenous cultures. Indigenous scholars have written much about these topics.[1]

Land-based learning (Altamirano-Jiménez & Kermoal, 2016; DeLancey & Broadhead, 2023; Redvers, 2020) and land-based healing (Redvers, 2020; Sommerfeld et al., 2021) are now widely accepted and self-determined approaches to treating trauma and promoting health and healing within Indigenous communities. The colonization process moved Indigenous people away from their natural link with the land (nature), placed them in dispossessed living conditions, disrupted their social structures, infected their communities, reinforced unresolved trauma, and exacerbated already poor health conditions. As a result, common maladies arose in greater frequency or severity than for non-Indigenous populations (Valaskakis, 2009). Mental illness, addiction, violence, suicide, and underlying medical diseases are prevalent among Indigenous peoples in Canada (Greenwood et al., 2018). Trauma has become intergenerational (Wildcat et al., 2014). Land-based healing addresses many of these concerns.

Land-based healing ideally takes place on remote ancestral territories, but its elements are also practiced in urban and rural settings. The term land-based refers to activities on land or water in Canada, and the process is a powerful way to reconnect with the synergy of nature and Indigenous cultural identity. It is an effective way to address health concerns through traditional Elder knowledge and the customary practices of well-being, achieved through direct connections with the land, plants, animals, and all of creation. Land-based healing returns Indigenous people to their ancestral territory to live with the land for a lengthy period of time (sometimes several weeks to almost a year). Shorter programs tend to operate from residential camps, while longer programs may include a journey (Ritchie et al., 2015). Of the more than 100 programs currently operating in Indigenous communities around Canada, approximately two-thirds are residential, while the remaining third include adventurous expeditions (Sommerfeld et al., 2021).

The authors have participated in, led, and consulted on these land-based adventurous expeditions with over a dozen indigenous groups worldwide (Priest, 2022a; Ritchie et al., 2014). For example, Wiikwemkoong First Nation, located in central Ontario, Canada, collaborated with Laurentian University to develop, implement, and evaluate a 10-day outdoor adventure leadership experience designed to promote resilience and holistic health among Indigenous youth from the community (Ritchie et al., 2012). The evaluation confirmed that it was effective at promoting

[1] Canadian academics have moved past the need to identify cited authors by their gender, race, religion, indigeneity, or sexual orientation, because those authors may do so in their bios (if they choose) and most academics wouldn't write about these issues in a reputable journal without including at least one such status scholar with appropriate experience.

resilience and holistic health improved across multiple dimensions of well-being: physical, mental, emotional, social, and spiritual (Ritchie et al., 2014; Usuba et al., 2019), and the experience helped the youth strengthen connections and relationships with their peers, community, plants and animals, the Creator, mother earth, and all creation (Ritchie et al., 2015).

Nature Prescription

Canadian physicians and other healthcare providers in British Columbia, Quebec, and other provinces prescribe nature as medical treatment for certain maladies and malaise (Langelier et al., 2023). Parks Prescription originating as a grassroots movement in the United States, quickly spreading to other countries, including Canada (PaRx, n.d.). Melissa Lem initiated Nature Prescription (PaRx, n.d.) in collaboration with the British Columbia Parks Association and over 100 partners and endorsers as an online platform connecting English-speaking prescribers and patients with nature. To help patients make the link, the website also provides them with some unique resources and special offers from the partners and endorsers that reduce barriers to participation and access. Quebec has a comparable platform for Francophone prescribers and patients called Prescri-Nature (n.d.) run by several physicians and with a similar list of partners and endorsers.

However, one of the obvious questions related to nature prescription is the dosage or the time exposure spent in nature multiplied by the intensity of immersion. A few minutes walking in the woods may not match up to hours of mindful concentration on a single leaf, as comparable dosages. How much nature is needed? Regarding dose, recent studies have quantified a range of merely 5 to 20 min in nature in order to obtain a health benefit (Barton & Pretty, 2010; Nisbet & Zelenski, 2011; Park et al., 2010), and Coventry et al. (2021) found that the most effective nature-based interventions were 20 to 90 min long. In terms of dose frequency, two studies recommended two or more hours per week (Ho et al., 2019; White et al., 2019) in order to achieve health benefits. Regarding dose strength, no answer appears evident yet. Therefore, an increasing number of Canadian physicians are simply asking (i.e. prescribing) patients to spend additional time enjoying nature while being active (e.g. walking or hiking), for a recommended minimum of two hours per week (PaRx, n.d.).

Outdoor Learning

Outdoor learning in Canada is progressing well by openly addressing issues of universal accessibility (Kenigsberg & Cole, 2023; Loeffler, 2023), social justice (Wigglesworth, 2023), and cultural misappropriation (Mondor et al., 2023). For an example of the latter, campfire stories of the last century often included “Indian” objects, names or ceremonial stories as misappropriated culture. This practice has

undergone significant changes in the twenty-first century. However, misappropriation has also been inappropriately applied to "appropriate" transcultural situations. For example, the *Mohawk Walk* initiative, a "low-ropes" activity made famous in *Silver Bullets* (Rohnke, 1984), was originally thought to be named as a rhyming misappropriation from Quebec's Indigenous People. However, the group that invented and constructed the original element were actually Mohawk Canadians (Haras, 2023). Nevertheless, Canadian outdoor professionals are making concerted efforts to identify sources of Indigenous content, seek permission and partnerships for its use, and avoid the misappropriation of objects, names, stories, and cultures.

Professional outdoor learning in Canada is coordinated by one national organization: The Outdoor Council of Canada (OCC). Formed fairly recently in 2008 as an amalgamation of several groups concerned about mountain safety, its purpose today is to bring the national outdoor community together and address structural barriers hindering the ability of outdoor programs to reach their full impact (OCC, 2024). The OCC represents professional guides, teachers, facilitators, therapists and others working in the outdoor recreation, education, development, and therapy sectors. The OCC is reclaiming the central role of outdoor activities in Canada's heritage by collaborating with government, marketing the benefits of outdoor activities, educating the public about safety, and supporting provincial outdoor associations.

Each province has its own outdoor learning association, with the most notable ones in English-speaking Ontario and French-speaking Quebec. The Council of Outdoor Educators of Ontario (COEO) has been in existence for over 50 years, supporting outdoor health through four core values: education for environment, education for curriculum, education for character, and education for well-being (COEO, 2024). COEO promotes safe and high-quality outdoor education experiences and publishes Pathways, a quarterly journal of outdoor education (COEO, 2024). Réseau plein air Québec is a coalition of over a dozen outdoor federations in the province of Quebec, each representing hundreds of groups and thousands of individuals engaged in various outdoor activities. These federations are recognized by the Quebec Ministry of Education for their ability to supervise people and teach them the skills to engage in outdoor activities safely. The larger coalition shares expertise, consulting, references, and resources across the dozen federations. They develop and promote best safety and supervision practices for use by all (RPAQ, 2024). In terms of outdoor health, the province of Quebec is leading the way in Canada in terms of government recognition, support, and funding for the outdoor activity sector because of the recognized health and well-being benefits for its citizens (Gouvernement du Québec, 2018).

Wild Pedagogies

Wild pedagogies began as a uniquely Canadian movement in 2014 with a rapidly growing international following (Jickling et al., 2023). Wild pedagogies "rests on the premise that the modernist relationship to the natural world must change,

urgently; and that education is a necessary, even fundamental partner in such a project" (p. 2). To this end, eight guiding touchstones have been established by wild pedagogy advocates:

1. nature as co-teacher,
2. complexity, the unknown and spontaneity,
3. locating the wild,
4. time and practice,
5. cultural change,
6. forming alliances and building community,
7. learning that is loving, caring, and compassionate, and
8. expanding the imagination (Jickling et al., 2023, pp. 5–11).

While these principles are by no means new in environmental fields, especially in the context of the deep ecology movement (Naess, 1973), they have resonated with many teachers, learners, scholars, and adventurers across a wide range of cultures and continents. The wild pedagogies movement began with a travelling colloquium down the Yukon River in northern Canada in 2014, and the travelling colloquium theme continued with rafting in Tasmania (2016), sailing in Scotland (2017), hiking in Norway (2019), and a 2023 gathering in Sweden (Pedagogies, 2024). With respect to the relationship between wild pedagogies and outdoor health, the movement renegotiates the human-nature relationship by elevating more-than-human voices (Pedagogies, 2024), and this promotes ecological well-being (Grouzet & Lee, 2014).

Risky Outdoor Play

Risky outdoor play involves great heights, high speeds, dangerous tools, rough-and-tumble actions, impactful crashes, the absence of adult supervision, the chance to get lost, and vicarious observation of others' risk-taking (Sandseter, 2009). This play is the kind that was common "one to two generations ago, when children were given free rein to play unsupervised, pushing their own limits, teetering on the edge of safety and danger. That type of play has slowly disappeared over time" (de Lannoy, 2023, p.1) as parents have become increasingly protective of their offspring and society has become less tolerant of injuries, especially to children. However, risky outdoor play appears to be critically necessary for healthy child development (Brussoni et al., 2015). As a result, Canada has become a hub for risky outdoor play theory, research, and practice (de Lannoy, 2023).

Formed in 2017, Outdoor Play Canada (OPC) rose out of several academic initiatives including reports on the sedentary lives of Canadian children, a systematic review on the positive effects of outdoor time on physical activity, sedentary behavior, and cardiorespiratory fitness (Gray et al., 2015), and a systematic review of research on risky outdoor play benefits (Brussoni et al., 2015). Informed by these two systematic reviews, consultations with over 1900

stakeholders, and endorsed by 14 cross-sectorial organizations, the 2015 national position statement on the importance of active outdoor play was a landmark achievement for outdoor health in Canada: "When children are outside they move more, sit less and play longer—behaviors associated with improved cholesterol levels, blood pressure, body composition, bone density, cardiorespiratory and musculoskeletal fitness and aspects of mental, social and environmental health" (Tremblay et al., 2015, p. 6483).

Based in the national capital of Ottawa, OPC is dedicated to making outdoor play in nature, with or without risk, a valued part of childhood development (OPC, 2023). Outdoor Play Canada also sponsored the International Play, Learn, and Teach Outdoors Network (PLaTO-NET) to advance research and practice. This network has defined play-related terms and encouraged further global research (OPC, 2023). This recent international research has focused on artificial play settings, like playgrounds, versus natural environments, like forests and creeks, and how these enable and constrain infants' risky play practices in Australia (Quinones, 2023), quality of risk taking opportunities in Germany (Deniz & Cevher Kalburan, 2023), restrictions to time and space access in China (Liu et al., 2023), the value of locations outside of formal/traditional play spaces in New Zealand (Puddle, 2023), the influence of parenting styles in Turkey (Akdemir et al., 2023), and the predictive constructs of positive risky outdoor play in North America (Loebach et al., 2023). Work is currently underway by PLaTO to update a 10th Anniversary version of an International Position Statement on Active Outdoor Play by a global consortium of researchers and advocates (Outdoor Play Canada, 2024).

Outdoor Therapies

Outdoor therapies, based in adventure and/or nature, are by no means unique to Canada. However, Canada has hosted one International Adventure Therapy Conference (Victoria), seven Canadian Adventure Therapy Symposiums (shared across provinces and territories), and six international annual conferences for the American-based Association of Experiential Education (Kingston, Toronto, Banff, Vancouver, and Montreal, twice). Unfortunately, the COVID pandemic derailed efforts to convene the first national gathering of the inaugural Canadian Outdoor Summit in Gatineau, Quebec (Outdoor Council of Canada, n.d.). However, work has begun recently to revive and rebrand a national gathering under the banner of the *Canadian Outdoor Therapies Network* with the first virtual symposium recently convened in the spring of 2025. Although there is no universally accepted definition of the term outdoor therapies (Harper & Dobud, 2021), it has been accepted and is now used in Canada because it better represents the diversity of approaches, practices, and research across the nation. As a geographically enormous, sparsely populated, and wildly diverse country, Canada appears to struggle with professional unity. Nonetheless, a census of

Canadian outdoor programs in operation during the COVID pandemic identified 50 outdoor programs with intentional psychotherapy and hundreds of inadvertently therapeutic programs without such intent (Javorski, 2023). Outdoor therapies in Canada blend nature with interpersonal or intrapersonal challenges, ranging from wilderness therapy with intense challenges, through land-based

Table 4.3 Indications and contraindications for outdoor therapies and healthcare (used with permission)

INDICATED: Adventure-based outdoor therapiesfhhr	INDICATED: Nature-based outdoor therapies
• Substance use disorders • Impulse control disorders • Behavioral disorders • Eating disorders • Personality disorders • Violence (perpetrators and survivors) • Criminal (pre-release or post delinquent) • Attachment issues • Psychosis or Schizophrenia	• Anxiety disorders • Mood disorders • Stress disorders • Somatic disorders • Attention disorders • Hyperactivity disorders • Cognitive impairment • Pain reduction • Surgical recovery
GENERALLY INDICATED for outdoor therapies as beneficial for:	
• troubled teenagers impacted by peer pressure or socio-economic factors • accident survivors • refugees or migrants • children under protective services • absent or underperforming school students • youth disconnected from culture or community • adults needing respite from chronic or terminal disease • palliative care patients • wounded service members	
CONTRAINDICATED: Adventure-based therapy	CONTRAINDICATED: Nature-based therapy
• Periculophobia (dangers) • Anthropophobia (groups) • Autophobia (being alone) • Achluophobia (dark) • Acrophobia (heights) • Hydrophobia (water) • Chionophobia (snow) • Claustrophobia (feeling trapped in confined spaces)	• Biophobia (outdoors) • Anthrophobia (flowers) • Dendrophobia (trees) • Entomophobia (insects) • Zoophobia (animals) • Heliophobia (sun) • Astraphobia (lightning and thunderstorms) • Agoraphobia (feeling trapped in open spaces)
GENERALLY CONTRAINDICATED for outdoor therapies in those with:	
• uncontrolled or severe disorders (especially arson/pyromania and unremorseful violence) • obesity or lack of fitness (including poor cardiovascular health) • major injuries that prevent movement or locomotion • undergoing medical treatment • taking certain prescription medications • daily non-functional due to an over-reliance on others or genuinely suicidal (more than ideation)	

healing with balanced challenges and nature, to forest ecotherapy with extensive nature immersion (Priest, 2022b). Such outdoor therapies are known to be "effective in facilitating positive short-term change in psychological, behavioural, emotional, and interpersonal dimensions and that these changes appear to be maintained in the longer-term" (Bowen & Neill, 2013, p. 42).

Although many benefits accrue in diverse contexts where outdoor therapies may be practiced, several limitations and contraindications must be considered. For instance, extreme environments that are either excessively hot or cold may lead to more adverse than beneficial health effects (Bruce-Low et al., 2006; Farrace et al., 2003). Similarly, extremely risky outdoor activities or objective dangers, such as lightning, avalanches, and floods, may also lead to very severe negative consequences. Although these dangers are mitigated by the risk management training most outdoor professionals receive, accidents can and occasionally do happen. Other contraindications may not be so obvious. For example, Bixler and Floyd (1997) found that eighth-grade boys with high fear expectancy and disgust sensitivity preferred urban vs. wild environments. In another study, outdoor environments with low levels of prospect (obscured field of vision) and high levels of refuge (places to hide) were not restorative and were more likely to lead to directed attention fatigue (Gatersleben & Andrews, 2013).

Analysis by the Canadian Outdoor Therapy and Healthcare Research Collaboratory (COTH) summarized the indications for adventure and nature-based therapies, as well as the contraindications worth considering (COTH, 2021). Table 4.3 summarizes many, although not necessarily all, of the contraindications that should be considered.

Ecohealth and Ecohealth Promotion

A global trend has emerged towards conceptualizing and defining health more holistically than the original WHO definition: "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1948, p. 1). Over the decades since then, these three dimensions of well-being (physical, mental and social) have been expanded by academics to include emotional, spiritual, ecological, and others (Ritchie et al., in review). Terms such as planetary health have emerged to classify holistic health to include the health of humans in concert with the sustainable health of the planet they live on (Parsons, 2020; World Health Organization, 2021). Other terms, such as one health (Harrison et al., 2019), one medicine (Zinsstag et al., 2011), and global health (Parsons, 2020; World Health Organization, 2021) have similar conceptions of holistic health. Other global initiatives, such as the Millennium Ecosystem Assessment, contributed substantially to understanding the synergy and sustainability of the world's ecosystems and the people living in them (Millennium Ecosystem Assessment, 2005).

In Canada, the terms ecohealth and ecosystems approaches to health emerged, through research and support from Canada's International Development Research

Center, to reflect the conception of the reciprocal health of people and the place they live (Charron, 2012; Forget, 1997; Forget & Lebel, 2001). Ecohealth is defined as a

> practice that adopts systems approaches to promote the health of people, animals, and ecosystems in the context of social and ecological interactions. Health is seen as encompassing social, mental, spiritual, and physical well-being and not merely the absence of disease. As a contraction of ecosystem approaches to health, ecohealth emphasizes human agency and systemic thinking to promote well-being and quality of life (Parkes et al., 2014, p. 1770).

Rather than focusing on the health of an individual, ecohealth is concerned with developing and maintaining healthy, reciprocal relationships between humans and the entire ecosystem within which they exist. Popularized through the EcoHealth Alliance in the new millennium (Hill-Cawthorne, 2019) and driven by the EcoHealth journal since 2004 (Wilcox et al., 2004), ecohealth has become mainstream thinking in Canada, embraced by federal and provincial governments (EcoHealth Ontario, 2021). Many of the original ecohealth researchers from Canada continue to collaborate on research and teaching through the Community of Practice in Ecosystem Approaches to Health (Webb et al., 2023).

More recently, the Holistic Model of Ecohealth Promotion was published in Canada as a conceptual framework to support diverse outdoor health initiatives from recreational to therapeutic (Ritchie et al., 2023).

> Ecohealth promotion is the intentional process of helping people to use their volition (will) and agency (action) to make personal decisions and think systemically about improving both their own health and that of the surrounding ecosystem or environment. To enhance personal and planetary health, people can be encouraged to embrace wellness practices in harmonious interactions with nature to aspire to a state of mutually beneficial relationships across six interwoven dimensions of well-being: physical, mental, emotional, social, spiritual, and ecological (Ritchie et al., 2022, p. 1).

The origins of ecohealth promotion stem from the merging of ecohealth principles and health promotion. Similar to health promotion, ecohealth promotion is characterized by intentionality, volition, and agency. Thus, in promoting ecohealth, one encourages people to make informed decisions and act purposefully to practice wellness in specific ways, thereby achieving holistic health outcomes across the six interconnected dimensions of well-being. Figure 4.2 graphically depicts these six dimensions and their interactive relationships in the Holistic Model of Ecohealth Promotion (Ritchie et al., 2023).

At the centre of the model is the individual's internal homeostatic health or "endohealth" composed of three dimensions: physical, mental, and emotional well-being. Emanating from the individual are reciprocal external relationships associated with three other "ectohealth" dimensions: spiritual, social, and ecological well-being (Ritchie et al., 2023). Finally, wellness practices are the evidence-based choices and behaviors used as tools on the journey towards holistic ecohealth. These determine the future health and quality of life for the individual and subsequently influence their pro-environmental behaviors and mutually beneficial relationship within the ecosystem where they live, work, and play.

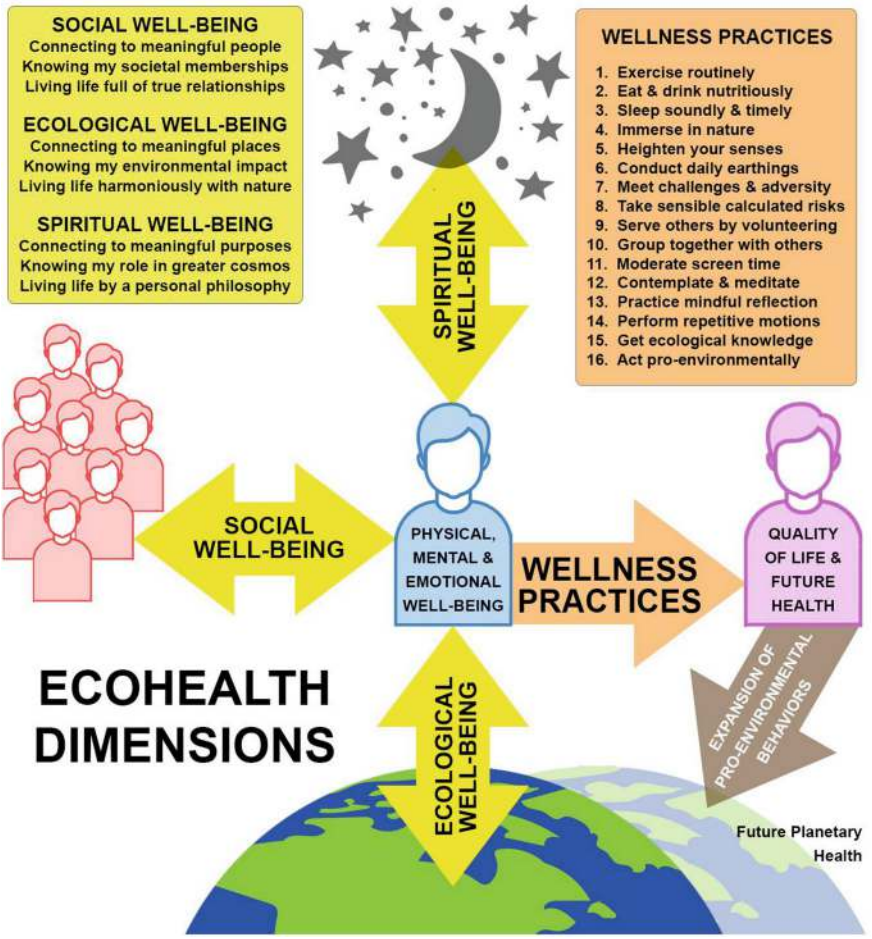


Fig. 4.2 Graphic portrayal of the holistic model of ecohealth promotion (adapted from Ritchie et al., 2023)

Within this model, ecohealth is more than the absence of disease, illness, injury, and disability; it is a state of complete physical, mental, emotional, social, spiritual, and ecological well-being that can be achieved through immersive interactions with nature. Although the terms well-being and wellness are often undefined or utilized interchangeably in the literature, this model intentionally uses the term well-being to refer to each of the six dimensions, and uses the word wellness with an action-oriented approach towards promotion practices leading to holistic ecohealth (Ritchie et al., 2023). Definitions for each term within the Holistic Model of Ecohealth Promotion are described and referenced in previous publications (Ritchie et al., 2023; Ritchie et al., in review).

Table 4.4 Self-evident wellness practices related to outdoor health across six dimensions of ecohealth

PHYSICAL well-being (optimal physiology)	SOCIAL well-being (connecting to meaningful people)
• **Exercise routinely**, ideally outdoors or in nature (green or blue space), and train to improve fitness • **Eat and drink nutritiously** with plenty of water (not sugary drinks) and a sensible balance of proteins, fats, and carbohydrates (not too much salt or fat) • **Sleep soundly and timely** by getting 7–9 h of uninterrupted slumber • **Obtain regular checkups and medical screenings** by qualified health professionals	• **Group together with others** by inviting friends to accompany you and joining a club or team sport • **Moderate screen time** and replace open time with volunteer opportunities so as to meet new people • **Set aside quality time to launch and support true relationships**; avoid time or energy draining events • **Reduce access barriers and inequities** for others to join • **Collaborate** rather than compete or cooperate
MENTAL well-being (optimal psychology)	SPIRITUAL well-being (connecting to meaningful purposes)
• **Pass through nature** by walking in gardens, parks, forests, or on beaches and travel on water by paddling, sailing, surfing, or combinations thereof • **Immerse in nature** by gardening, forest bathing, tree climbing, sitting still in a scene or weather, etc. • **Heighten your senses** by noticing the sounds of nature, watching wildlife, feeling tree bark, etc. • **Balance work and leisure** by making time for both and not sacrificing one for the other • **Conduct daily earthing experiences** by electrically grounding one's skin surface to the planet's surface • **Seek psychological therapy or counseling** from a professional when feeling seriously overwhelmed	• **Contemplate and meditate** with optional praying, fasting, chanting, studying philosophy, grounding • **Practice mindfulness and relaxation** while breathing attentively and focusing on the moment • **Perform repetitive motions** like yoga, tai chi, qigong, akido, dance, and labyrinth walking • **Remain open to the awe, wonder, amazement and beauty** that natural landscapes can offer • **Connect to your deity or a higher power** with a quiet mind and appropriately deep concentration • **Thoughtfully reflect on recent experiences** during solo times and in group discussion • **Express creativity** via play, art, music, drama, etc.
EMOTIONAL well-being (optimal disposition)	ECOLOGICAL well-being (connecting to meaningful places)
• **Incorporate challenge and adversity** to develop a sound self-image, confidence, grit, and resilience • **Take sensible and calculated risks** by trying out something new: adventure, public speaking or skill learning • **Serve others** with justice, compassion, empathy, kindness, and integrity • **Become self-reliant and resilient** by engaging in outdoor activities and risky challenges • **Develop self-efficacy and a positive self-image** through participation in adventure pursuits	• **Acquire knowledge** about the local environment and global ecosystem health • **Develop pro-environmental** attitudes, behaviors, and habits • **Serve the environment** by living harmoniously within it • **Grow, raise, forage, or gather** your own food from local sources

Wellness Practices

Wellness practices are the evidence-based choices and behaviors that lead to optimum health, flourishing, or both according to the Dual Continua Model of Outdoor Health (Fig. 4.1). Table 4.4 provides a list of self-evident wellness practices found or taught in many diverse outdoor health programs. These are ordered by various combinations of the six ecohealth dimensions. For greater *ecohealth*, individual participants should be encouraged to adopt some of these wellness practices, and outdoor practitioners should be motivated to incorporate them into their teaching and facilitation of individuals and groups.

Although primarily categorized into the six ecohealth dimensions, these various wellness practices may have overlapping impact in more than one dimension. For example, encouraging children to engage in self-directed, unsupervised, and risky outdoor play, conducted in nature or natural settings and with other children, is known to improve their developmental health in the physical, mental, emotional, and social dimensions (Brussoni et al., 2015). Environmental outdoor learning has long been known to develop spiritual and ecological well-being (Garfield et al., 2014; Skamp, 1991; Swan, 1983).

Various programmatic forms of adventurous and environmental learning already contain many of these wellness practices de facto. However, subtle changes can be made in the moment to accentuate these wellness practices. For instance, adventurous programs could include more environmental content and vice versa. Time spent indoors could be reduced by going outdoors to plan and prepare for trips or activities. Adults and children could play more in dirt or mud, not afraid to get dirty, as this exposure is hypothesized to reduce the development of allergic reactions, especially asthma (Graham-Rowe, 2011). Debriefing sessions could be held barefoot (assuming safe and soft surfaces) to electrically ground people to improve their mood (Chevalier, 2015). Sitting in sunlight, while discussing recent events, could improve vitamin D production in most participants.

Conclusion

This chapter highlighted six trends toward transformation in Canadian outdoor health: land-based healing, nature prescription, outdoor learning, wild pedagogies, risky outdoor play, outdoor therapies, and ecohealth promotion. Outdoor health and ecohealth promotion are both transdisciplinary concepts and closely aligned. The Holistic Model of Ecohealth Promotion encompasses six dimensions of well-being, which can be promoted through the use of specific wellness practices, many of which are already integral components of hybrid adventurous and environmental outdoor learning. Those wellness practices that are not found in outdoor learning can be very easily incorporated into programs by practitioners and participants self-selecting their own practices that are evidence-based.

Canada has developed some unique innovations, such as Indigenous land-based programs, physicians prescribing nature, wild pedagogies, and risky outdoor play initiatives. The nation has also contributed to the professional body of knowledge and practice for outdoor learning and outdoor therapies as forms of healing. Finally, recent models related to both subjective and objective domains of overall health, as well as the six dimensions of wellbeing, are proving useful for interpreting outdoor health, ecohealth and its promotion in a whole new light. This chapter presented several new concepts for outdoor learning, emerging from Canada, for practitioners to consider. We hope these resources will encourage you to promote ecohealth within your programs by using the Holistic Model of Ecohealth Promotion as a theoretical framework, thereby aiding decision-making and problem-solving related to promoting participant health, and informing program planning and execution with evidence-based wellness practices in ecohealth and its six dimensions. Ecohealth promotion can occur intentionally through program design or incidentally by simply being active in the outdoors in a way that is convenient and synergistic, while orienting participants toward targeted well-being objectives that supplement and support other primary targeted goals of the program.

References

Aguirre, A. A., Basu, N., Kahn, L. H., Morin, X. K., Echaubard, P., Wilcox, B. A., & Beasley, V. R. (2019). Transdisciplinary and social-ecological health frameworks: Novel approaches to emerging parasitic and vector-borne diseases. *Parasite Epidemiology and Control*, *4*, e00084.

Akdemir, K., Banko-Bal, Ç., & Sevimli-Celik, S. (2023). Giving children permission for risky play: Parental variables and parenting styles. *Journal of Outdoor and Environmental Education*, *26*(3), 289–306.

Altamirano-Jiménez, I., & Kermoal, N. J. (2016). *Living on the land: Indigenous women's understanding of place*. Athabasca University Press.

Andre, E. K., Williams, N., Schwartz, F., & Bullard, C. (2017). Benefits of campus outdoor recreation programs: A review of the literature. *Journal of Outdoor Recreation, Education, and Leadership*, *9*(1), 15–25. https://doi.org/10.18666/JOREL-2017-V9-I1-7491

Ardoin, N. M., Bowers, A. W., Roth, N. W., & Holthuis, N. (2018). Environmental education and K-12 student outcomes: A review and analysis of research. *The Journal of Environmental Education*, *49*(1), 1–17. https://doi.org/10.1080/00958964.2017.1366155

Armitage, A. (1995). *Comparing the policy of Aboriginal assimilation: Australia, Canada, and New Zealand*. University of British Columbia Press.

Assembly of First Nations. (2020). *Progress on realizing the truth and reconciliation commission's calls to action*. Retrieved from https://www.afn.ca/wp-content/uploads/2020/12/2020_TRC-Report-Card_ENG.pdf

Australian Association for Bush Adventure Therapy. (2022). 2022 AABAT Special Resolutions. Retrieved from https://aabat.org.au/aabat-agm-special-business/

Bamberg, S., & Möser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behaviour. *Journal of Environmental Psychology*, *27*(1), 14–25. https://doi.org/10.1016/j.jenvp.2006.12.002

Barragan-Jason, G., De Mazancourt, C., Parmesan, C., Singer, M. C., & Loreau, M. (2022). Human–nature connectedness as a trend to sustainability: A global meta-analysis. *Conservation Letters*, *15*(1), 1–7.

Barton, J., & Pretty, J. (2010). What is the best dose of nature and green exercise for improving mental health? A Multi-study analysis. *Environmental Science & Technology*, *44*(10), 3947–3955. https://doi.org/10.1021/es903183r

Berger, R. (2008). Going on a journey: A case study of nature therapy with children with a learning difficulty. *Emotional and Behavioural Difficulties*, *13*(4), 315–326. https://doi.org/10.1080/13632750802440361

Beyond-94. (2024). *Truth and reconciliation in Canada: Monitoring progress*. CBC News. Retrieved from https://www.cbc.ca/newsinteractives/beyond-94

Bixler, R., & Floyd, M. (1997). Nature is scary, disgusting, and uncomfortable. *Environment and Behavior*, *29*(4), 443–467. https://doi.org/10.1177/001391659702900401

Blum, W. E., Zechmeister-Boltenstern, S., & Keiblinger, K. M. (2019). Does soil contribute to the human gut microbiome? *Microorganisms*, *7*(9), 287.

Bowen, D., & Neill, J. (2013). A meta-analysis of adventure therapy outcomes and moderators. *The Open Psychology Journal*, *6*, 28–53.

Brito, H. S., Carraça, E. V., Palmeira, A. L., Ferreira, J. P., Vleck, V., & Araújo, D. (2022). Benefits to performance and well-being of nature-based exercise: A critical systematic review and meta-analysis. *Environmental Science & Technology*, *56*(1), 62–77. https://doi.org/10.1021/acs.est.1c05151

Britton, E., Kindermann, G., Domegan, C., & Carlin, C. (2020). Blue care: A systematic review of blue space interventions for health and wellbeing. *Health Promotion International*, *35*(1), 50–69. https://doi.org/10.1093/heapro/day103

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, *84*, 822–848. https://doi.org/10.1037/0022-3514.84.4.822

Bruce, S. G., Riediger, N. D., & Lix, L. M. (2014). Chronic disease and chronic disease risk factors among First Nations, Inuit and Metis populations of northern Canada. *Health Promotion and Chronic Disease Prevention in Canada*, *34*(4), 210–217. https://doi.org/10.24095/hpcdp.34.4.04

Bruce-Low, S. S., Cotterrell, D., & Jones, G. E. (2006). Heart rate Variability during high ambient heat exposure. *Aviation, Space, and Environmental Medicine*, *77*, 915–920.

Brussoni, M., Gibbons, R., Gray, C., Ishikawa, T., Sandseter, E., Bienenstock, A., Chabot, G., Fuselli, P., Herrington, S., Janssen, I., Pickett, W., Power, M., Stanger, N., Sampson, M., & Tremblay, M. (2015). What is the relationship between risky outdoor play and health in children? A systematic review. *International Journal of Environmental Research and Public Health*, *12*(6), 6423–6454. https://doi.org/10.3390/ijerph120606423

Callaghan, A., McCombe, G., Harrold, A., McMeel, C., Mills, G., Moore-Cherry, N., & Cullen, W. (2021). The impact of green spaces on mental health in urban settings: A scoping review. *Journal of Mental Health (Abingdon, England)*, *30*(2), 179–193.

Canada Health Act. (1984). R.S.C., 1985, c. C-6. Justice Laws Website. Retrieved from https://laws-lois.justice.gc.ca/eng/acts/C-6/page-1.html

Canadian Public Health Association. (n.d.). *Health promotion Canada*. Canadian Public Health Association. Retrieved June 4, 2024 from https://www.cpha.ca/health-promotion-canada

Capaldi, C. A., Dopko, R. L., & Zelenski, J. M. (2014). The relationship between nature connectedness and happiness: A meta-analysis. *Frontiers in Psychology*, *5*, 976. https://doi.org/10.3389/fpsyg.2014.00976

Cason, D., & Gillis, H. L. (1994). A meta-analysis of outdoor adventure programming with adolescents. *Journal of Experiential Education*, *17*(1), 40–47.

Charron, D. F. (2012). Ecohealth: Origins and Approach. In D. F. Charron (Ed.), *Ecohealth research in practice: Innovative applications of an ecosystem approach to health* (1st ed., pp. 1–30). Springer New York. https://doi.org/10.1007/978-1-4614-0517-7

Chevalier, G. (2015). The effect of grounding the human body on mood. *Psychological Reports*, *116*(2), 534–542. https://doi.org/10.2466/06.PR0.116k21w5

Choi, B. C. K., & Pak, A. W. P. (2006). Multidisciplinarity, interdisciplinarity and transdisciplinarity in health research, services, education and policy: 1. Definitions, objectives, and evidence of effectiveness. *Clinical and Investigative Medicine*, *29*(6), 351–364.

Choi, B. C. K., & Pak, A. W. P. (2007). Multidisciplinarity, interdisciplinarity, and transdisciplinarity in health research, services, education and policy: 2. Promotors, barriers, and strategies of enhancement. *Clinical & Investigative Medicine*, *30*(6), 224. https://doi.org/10.25011/cim.v30i6.2950

Cimprich, B., & Ronis, D. L. (2003). An environmental intervention to restore attention in women with newly diagnosed breast cancer. *Cancer Nursing*, *26*, 284–292. https://doi.org/10.1097/00002820-200308000-00005

Constitution Act. (1982). *PART II: Rights of the Aboriginal peoples of Canada*. Justice Laws Website. Retrieved from https://laws-lois.justice.gc.ca/eng/const/page-13.html

COTH. (2021). *Best practices: Indications and Contraindications*. Canadian Outdoor Therapy and Healthcare. http://coth.ca/prac.html

Council of Outdoor Educators of Ontario. (2024). *Who we are*. Retrieved from https://www.coeo.org/who-we-are/

Coventry, P. A., Brown, J. E., Pervin, J., Brabyn, S., Pateman, R., Breedvelt, J., Gilbody, S., Stancliffe, R., McEachan, R., & White, P. L. (2021). Nature-based outdoor activities for mental and physical health: Systematic review and meta-analysis. *Social Science & Medicine—Population Health*, *16*, 1–15. Article 100934

Crown-Indigenous Relations and Northern Affairs Canada. (2019). *Statistics on the Implementation of the Indian Residential Schools Settlement Agreement*. Retrieved from https://www.rcaanc-cirnac.gc.ca/eng/1315320539682/1571590489978

de Lannoy, L. (2023). Risky outdoor play. In S. Priest, S. Ritchie, & D. Scott (Eds.), *Outdoor learning in Canada*. Open Resource Textbook. Retrieved from http://olic.ca

DeLancey, D., & Broadhead, S. (2023). Enhancing support for indigenous land-based programming in the Northwest Territories. In S. Priest, S. Ritchie, & D. Scott (Eds.), *Outdoor learning in Canada*. Open Resource Textbook. Retrieved from http://olic.ca

Deniz, U. H., & Cevher Kalburan, N. (2023). Comparison of quality and risky play opportunities of playgrounds in Germany. *Journal of Outdoor and Environmental Education*, *26*(3), 421–446.

Doucette, P. A. (2004). Walk and talk: An intervention for behaviorally challenged youths. *Adolescence*, *39*(154), 373–388.

Duncan, M., Clarke, N., Birch, S., Tallis, J., Hankey, J., Bryant, E., & Eyre, E. (2014). The effect of green exercise on blood pressure, heart rate and mood state in primary school children. *International Journal of Environmental Research and Public Health*, *11*(4), 3678–3688. https://doi.org/10.3390/ijerph110403678

EcoHealth Ontario. (2021). *Welcome to ecohealth Ontario*. Retrieved from https://www.ecohealthontario.ca/

Espeland, D., de Weerd, L., & Mercer, J. B. (2022). Health effects of voluntary exposure to cold water–a continuing subject of debate. *International Journal of Circumpolar Health*, *81*(1), 2111789.

Fang, -B.-B., Lu, F. J. H., Gill, D. L., Liu, S. H., Chyi, T., & Chen, B. (2021). A systematic review and meta-analysis of the effects of outdoor education programs on adolescents' self-efficacy. *Perceptual and Motor Skills*, *128*(5), 1932–1958.

Farrace, S., Ferrara, M., De Angelis, C., Trezza, R., Cenni, P., Peri, A., Casagrande, M., & De Gennaro, L. (2003). Reduced sympathetic outflow and adrenal secretory activity during a 40-day stay in the Antarctic. *International Journal of Psychophysiology*, *49*(1), 17–27.

Farrow, M. R., & Washburn, K. (2019). A review of field experiments on the effect of forest bathing on anxiety and heart rate variability. *Global Advances in Health and Medicine*, *8*, 1–7. https://doi.org/10.1177/2164956119848654

Ferrell, A. D. (2017). *A Meta-Analysis of Social Emotional Learning Outcomes in Challenge Course Programs* (Publication Number 10269688) [PhD Thesis, University of Colorado].

Forget, G. (1997). *From environmental health to health and the environment: Research that focuses on people. In International perspectives on environment, development and health: Towards a sustainable world*. Springer.

Forget, G., & Lebel, J. (2001). An ecosystem approach to human health. *International Journal of Occupational and Environmental Health*, *7*(2), S3–S38.

Fyfe-Johnson, A. L., Hazlehurst, M. F., Perrins, S. P., Bratman, G. N., Thomas, R., Garrett, K. A., Hafferty, K. R., Cullaz, T. M., Marcuse, E. K., & Tandon, P. S. (2021). Nature and children's health: A systematic review. *Pediatrics*, *148*(4), 72–94. https://doi.org/10.1542/peds.2020-049155

Garfield, A. M., Drwecki, B. B., Moore, C. F., Kortenkamp, K. V., & Gracz, M. D. (2014). The oneness beliefs scale: Connecting spirituality with pro-environmental behavior. *Journal for the Scientific Study of Religion*, *53*(2), 356–372.

Gatersleben, B., & Andrews, M. (2013). When walking in nature is not restorative—The role of prospect and refuge. *Health and Place*, *20*(1), 91–101. https://doi.org/10.1016/j.healthplace.2013.01.001

Georgiou, M., Morison, G., Smith, N., Tieges, Z., & Chastin, S. (2021). Mechanisms of impact of blue spaces on human health: A systematic literature review and meta-analysis. *International Journal of Environmental Research and Public Health*, *18*(5), 1–41. https://doi.org/10.3390/ijerph18052486

Gillis, D., Nelson, J., Driscoll, B., Hodgins, K., Fraser, E., & Jacobs, S. (2017). Interdisciplinary and transdisciplinary research and education in Canada: A review and suggested framework. *Collected Essays on Learning and Teaching*, *10*, 203–222. https://doi.org/10.22329/celt.v10i0.4745

Gillis, H. L., & Speelman, E. (2008). Are challenge (ropes) courses an effective tool? A meta-analysis. *Journal of Experiential Education*, *31*(2), 111–135.

Gkargkavouzi, A., Halkos, G., & Matsiori, S. (2019). A multi-dimensional measure of environmental behavior: Exploring the predictive power of connectedness to nature, ecological worldview and environmental concern. *Social Indicators Research*, *143*(2), 859–879. https://doi.org/10.1007/s11205-018-1999-8

Gouvernement du Québec. (2018). *Quebecers on the move outdoors: Brief on outdoor activity* (Ministère de l'Éducation et de l'Enseignement supérieur, Ed.). Gouvernement du Québec. https://www.education.gouv.qc.ca/fileadmin/site_web/documents/loisir-sport/Avis_plein_air_VA.pdf

Gradual Civilization Act (1857). *C A P. X X V I: An Act to encourage the gradual Civilization of the Indian Tribes in this Province, and to amend the Laws respecting Indians*. Retrieved from http://caid.ca/GraCivAct1857.pdf

Graham-Rowe, D. (2011). When allergies go west. *Nature*, *479*(7374), 2–4.

Gray, C., Gibbons, R., Larouche, R., Sandseter, E., Bienenstock, A., Brussoni, M., Chabot, G., Herrington, S., Janssen, I., Pickett, W., Power, M., Stanger, N., Sampson, M., & Tremblay, M. (2015). What is the relationship between outdoor time and physical activity, sedentary behaviour, and physical fitness in children? A systematic review. *International Journal of Environmental Research and Public Health*, *12*(6), 6455–6474. https://doi.org/10.3390/ijerph120606455

Greenwood, M., de Leeuw, S., & Lindsay, N. M. (2018). *Determinants of indigenous peoples' health: Beyond the social* (2nd ed.). Canadian Scholars.

Grouzet, F. M. E., & Lee, E. S. (2014). Ecological well-being. In A. C. Michalos (Ed.), *Encyclopedia of quality of life and well-being research* (pp. 1784–1787). Springer Netherlands.

Gstaettner, A. M., Lee, D., & Rodger, K. (2018). The concept of risk in nature-based tourism and recreation–a systematic literature review. *Current Issues in Tourism*, *21*(15), 1784–1809.

Hansen, M. M., Jones, R., & Tocchini, K. (2017). Shinrin-Yoku (forest bathing) and nature therapy: A state-of-the-art review. *International Journal of Environmental Research and Public Health*, *14*(8), 851. https://doi.org/10.3390/ijerph14080851

Haras, K. (2023). Ropes/challenge courses in Canada. In S. Priest, S. Ritchie, & D. Scott (Eds.), *Outdoor learning in Canada*. Open Resource Textbook. Retrieved from http://olic.ca

Harlow, C. (2021). Role of nature therapy and mindfulness for resilience among rural healthcare providers. In A. Vermeesch (Ed.), *Integrative health nursing interventions for vulnerable populations* (pp. 185–190). Springer. https://doi.org/10.1007/978-3-030-60043-3_16

Harper, N. J., & Dobud, W. W. (Eds.). (2021). *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives*. Routledge.

Harrison, S., Kivuti-Bitok, L., Macmillan, A., & Priest, P. (2019). EcoHealth and One Health: A theory-focused review in response to calls for convergence. *Environment International*, *132*, 1–15.

Hart, J. (2016). Prescribing nature therapy for improved mental health. *Alternative and Complementary Therapies*, *22*(4), 161–163. https://doi.org/10.1089/act.2016.29067.jha

Hattie, J. M., Marsh, H. W., Neill, J. T., & Richards, G. E. (1997). Adventure education and Outward Bound: Out-of-class experiences that make a lasting difference. *Review of Educational Research*, *67*(1), 43–87.

Health and Welfare Canada. (1988). *Mental health for Canadians: Striking a balance*. (Cat. H39-128/1988E).Minister of Supply and Services Canada.

Hill-Cawthorne, G. A. (2019). One health/ecohealth/planetary health and their evolution. In M. Walton (Ed.), *One planet, one health* (pp. 1–20).

Hinge, G. (1985). *Consolidation of Indian legislation. Volume II: Indian acts & amendments, 1868–1975*. Retrieved from https://publications.gc.ca/collections/collection_2017/aanc-inac/R5-158-2-1978-eng.pdf

Ho, C.-L., Wu, W.-F., & Liou, Y. M. (2019). Dose–response relationship of outdoor exposure and myopia indicators: A systematic review and meta-analysis of various research methods. *International Journal of Environmental Research and Public Health*, *16*(14), 1–17. https://doi.org/10.3390/ijerph16142595

Holland, W. H., Powell, R. B., Thomsen, J. M., & Monz, C. A. (2018). A Systematic review of the psychological, social, and educational outcomes associated with participation in wildland recreational activities. *Journal of Outdoor Recreation, Education, and Leadership*, *10*(3), 197–225. https://doi.org/10.18666/jorel-2018-v10-i3-8382

Houlden, V., Weich, S., Porto De Albuquerque, J., Jarvis, S., & Rees, K. (2018). The relationship between greenspace and the mental wellbeing of adults: A systematic review. *PLoS ONE*, *13* (9,e0203000), 1–35.

House of Commons. (2024). *"We belong to the land": The restitution of land to Indigenous Nations*. Canadian Government.

Indian Act. (1876). Chapter 18: An Act to amend and consolidate the laws respecting Indians. Retrieved from https://nctr.ca/wp-content/uploads/2021/04/1876_Indian_Act_Reduced_Size.pdf

Indigenous Watchdog. (2024). *Canada says that 85% of the TRC Calls to Action are either complete or well under way*. Really? Retrieved from https://www.indigenouswatchdog.org/2024/01/18/canada-says-that-85-of-the-trc-calls-to-action-are-either-complete-or-well-under-way-really/

Jabbar, M., Yusoff, M. M., & Shafie, A. (2021). Assessing the role of urban green spaces for human well-being: A systematic review. *GeoJournal*, *87*, 1–19. https://doi.org/10.1007/s10708-021-10474-7

Javorski, S. (2023). Canadian adventure therapy. In S. Priest, S. Ritchie, & D. Scott (Eds.), *Outdoor learning in Canada*. Open Resource Textbook. Retrieved from http://olic.ca

Jewell, E., & Mosby, I. (2023). *Calls to action accountability: A 2023 status update on reconciliation*. Yellowhead Institute. Retrieved from https://yellowheadinstitute.org/wp-content/uploads/2023/12/YI-TRC-C2A-2023-Special-Report-compressed.pdf

Jickling, B., Blenkinsop, S., & Morse, M. (2023). An introduction to wild pedagogies. In S. Priest, S. Ritchie, & D. Scott (Eds.), *Outdoor learning in Canada*. Open Resource Textbook. Retrieved from http://olic.ca

Johnstone, A., Martin, A., Cordovil, R., Fjørtoft, I., Iivonen, S., Jidovtseff, B., Lopes, F., Reilly, J. J., Thomson, H., Wells, V., & McCrorie, P. (2022). Nature-based early childhood education and children's social, emotional and cognitive development: A mixed-methods systematic review. *International Journal of Environmental Research and Public Health*, *19*(10), 1–30. https://doi.org/10.3390/ijerph19105967

Jordan, M. (2014). Moving beyond counselling and psychotherapy as it currently is-taking therapy outside. *European Journal of Psychotherapy & Counselling*, *16*(4), 361–375. https://doi.org/10.1080/13642537.2014.956773

Jordan, M. (2015). *Nature and therapy: Understanding counselling and psychotherapy in outdoor spaces*. Routledge.

Kamioka, H., Okada, S., Tsutani, K., Park, H., Okuizumi, H., Handa, S., Oshio, T., Park, S.-J., Kitayuguchi, J., Abe, T., Honda, T., & Mutoh, Y. (2014). Effectiveness of animal-assisted therapy: A systematic review of randomized controlled trials. *Complementary Therapies in Medicine*, *22*, 371–390. https://doi.org/10.1016/j.ctim.2013.12.016

Kenigsberg, C., & Cole, J. (2023). Accessible, adaptive, and inclusive outdoor recreation. In S. Priest, S. Ritchie, & D. Scott (Eds.), *Outdoor learning in Canada*. Open Resource Textbook. Retrieved from http://olic.ca

Keyes, C. L. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior*, 207–222.

Keyes, C. L. (2007). Promoting and protecting mental health as flourishing: A complementary strategy for improving national mental health. *American Psychologist*, *62*(2), 95.

Kirkby, C. (2020). Paradises lost? The constitutional politics of "Indian" enfranchisement in Canada, 1857–1900. *Osgoode Hall Law Journal*, *56*(3), 606–658.

Knowles, B., Marsh, P., Prehn, J., & Maxwell, H. (2024). Addressing ethical issues in outdoor health practice: A scoping review. *Journal of Outdoor and Environmental Education*, 1–29.

Kohlleppel, T., Bradley, J. C., & Jacob, S. (2002). A walk through the garden: Can a visit to a botanic garden reduce stress? *HortTechnology*, *12*, 489–491. https://doi.org/10.21273/HORTTECH.12.3.489

Kozlowska, K., Scher, S., & Helgeland, H. (2020). The circadian clock and functional somatic symptoms. In *Functional somatic symptoms in children and adolescents. Palgrave texts in counselling and psychotherapy*. Palgrave Macmillan. https://doi.org/10.1007/978-3-030-46184-3_5.

Kuo, M. (2015). How might contact with nature promote human health? Promising mechanisms and a possible central trend. *Frontiers in Psychology*, *6*, 1093. https://doi.org/10.3389/fpsyg.2015.01093

La Puma, J. (2019). Nature therapy: An essential prescription for health. *Alternative and Complementary Therapies*, *25*(2), 68–71. https://doi.org/10.1089/act.2019.29209.jlp

Land Claims Agreement Coalition. (2025). *What is a modern treaty?* Retrieved from https://landclaimscoalition.ca/modern-treaty/

Langelier, M.-È., Pétrin-Derosiers, C., & Bradette, I. (2023). Nature Rx. In S. Priest, S. D. Ritchie, & D. Scott (Eds.), *Outdoor learning in Canada*. Open Resource Textbook. Retrieved from http://olic.ca

Lee, S., Kim, M. S., & Suh, J. K. (2008). Effects of horticultural therapy on self-esteem and depression of battered women at a shelter in Korea. *Acta Horticulturae*, *790*, 139–142. https://doi.org/10.17660/ActaHortic.2008.790.19

Li, D., Menotti, T., Ding, Y., & Wells, N. M. (2021). Life course nature exposure and mental health outcomes: A systematic review and future directions. *International Journal of Environmental Research and Public Health*, *18*(10), 1–28.

Li, H., Zhang, X., Bi, S., Cao, Y., & Zhang, G. (2022). Psychological benefits of green exercise in wild or urban greenspaces: A meta-analysis of controlled trials. *Urban Forestry & Urban Greening*, *68*, 1–8.

Li, Q. (2010). Effect of forest bathing trips on human immune function. *Environmental Health and Preventive Medicine*, *15*(1), 9–17. https://doi.org/10.1007/s12199-008-0068-3

Liu, J., Wyver, S., Chutiyami, M., & Little, H. (2023). Children's access to outdoors in early childhood education and care centres in China during the COVID pandemic. *Journal of Outdoor and Environmental Education*, *26*(3), 403–419. https://doi.org/10.1007/s42322-023-00139-z

Loebach, J., Ramsden, R., Cox, A., Joyce, K., & Brussoni, M. (2023). Running the risk: The social, behavioral and environmental associations with positive risk in children's play activities in outdoor playspaces. *Journal of Outdoor and Environmental Education*, *26*(3), 307–339.

Loeffler, T. A. (2023). Universal design as a framework to increase diversity, inclusion, equity and belonging in Canadian outdoor learning. In S. Priest, S. Ritchie, & D. Scott (Eds.), *Outdoor learning in Canada*. Open Resource Textbook. Retrieved from http://olic.ca

Lötter, M. J., & Welthagen, L. (2020). Adventure tourism activities as a tool for improving adventure tourists' wellness. *African Journal of Hospitality, Tourism and Leisure*, *9*(1), 1–10.

MacBride-Stewart, S. (2019). Atmospheres, landscapes and nature: Off-road runners' experiences of well-being. *Health*, *23*(2), 139–157.

McCaffrey, R. (2007). The effect of healing gardens and art therapy on older adults with mild to moderate depression. *Holistic Nursing Practice*, *21*, 79–84. https://doi.org/10.1097/01.HNP.0000262022.80044.06

McCardle, B. (2016). Enfranchisement. In *The Canadian Encyclopedia*. Retrieved from https://www.thecanadianencyclopedia.ca/en/article/enfranchisement

McMahan, E. A., & Estes, D. (2015). The effect of contact with natural environments on positive and negative affect: A meta-analysis. *The Journal of Positive Psychology*, *10*(6), 507–519. https://doi.org/10.1080/17439760.2014.994224

Menardo, E., Brondino, M., Hall, R., & Pasini, M. (2021). Restorativeness in natural and urban environments: A meta-analysis. *Psychological Reports*, *124*(2), 417–437.

Mew, E. J., Ritchie, S. D., VanderBurgh, D., Beardy, J. L., Gordon, J., Fortune, M., … Orkin, A. M. (2017). An environmental scan of emergency response systems and services in remote First Nations communities in Northern Ontario. *International Journal of Circumpolar Health*, *76*(1), 1320208.

Millenium Ecosystem Assessment. (2005). *Ecosystems and human well-being: Synthesis*. Island Press. https://www.millenniumassessment.org/en/Framework.html

Milloy, J. (1999). *A national crime: The Canadian government and the residential school system, 1879 to 1986*. University of Manitoba Press.

Miyazaki, Y., Lee, J., Park, B. J., Tsunetsugu, Y., & Matsunaga, K. (2011). Preventive medical effects of nature therapy. *Japanese Journal of Hygiene*, *66*(4), 651–656. https://doi.org/10.1265/jjh.66.651

Moeller, C., King, N., Burr, V., Gibbs, G. R., & Gomersall, T. (2018). Nature-based interventions in institutional and organisational settings: A scoping review. *International Journal of Environmental Health Research*, *28*(3), 293–305. https://doi.org/10.1080/09603123.2018.1468425

Mondor, N., Cairns, S., & McIlwraith, T. (2023). Interpreting cultural appropriation in outdoor learning. In S. Priest, S. Ritchie, & D. Scott (Eds.), *Outdoor learning in Canada*. Open Resource Textbook. Retrieved from http://olic.ca

Morita, E., Imai, M., Okawa, M., Miyaura, T., & Miyazaki, S. (2011). A before and after comparison of the effects of forest walking on the sleep of a community-based sample of people with sleep complaints. *BioPsychoSocial Medicine*, *5*, 13. https://doi.org/10.1186/1751-0759-5-13

Naess, A. (1973). The shallow and the deep, long range ecology movement. *Inquiry*, *16*, 95–100.

Nair, R., & Maseeh, A. (2012). Vitamin D: The "sunshine" vitamin. *Journal of Pharmacology and Pharmacotherapeutics*, *3*(2), 118–126. https://doi.org/10.4103/0976-500x.95506

Neville, I. A., Petrass, L. A., & Ben, F. (2023). Cross disciplinary teaching: A pedagogical model to support teachers in the development and implementation of outdoor learning opportunities. *Journal of Outdoor and Environmental Education*, *26*(1), 1–21. https://doi.org/10.1007/s42322-022-00109-x

Nisbet, E. K., & Zelenski, J. M. (2011). Underestimating nearby nature: Affective forecasting errors obscure the happy path to sustainability. *Psychological Science*, *22*(9), 1101–1106. https://doi.org/10.1177/0956797611418527

Ochiai, H., Ikei, H., Song, C., Kobayashi, M., Takamatsu, A., Miura, T., … Miyazaki, Y. (2015). Physiological and psychological effects of forest therapy on middle-aged males with high-normal blood pressure. *International Journal of Environmental Research and Public Health*, *12*(3), 2532–2542. https://doi.org/10.3390/ijerph120302532

Outdoor Council of Canada. (2024). *Advocacy*. Retrieved from https://outdoorcouncil.ca/project/advocacy/

Outdoor Council of Canada. (n.d.). *Canadian Outdoor Summit*. Outdoor Council of Canada. Retrieved June 4, 2024 from https://outdoorcouncil.ca/resources/canadian-outdoor-summit/

Outdoor Play Canada. (2023). About. Retrieved from https://www.outdoorplaycanada.ca/about/

Outdoor Play Canada. (2024). *PLaTO-NET May 2024 Newsletter*.

Park, B. J., Tsunetsugu, Y., Kasetani, T., Kagawa, T., & Miyazaki, Y. (2010). The physiological effects of Shinrin-yoku (taking in the forest atmosphere or forest bathing): Evidence from field experiments in 24 forests across Japan. *Environmental Health and Preventive Medicine*, *15*(1), 18–26. https://doi.org/10.1007/s12199-009-0086-9

Parkes, M., Waltner-Toews, D., & Horwitz, P. (2014). Ecohealth. In A. C. Michalos (Ed.), *Encyclopedia of quality of life and well-being research* (pp. 1770–1774). Springer Netherlands.

Parsons, J. (2020). Global and planetary health. In W. L. Filho, T. Wall, A. M. Azul, L. Brandli, & P. G. Özuyar (Eds.), *Good health and well-being* (pp. 225–236). Springer International Publishing. https://doi.org/10.1007/978-3-319-95681-7_5

PaRx. (n.d.). A prescription for nature: About. https://www.parkprescriptions.ca/en/about

Pierskalla, C. D., Lee, M. E., Stein, T. V., Anderson, D. H., & Nickerson, R. (2004). Understanding relationships among recreation opportunities: A meta-analysis of nine studies. *Leisure Sciences*, *26*(2), 163–180.

Poulsen, D. V., Stigsdotter, U. K., & Refshage, A. D. (2015). Whatever happened to the soldiers? Nature-assisted therapies for veterans diagnosed with post-traumatic stress disorder: A literature review. *Urban Forestry and Urban Greening*, *14*(2), 438–445. https://doi.org/10.1016/j.ufug.2015.03.009

Prescri-Nature. (n.d.). *About: Find out more about Prescri-Nature*. https://www.prescri-nature.ca/a-propos

Priest, S. (2022a). Land-based healing through adventure: Wise practices from Indigenous Peoples. *International Journal of Indigenous Health*, *17*(1), 3–16. https://doi.org/10.32799/ijih.v18i2.36754

Priest, S. (2022b). Clearing up the confusion over outdoor therapies: How they fit with, overlap, or relate to one another. *Journal of Outdoor Recreation, Education, and Leadership*, *14*(3), 114–121. https://doi.org/10.18666/JOREL-2022-11552

Pritchard, A., Richardson, M., Sheffield, D., & McEwan, K. (2020). The relationship between nature connectedness and eudaimonic well-being: A meta-analysis. *Journal of Happiness Studies*, *21*, 1145–1167. https://doi.org/10.1007/s10902-019-00118-6

Public Health Agency of Canada. (2010). *Creating a healthier Canada: Making prevention a priority (A declaration on prevention and promotion from Canada's ministers of health and health promotion/healthy living)*. http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/declaration/index-eng.php

Puddle, D. (2023). Play opportunities through environmental design: A strategy for well-being. *Journal of Outdoor and Environmental Education*, *26*(3), 383–402.

Qiu, M., Sha, J., & Scott, N. (2021). Restoration of visitors through nature-based tourism: A systematic review, conceptual framework, and future research directions. *International Journal of Environmental Research & Public Health*, *18*(5), 1–18. https://doi.org/10.3390/ijerph18052299

Quinones, G. (2023). An infant-toddler outdoor risky play practices in an early childhood centre in Australia. *Journal of Outdoor and Environmental Education*, *26*(3), 463–477. https://doi.org/10.1007/s42322-023-00148-y

Ramshini, M., Karimi, H., Hassan Zadeh, S., Afrooz, G., Hashemi Razini, H., & Shahrokhian, N. (2018). The effect of family-centered nature therapy on the sensory processing of children with Autism spectrum. *International Journal of Sport Studies Forest Health*, *1*(4), e85506. https://doi.org/10.5812/intjssh.85506

Redvers, J. (2020). "The land is a healer": Perspectives on land-based healing from Indigenous practitioners in northern Canada. *International Journal of Indigenous Health*, *15*(1), 90–107. https://doi.org/10.32799/ijih.v15i1.34046

Réseau plein air Québec. (2024). About. Retrieved and translated from https://reseaupleinair.quebec/lorganisme/a-propos/

Revell, S., & McLeod, J. (2017). Therapists' experience of walk and talk therapy: A descriptive phenomenological study. *European Journal of Psychotherapy & Counselling*, *19*(3), 267–289. https://doi.org/10.1080/13642537.2017.1348377

Ritchie, S. D., D'Angelo, J., De Feo, G., Takano, T., & Priest, S. (in review). The transdisciplinary case for ecohealth promotion in outdoor learning. *Journal of Adventure Education and Outdoor Learning*.

Ritchie, S. D., D'Angelo, J., Michel, G., Nault, S., & Little, J. (2023). A new holistic model of ecohealth promotion. In S. Priest, S. Ritchie, & D. Scott (Eds.), *Outdoor learning in Canada*. Open Resource Textbook. Retrieved from http://olic.ca

Ritchie, S. D., D'Angelo, J., & Priest, S. (2022). *How to promote ecohealth*. Assoociation of Experiential Education. AEE CHIP-7. https://www.aee.org/chip

Ritchie, S. D., Wabano, M. J., Corbiere, R. G., Restoule, B., Russell, K., & Young, N. L. (2015). Connecting to the good life through outdoor adventure leadership experiences designed for Indigenous youth. *Journal of Adventure Education & Outdoor Learning*, *15*(4), 350–370. https://doi.org/10.1080/14729679.2015.1036455

Ritchie, S. D., Wabano, M. J., Russell, K., Enosse, L., & Young, N. L. (2014). Promoting resilience and wellbeing through an outdoor intervention designed for Aboriginal adolescents. *Rural and Remote Health*, *14*(1), 83–101.

Ritchie, S. D., Wabano, M. J., Schinke, R., Peltier, D., Restoule, B., Russell, K., Corbiere, R., & Young, N. (2012). The Aboriginal youth resilience study: A look at promoting resilience and well-being through outdoor adventure leadership experience. In A. Prior, C. Carpenter, C. L. Norton, & J. Kirchner (Eds.), *Emerging Insights: Proceedings of the 5th International Adventure Therapy Conference 2009* (pp. 145–162). European Science and Art Publishing.

Roberts, A., Hinds, J., & Camic, P. M. (2020). Nature activities and wellbeing in children and young people: A systematic literature review. *Journal of Adventure Education and Outdoor Learning*, *20*(4), 298–318.

Rohnke, K. (1984). *Silver Bullets*. Kendall Hunt.

Rowe, S. M., Clancy, J. P., & Sorscher, E. J. (2011). A breath of fresh air. *Scientific American*, *305*(2), 68–73.

Sandseter, E. B. H. (2009). Characteristics of risky play. *Journal of Adventure Education & Outdoor Learning*, *9*(1), 3–21.

Schutte, N. S., & Malouff, J. M. (2018). Mindfulness and connectedness to nature: A meta-analytic investigation. *Personality and Individual Differences*, *127*, 10–14. https://doi.org/10.1016/j.paid.2018.01.034

Sinatra, S. T., Sinatra, D. S., Sinatra, S. W., & Chevalier, G. (2023). Grounding–The universal anti-inflammatory remedy. *Biomedical Journal*, *46*(1), 11–16.

Sinclair, M. (2014). Education: Cause and solution. *The Manitoba Teacher*, *93*(3), 6–10.

Skamp, K. (1991). Spirituality and environmental education. *Australian Journal of Environmental Education*, *7*, 79–86.

Sommerfeld, J., Danto, D., & Walsh, R. (2021). Indigenous Grassroots and family-run land-based healing in Northern Ontario. *International Journal of Mental Health and Addiction*, 1–12.

Son, K. C., Um, S. J., Kim, S. Y., Song, J. E., & Kwack, H. R. (2004). Effect of horticultural therapy on the changes of self-esteem and sociality of individuals with chronic schizophrenia. *Acta Horticulturae*, *639*, 185–191. https://doi.org/10.17660/ActaHortic.2004.639.23

Song, C., Ikei, H., Kobayashi, M., Miura, T., Taue, M., Kagawa, T., … Miyazaki, Y. (2015). Effect of forest walking on autonomic nervous system activity in middle-aged hypertensive individuals: A pilot study. *International Journal of Environmental Research and Public Health*, *12*(3), 2687–2699. https://doi.org/10.3390/ijerph120302687

Song, C., Ikei, H., & Miyazaki, Y. (2016). Physiological effects of nature therapy: A review of the research in Japan. *International Journal of Environmental Research and Public Health*, *13*(8), 781. https://doi.org/10.3390/ijerph13080781

Statistics Canada. (2021). Census of population. Retrieved from https://www12.statcan.gc.ca/census-recensement/index-eng.cfm

Statistics Canada. (2022). Indigenous population continues to grow and is much younger than the non-Indigenous population, although the pace of growth has slowed. Retrieved from https://www150.statcan.gc.ca/n1/daily-quotidien/220921/dq220921a-eng.htm

Stevenson, M. P., Schilhab, T., & Bentsen, P. (2018). Attention restoration theory II: A systematic review to clarify attention processes affected by exposure to natural environments. *Journal of Toxicology and Environmental Health. Part B, Critical Reviews*, *21*(4), 227–268.

Summers, J. K., & Vivian, D. N. (2018). Ecotherapy—A forgotten ecosystem service: A review. *Frontiers in Psychology*, *9*, 1389. https://doi.org/10.3389/fpsyg.2018.01389

Swan, J. (1983). Sacred places in nature: A unitive theme for a transpersonal approach to environmental education. *The Journal of Environmental Education*, *14*(4), 32–37.

Tarrant, N. (2019). A walk on the wild side: Nick Tarrant reflects on the risks and benefits of talking therapy outdoors. *Therapy Today*, *30*(6), 21–22.

Taylor, A. F., Kuo, F. E., & Sullivan, W. C. (2002). Views of nature and self-discipline: Evidence from inner city children. *Journal of Environmental Psychology*, *22*, 49–64. https://doi.org/10.1006/jevp.2001.0241

Tennessen, C. M., & Cimprich, B. (1995). Views to nature: Effects on attention. *Journal of Environmental Psychology*, *15*, 77–85. https://doi.org/10.1016/0272-4944(95)90016-0

Thangaleela, S., Sivamaruthi, B. S., Kesika, P., Bharathi, M., Kunaviktikul, W., Klunklin, A., … Chaiyasut, C. (2022). Essential oils, phytoncides, aromachology, and aromatherapy—a review. *Applied Sciences*, *12*(9), 4495. https://doi.org/10.3390/app12094495

Thompson Coon, J., Boddy, K., Stein, K., Whear, R., Barton, J., & Depledge, M. H. (2011). Does participating in physical activity in outdoor natural environments have a greater effect on physical and mental wellbeing than physical activity indoors? A systematic review. *Environmental Science & Technology*, *45*(5), 1761–1772. https://doi.org/10.1021/es102947t

Tillmann, S., Tobin, D., Avison, W., & Gilliland, J. (2018). Mental health benefits of interactions with nature in children and teenagers: A systematic review. *Journal of Epidemiology and Community Health*, *72*(10), 958–966. https://doi.org/10.1136/jech-2018-210436

Tobias, J. L. (1983). Protection, civilization, assimilation: An outline history of Canada's Indian policy. In I. A. L. Getty (Ed.), *As long as the sun shines and water flows: A reader in Canadian Native Studies*. University of British Columbia Press.

Tremblay, M. S., Gray, C., Babcock, S., Barnes, J., Bradstreet, C. C., Carr, D., Chabot, G., Choquette, L., Chorney, D., Collyer, C., Herrington, S., Janson, K., Janssen, I., Larouche, R., Pickett, W., Power, M., Sandseter, E. B. H., Simon, B., & Brussoni, M. (2015). Position statement on active outdoor play. *International Journal of Environmental Research and Public Health*, *12*(6), 6475–6505. https://doi.org/10.3390/ijerph120606475

Truth and Reconciliation Commission of Canada. (2015). *Truth and Reconciliation Commission of Canada: Calls to Action*. Retrieved from https://publications.gc.ca/collections/collection_2015/trc/IR4-8-2015-eng.pdf

Ulrich, R. S., Simons, R. F., Losito, B. D., Fiorito, E., Miles, M. A., & Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. *Journal of Environmental Psychology*, *11*(3), 201–230. https://doi.org/10.1016/S0272-4944(05)80184-7

Usuba, K., Russell, J., Ritchie, S. D., Mishibinijima, D., Wabano, M. J., Enosse, L., & Young, N. L. (2019). Evaluating the outdoor adventure leadership experience (OALE) program using the Aboriginal children's health and well-being measure (ACHWM©). *Journal of Outdoor and Environmental Education*, *22*(3), 187–197. https://doi.org/10.1007/s42322-019-00038-2

Valaskakis, G. G. (2009). *Healing traditions: The mental health of Aboriginal peoples in Canada*. University of British Columbia Press.

van den Bosch, M., & Ode Sang, Å. (2017). Urban natural environments as nature-based solutions for improved public health—A systematic review of reviews. *Environmental Research*, *158*, 373–384. https://doi.org/10.1016/j.envres.2017.05.040

Vanderburgh, D., Savage, D. W., Dubois, S., Binguis, N., Maxwell, S., Bocking, N., Farrell, T., Tien, H., Ritchie, S. D., & Orkin, A. (2020). Epidemiologic features of medical emergencies in remote First Nations in northern Ontario: A cross-sectional descriptive study using air ambulance transport data. *CMAJ Open*, *8*(2), E400–E406. https://doi.org/10.9778/cmajo.20190186

Walker, D. A., & Pearman, D. (2009). Therapeutic recreation camps: An effective intervention for children and young people with chronic illness? *Archives of Disease in Childhood*, *94*(5), 401–406. https://doi.org/10.1136/adc.2008.145631

Webb, J., Raez-Villanueva, S., Carrière, P. D., Beauchamp, A. A., Bell, I., Day, A., … Vaillancourt, C. (2023). Transformative learning for a sustainable and healthy future through ecosystem approaches to health: Insights from 15 years of co-designed ecohealth teaching and learning experiences. *The Lancet Planetary Health*, *7*(1), e86–e96. https://doi.org/10.1016/s2542-5196(22)00305-9

Wells, N. M. (2000). A home with nature: Effects of "greenness" on children's cognitive functioning. *Environmental Behavior*, *39*, 775–795. https://doi.org/10.1177/00139160021972793

Wells, N. M., & Evans, G. W. (2003). Nearby nature: A buffer of life stress among rural children. *Environmental Behavior*, *35*, 311–330. https://doi.org/10.1177/0013916503035003001

Whitburn, J., Linklater, W., & Abrahamse, W. (2020). Meta-analysis of human connection to nature and proenvironmental behavior. *Conservation Biology*, *34*(1), 180–193. https://doi.org/10.1111/cobi.13381

White, M. P., Alcock, I., Grellier, J., Wheeler, B. W., Hartig, T., Warber, S. L., & Fleming, L. E. (2019). Spending at least 120 minutes a week in nature is associated with good health and wellbeing. *Scientific Reports*, *9*(1), 7730. https://doi.org/10.1038/s41598-019-44097-3

Wichrowski, M., Whiteson, J., Haas, F., Mola, A., & Rey, M. J. (2005). Effects of horticultural therapy on mood and heart rate in patients participating in an inpatient cardiopulmonary rehabilitation program. *Journal of Cardiopulmonary Rehabilitation*, *25*, 270–274. https://doi.org/10.1097/00008483-200509000-00008

Wigglesworth, J. (2023). Looking for cracks and trends of resistance through outdoor learning. In S. Priest, S. Ritchie, & D. Scott (Eds.), *Outdoor learning in Canada*. Open Resource Textbook. Retrieved from http://olic.ca

Wilcox, B. A., Aguirre, A. A., Daszak, P., Horwitz, P., Howard, J., Lannigan, R., & Waltner Toews, D. (2004). Introduction. *EcoHealth*, *1*(1), 1–2. https://doi.org/10.1007/s10393-004-0011-z

Wild Pedagogies (2024). *Wild Pedagogies: A re-negotiation of education and the environment in the Anthropocene*. Retrieved June 4, 2024 from https://wildpedagogies.com/

Wildcat, M., McDonald, M., Irlbacher-Fox, S., & Coulthard, G. (2014). Learning from the land: Indigenous land-based pedagogy and decolonization. *Decolonization: Indigeneity, Education & Society*, *3*, 3.

World Health Organisation. (2021). *Health promotion glossary of terms 2021*. World Health Organization. https://www.who.int/publications/i/item/9789240038349

World Health Organization. (1948). *Definition of health*. World Health Organization. Retrieved from https://www.who.int/about/governance/constitution

World Health Organization. (1986). *Ottawa charter for health promotion*. https://www.who.int/teams/health-promotion/enhanced-wellbeing/first-global-conference

Yao, W., Zhang, X., & Gong, Q. (2021). The effect of exposure to the natural environment on stress reduction: A meta-analysis. *Urban Forestry & Urban Greening*, *57*, 1–12.

Yau, K. K. Y., & Loke, A. Y. (2020). Effects of forest bathing on pre-hypertensive and hypertensive adults: A review of the literature. *Environmental Health and Preventive Medicine*, *25*, 23. https://doi.org/10.1186/s12199-020-00856-7

Zhang, G., Poulsen, D. V., Lygum, V. L., Corazon, S. S., Gramkow, M. C., & Stigsdotter, U. K. (2017). Health-promoting nature access for people with mobility impairments: A systematic review. *International Journal of Environmental Research and Public Health*, *14*(7), 1–19.

Zhao, Y., Liu, Y., & Wang, Z. (2022). Effectiveness of horticultural therapy in people with dementia: A quantitative systematic review. *Journal of Clinical Nursing*, *31*, 1983–1997. https://doi.org/10.1111/jocn.15204

Zinsstag, J., Schelling, E., Waltner-Toews, D., & Tanner, M. (2011). From "one medicine" to "one health" and systemic approaches to health and well-being. *Preventive Veterinary Medicine*, *101*(3), 148–156. https://doi.org/10.1016/j.prevetmed.2010.07.003

Zwart, R., & Ewert, A. (2022). Human health and outdoor adventure recreation: Perceived health outcomes. *Forests*, *13*(6), 869. https://doi.org/10.3390/f13060869

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 5
Taiwan's Development of Adventure Therapy Practice



Chienhsi Hsu and Christine Lynn Norton

Sociocultural Positioning

The first author is a Taiwanese clinical mental health practitioner who has been engaged in adventure therapy practice for over a decade and is recognised as one of the leading figures in the development of adventure therapy in Taiwan. Working at the intersection of clinical care, experiential education, and community-based intervention, this author brings insight into the local evolution of the field. The second author is a clinical social worker, outdoor therapy practitioner, and researcher from the United States of America (U.S) who lived and worked in Taiwan as a Fulbright Scholar, teaching adventure therapy at National Taiwan Normal University. Together, we offer cross-cultural and interdisciplinary perspectives that reflect both rooted local practice and global dialogue. While Taiwanese adventure therapy has been influenced by U.S. models, this chapter highlights the culturally unique elements that have emerged through Taiwan's distinct social, educational, and environmental contexts. These contributions are essential to include in this global text so that practitioners around the world can learn from and be inspired by Taiwan's innovative and culturally grounded approach to adventure therapy.

C. Hsu
Adventure Calls Taiwan Psychological Clinics, Taipei, Taiwan;
Adventure Therapy Committee of the Asia Experiential Education Association, Taipei, Taiwan
e-mail: jasperhsu0908@gmail.com

C. L. Norton (✉)
Texas State University, School of Social Work, San Marcos, USA;
Outdoor Research Collaborative for Health, Wellbeing, and Experiential Engagement, Durham, New Hampshire, USA
e-mail: cn19@txstate.edu

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_5

Introduction

Adventure therapy has been evolving in Taiwan for over two decades, with a growing body of practice-based knowledge and increasing visibility within the international community. This article provides the historical influences on adventure therapy in Taiwan and presents an overview of the development of Taiwanese adventure therapy. It begins with a working definition of adventure therapy adopted by Taiwanese practitioners, followed by a review of the key historical milestones that have shaped the field, presenting an overall picture of the Taiwanese approach to adventure therapy. Subsequently, two data sources are used to illustrate the changes in the field over time. This chapter concludes by reflecting on the issues and challenges that require consideration for future development of the field.

This chapter was written by a Taiwanese practitioner with a background in clinical mental health, alongside input from a clinical social worker, outdoor therapy practitioner, and researcher from the United States of America (U.S) who lived and worked in Taiwan as a Fulbright Scholar, teaching adventure therapy at National Taiwan Normal University. While much of Taiwanese adventure therapy has roots in U.S. approaches, these authors provide cross-cultural perspectives in this chapter and demonstrate a deep commitment to identifying and emphasising the elements of adventure therapy in Taiwan that are uniquely Taiwanese. These distinctive aspects are crucial to include in this global text so that practitioners in other countries can learn from and be inspired by Taiwan's unique contributions.

Definition of Adventure Therapy Adopted in Taiwan

The definition of adventure therapy in Taiwan has been significantly influenced by frameworks and practices originating in the U.S. According to White (2012), healing camps—an early precursor to therapeutic outdoor programming—have existed in the U.S since the late nineteenth century. The mid-twentieth century saw the formation of a more structured approach to adventure education, notably with the establishment of Outward Bound (OB) in 1962 and the commencement of Project Adventure (PA) in 1971. PA further introduced the adventure-based counselling model, allowing adventure activities beyond education into psychological counselling and medical contexts (Schoel & Maizell, 2002). In the 1990s, Gass (1993) consolidated various adventure-based therapy approaches into a foundational book that solidified the professional status of adventure therapy. These programs and approaches were integrated into academic settings that shaped and influenced early Taiwanese professionals who had studied in the U.S.

Taiwanese practitioners noted that as the U.S applied adventure activities in helping professions, leisure recreation, education and training, therapeutic interventions further developed. Adventure therapy evolved into a modality of practice,

categorised into four approaches: recreational, enrichment, adjunctive therapy, and primary therapy (Gass, 1993). The recreational approach emphasises using adventure experiences to bring about changes in feelings within a short period, typically fostering positive and proactive emotional expressions. The enrichment approach focuses on universally valued issues such as trust, cooperation, problem-solving, and self-confidence, utilising adventure experiences to cultivate these aspects. The adjunctive therapy approach begins to address the unique therapeutic issues of individuals, with adventure experiences serving as an additional component within the entire therapeutic process. The primary therapeutic approach similarly emphasises the unique therapeutic issues of individuals, utilising adventure experiences as the primary component of therapy, completely replacing traditional medical approaches.

Due to the rigour associated with the term "therapy," simply leading individuals in adventure activities and claiming it as adventure therapy can easily be questioned. Therefore, Williams (2004) proposed a distinction between therapeutic adventure and rigorous adventure therapy. Therapeutic adventure involves adventure experiences for emotional growth purposes without formal clinical assessment, treatment goals, or a clear theoretical framework or therapeutic credentials. In contrast, "rigorous adventure therapy" requires a structured approach that addresses clinical issues, specific expectations for therapy outcomes, and interventions carried out by mental health professionals. Adventure therapy program design and decision-making must also be based on theoretical knowledge and research-informed models. In this regard, the recreational and enrichment orientations mentioned earlier lean more towards "therapeutic adventure," while the adjunctive therapy and primary therapy orientations lean more towards "rigorous adventure therapy."

Other U.S. definitions have shaped Taiwanese practice. Alvarez and Stauffer (2001) proposed a definition of adventure therapy as "any intentional, facilitated use of adventure tools and techniques to guide personal change toward desired therapeutic goals" However, a more clinical definition is offered by Gass et al. (2012): "Adventure therapy is the prescriptive use of adventure experiences provided by mental health professionals, often conducted in natural settings that kinaesthetically engage clients on cognitive, affective, and behavioral levels" (p. 1).

While these U.S. definitions are widely cited, other countries and professional communities have contributed additional perspectives. For example, European practitioners often emphasise experiential and ecopsychological frameworks, which is evident in the work shared through forums like the Gathering for Adventure Therapy Europe (GATE) conferences. In particular, Taiwanese adventure therapy and outdoor education professionals affiliated with groups like Outward Bound Taiwan and Asia Association for Experiential Education (AAEE) have participated actively in international dialogue, representing a growing regional voice within the global adventure therapy movement.

Influenced by the above-mentioned definitions and approaches, Taiwanese practitioners broadly conceptualise adventure therapy as encompassing both

"therapeutic adventure" and "rigorous adventure therapy." In the context of helping professions, if adventure activities are utilised and bring about positive emotional experiences or facilitate learning and growth on universal issues for the service recipients, they can be considered therapeutic adventures. However, to be termed as rigorous adventure therapy, it must meet the following criteria:

1. The therapist must have sufficient training in mental health-related fields.
2. The therapist must have clear therapeutic goals for the individual and conduct assessments to evaluate the effectiveness of their work.
3. The therapist must have clear intentions, selecting appropriate adventure activities for the individual and providing guidance. This implies that therapists need to design and make decisions regarding adventure programs based on theoretical knowledge.
4. Adventure experiences serve as the primary therapeutic medium, allowing individuals to engage kinaesthetically and physically.

Based on this Taiwanese definition of adventure therapy, the data collected and analysed in this paper at least meet the definition of "therapeutic adventure," where practitioners must recognise themselves as guiding individuals in growth-oriented work and use adventure activities. Cases focused solely on learning adventure skills or providing adventure leisure experiences fall outside the scope of this discussion.

Review of Significant Events in the Development of Adventure Therapy in Taiwan

Professor Hsieh Chih-Mou earned his PhD in Leisure Behaviour from Indiana University in 1998, specialising in experiential education and adventure therapy. Upon returning to Taiwan, he played a pivotal role in formally promoting adventure therapy in the country. In 2000, he began teaching the course Adventure Therapy in the Department of Leisure Industry Management at National Taiwan Sport University, where he was employed at the time. In 2004, his efforts led to the Taipei City Department of Social Welfare and the Ministry of the Interior's Child Bureau supporting adventure counselling programs. In 2006, he cofounded the AAEE with professionals from Taiwan's experiential education community.

Adventure therapy has consistently been a focal point of the association's development efforts, establishing AAEE as the leading organisation promoting adventure therapy in Taiwan. The trajectory of AAEE's initiatives in advancing adventure therapy was compiled and were presented at the 8th International Adventure Therapy Conference held in Sydney, Australia, in 2018 to introduce Taiwan to the international community. This chapter elaborates on significant events that occurred after 2018, categorised into three stages: learning from foreign

experiences, accumulating domestic practical experience, and engaging in international exchanges and dialogues.

Learning From International Perspectives

Since its establishment, AAEE has invited adventure therapy experts to Taiwan almost every year for lectures or workshops, continuing until the outbreak of the Covid-19 Pandemic in 2020. By that time, 11 foreign experts had been invited, including Michael Conner, Tony Alvarez, Sean M. Hoyer, Katie Asmus, Tom Smith, Michael Gass, John Conway, Gary Stauffer, Jean Berube, Christine L. Norton, and Luk Peeters, to conduct 16 lectures or workshops. The content covered various aspects of adventure therapy, such as facilitation methods, the integration of adventure activities with psychological therapy practices, the applications of adventure therapy in groups, families, and individuals, and the personal growth of facilitators. These workshops have provided numerous aspiring adventure therapy practitioners in Taiwan with valuable learning opportunities.

Most international experts who came to Taiwan were from the U.S (10 out of 11 experts, with one from Belgium), and the two published books were authored by U.S. scholars. These connections arose from Dr. Hsieh's relationship with the Association for Experiential Education (AEE), based in the United States, which is a primary reason why adventure therapy in Taiwan is currently heavily influenced by the U.S.

In addition to lectures and workshops, the AAEE has also published the Chinese version of two books: 1. Power of One: Using Adventure and Experiential Activities Within One-on-One Counselling Sessions and 2. Power of Family: An Experiential Approach to Family Treatment, by Lung et al. (2008, 2015). They primarily focus on the facilitated wave model (see Fig. 5.1) a clinical framework proposing how individual psychotherapy and family therapy can integrate adventure experiences, which has been adopted in Taiwan. They provide many practical adventure activity tools and real-life case examples, allowing readers to understand practical approaches to adventure therapy. These books made it easier for Taiwanese practitioners to apply theory to practice, with broad utility in various practice settings.

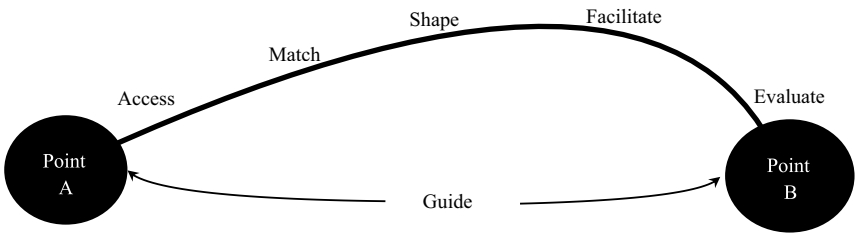


Fig. 5.1 Facilitated Wave Model (adapted from Alvarez et al., 2020). *Source* All figures developed by Hsu

Accumulating Domestic Practical Experience

Since the establishment of AAEE in 2006, researchers and practitioners in the Taiwan field of adventure therapy have been able to present their findings and experiences at annual conferences and exchange ideas with peers. In addition to the annual AAEE conference has organised adventure therapy-related seminars in 2011, 2014, 2015, 2020, and 2023. This demonstrates that adventure therapy in Taiwan is a continuously evolving field with ongoing practical applications, and has momentum for sustained development.

This momentum has materialised in the establishment of the Taiwan Therapeutic Adventure Professional Group (TTAPG) in 2014. This group consists of scholars and practitioners from various fields, including psychiatry, clinical and counselling psychology, social work, and experiential and outdoor education. It officially formed the Adventure Therapy Committee within AAEE, aiming to promote the organisation and professionalisation of adventure therapy in Taiwan. The adventure therapy-related activities organised by TTAPG are summarised as follows:

1. The annual summer event "When Dewey Invites Jung to Ride Together: Adventure Therapy Experience Tour" aims to promote adventure therapy to professionals in the helping professions (陳俊霖, 2020; 徐堅璽, 2022). This event, which started in 2015, has been held eight times, with over 200 professionals participating. Many professionals have been inspired by this event to transition into adventure therapy.
2. Annual workshops on adventure therapy, led by local practitioners in Taiwan, cover topics such as adventure techniques, adventure therapy practices, and the integration of adventure therapy with other psychological approaches.
3. Since 2018, the integration of presentations by practitioners at the annual conference has introduced a series of adventure therapy workshops. Except for 2020, when the conference was held online due to the Covid-19 Pandemic and no workshops took place, a total of 23 workshops were conducted over the 4 years up to 2022.
4. Since 2020, adventure therapy salons have been introduced to promote the use of natural elements for healing among the general public. These salons also address issues like adolescent development, internet addiction, and inner healing through adventure therapy. In 2021 and 2022, due to the pandemic, these salons were conducted online, featuring discussions on classic adventure therapy-related books.

Engaging in International Exchanges, Dialogues, and Research

During Taiwan's early development, the U.S served as its primary partner for exchanges, while interactions with other regions mainly occurred through

the triennial International Adventure Therapy Conferences (IATC). The inaugural IATC took place in Australia in 1997, and has since been held every 3 years, rotating around different countries. This conference brings together scholars and practitioners globally engaged in adventure therapy to exchange knowledge, experiences, and developments in the field worldwide. Taiwan practitioners began participating in this event in 2006 at the 4th IATC in New Zealand, initially through individual participation. Later, after the establishment of TTAPG, a team was formed to attend, thereby enhancing Taiwan's visibility within the international community.

In 2017, Dr. Christine Norton, a U.S.-based social work professor and previous adventure therapy trainer in Taiwan, became the first Fulbright Scholar to focus specifically on adventure therapy. Her appointment at National Taiwan Normal University marked a milestone for the field, highlighting international recognition of Taiwan's contributions. This fellowship built on earlier collaborative research between Dr. Norton and Dr. Chihmou Hsieh, through which they developed a culturally responsive model of adventure therapy focused on bridging Eastern and Western frameworks (Norton & Hsieh, 2011). Building on this foundation, Dr. Te-Hsin Chang, an emerging Taiwanese scholar, led a follow-up study that applied Hofstede's five dimensions of culture to examine how cross-cultural factors influence assessment and practice in adventure therapy (Chang et al., 2017). Together, these developments not only elevated Taiwan's visibility in the global adventure therapy community but also underscored its vital role in advancing cross-cultural scholarship within the field.

In 2018, the 8th IATC returned to Australia. At that time, TTAPG decided to pursue hosting of the 10th edition of the IATC in Taiwan. Consequently, the lead author and six Taiwanese professionals attended the 8th conference, promoting Taiwan's achievements in adventure therapy development and expressing desire to host the 10th IATC during the conference. Three years later, TTAPG submitted an application, and on 25 February 2022, officially obtained approval from the International Adventure Therapy Committee to host the 10th IATC in Taiwan in 2025. With the 10th IATC held in Asia for the first time, the 2025 conference drew significant international attention, marking a significant moment in the advancement of adventure therapy in Taiwan.

Description of Adventure Therapy Practices in Taiwan

The previous section reviewed significant events in the development of adventure therapy in Taiwan, indicating a trend of vibrant growth and cross-cultural exchange. However, what characteristics emerge beneath this trend? What changes can be observed in the promotion of adventure therapy in Taiwan over the past twenty years? This section aims to explore these questions using data from two surveys.

Overview of Development Before 2017

In 2018, Tsai Han-Chieh, a member of the AAEE Adventure Therapy Committee, conducted an analysis of workshops and papers presented at the AAEE annual conferences from 2006 to 2017. A total of 112 presentations fell under the category of "Exploration and Development of Adventure Counselling, Consultation, and Therapy." Since AAEE brings together many practitioners of adventure therapy in Taiwan, the results described in these data can serve as a reference for understanding the state of adventure therapy in Taiwan. Several important findings were noted in the data.

Professional Background of Presenters

The professional backgrounds of presenters typically mirrored those of practitioners in adventure therapy. The statistical results indicate that experiential educators make up the majority (48%), followed by schoolteachers (21%), and professionals with helping professions licences (including psychiatrists, psychologists, occupational therapists, and social workers) totalling 19%. Additionally, 12% are categorised as other or unspecified (see Fig. 5.2).

Issues of Concern to Presenters

The top three concerns are case studies or evaluations of activity outcomes (31%), principles of adventure program design and implementation (22%), and therapist operational skills, reflection and sharing (20%). For the proportions of other issues, please refer to Fig. 5.3. Upon closer examination of case studies or reports on activity outcomes, one category includes camp outcomes organised by foundations or social welfare organisations for specific groups, while another

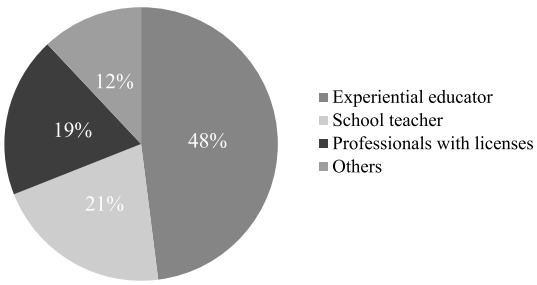


Fig. 5.2 Professional background of presenters (The lead author Hsu drew this data from the Taiwan Therapeutic Adventure Professional Group (TTAPG) with permission)



Fig. 5.3 Issues of concern to presenters (The lead author Hsu drew this data from the Taiwan Therapeutic Adventure Professional Group (TTAPG) with permission.)

category consists of case studies shared by teachers, social workers, and health-care professionals in practical work. Additionally, in 2012, more attention was given to "principles of adventure program design and implementation". If only considering presentations after 2012, the proportion of this issue would increase to 62%, which may indicate that more localised adventure therapy programs have been proposed after 2012.

Target Populations of Adventure Therapy Services

The predominant age group among the target population is adolescents aged 12 to 18 years (58%), followed by adults (29%). For the proportions of other target populations, please refer to Fig. 5.4. It is clear that adventure therapy is especially suitable for adolescents. Further exploration reveals that most adolescents served are those with poor academic achievement, behavioural deviations, or who are at high risk. As for adults, the services primarily focus on providing peer support and professional growth for professionals, with a small percentage supporting abused women and the elderly.

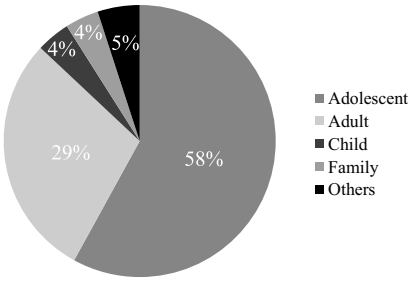


Fig. 5.4 Target population (The lead author Hsu drew this data from the Taiwan Therapeutic Adventure Professional Group (TTAPG) with permission)

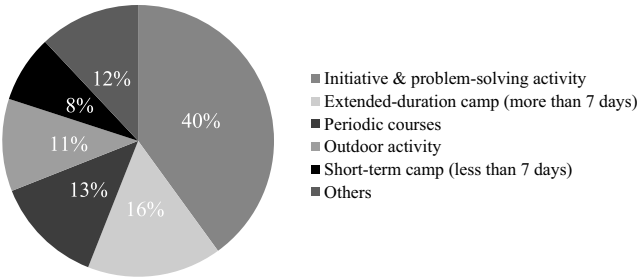


Fig. 5.5 Types of adventure activities (The lead author Hsu drew this data from the Taiwan Therapeutic Adventure Professional Group (TTAPG) with permission)

Types of Adventure Activities

Among the adventure activities conducted by practitioners, initiative and problem-solving activities are predominant at 40%, followed by extended-duration camps lasting more than 7 days at 16%, and periodic courses at 13%. Please refer to Fig. 5.5 for the proportions of other types of adventure activities.

Overview of Development Since 2018 and Impact of the Pandemic

In early 2022, in collaboration with Tsai Han-Chieh, the lead author conducted an online survey titled "Survey of Adventure Therapy Practitioners in Taiwan." The survey was disseminated through TTAPG on the social media platform Facebook, inviting practitioners to participate. The purpose of this survey was to understand the actual implementation of adventure therapy, such as whether there were increasing uses of "rigorous adventure therapy", which professions were more likely to adopt adventure therapy, commonly used adventure tools, the demographics of the served populations, the issues addressed, and perceptions of the effectiveness of adventure therapy, among others. Additionally, the survey aimed to analyse the general impact of the Covid-19 Pandemic on adventure therapy practitioners. Respondents were required to be practitioners who used adventure therapy models in their work settings. The term "adventure therapy model" was broadly defined to include any intentional use of adventure tools in intervention work aimed at promoting adaptation, change, and growth in the served population. This encompasses both therapeutic adventure and rigorous adventure therapy approaches.

Explanation of Survey Content

In addition to collecting basic information about respondents (including gender, type of helping profession, age, years of experience in the helping profession, and

years of experience in adventure therapy), this survey also asked respondents to reflect on their adventure therapy work between 2018 and 2021. They were requested to select representative cases (up to five per person) and provide details about each case's attributes. The survey also asked that the provided cases demonstrate as much diversity as possible. For instance, if the same service was routinely provided in different years, respondents were instructed to select one representative case. Lastly, respondents were asked to identify healing processes that could occur in adventure therapy, the challenges encountered in implementing adventure therapy, the ways in which they improve their professional skills, and their confidence in the future of adventure therapy work following the pandemic.

Survey Results

The survey began in mid-February 2022, and over the course of 1 month, responses were received from 15 practitioners who provided a total of 42 cases for analysis. Although the number of respondents was limited, the majority of active practitioners in TTAPG participated in this survey. Additionally, since the necessity of meeting the broad criteria for adventure therapy was emphasised, some individuals who were solely involved in adventure education (or outdoor education) were excluded. Therefore, those 15 respondents are likely representative of the practitioners actively engaged in adventure therapy in Taiwan. The analysis of results are divided into three sections: the basic information of the practitioners, the characteristics of the cases provided, and the practitioners' perspectives on adventure therapy.

Analysis of Basic Information of Practitioners

The gender distribution of practitioners (as shown in Fig. 5.6) reveals that females account for 73.3% which aligns with the broader Taiwan helping professionals, in which the majority are female. This trend also observed in the field of adventure therapy suggests that the use of "adventure" does not significantly impact gender representation.

Regarding the professional backgrounds of practitioners (as depicted in Fig. 5.7), the proportions are as follows: psychology (40%), social work (40%), outdoor activities (40%), school counselling (13.3%), and education (13.3%). Since this was a multiple-choice question, nearly half the respondents had dual professional backgrounds, highlighting a notable characteristic of adventure therapy practitioners in Taiwan.

The analysis of employment modes among practitioners, as shown in Fig. 5.8, reveals that the majority engage in freelance work (60%), independently taking on projects across various organisations. This is followed by salaried employees (20%), self-employed individuals (13.3%), and those with full-time jobs who engage in adventure therapy as a part-time endeavour (6.7%). This indicates that most adventure therapy practitioners in Taiwan lack a fixed income and must actively seek contracts from different organisations.

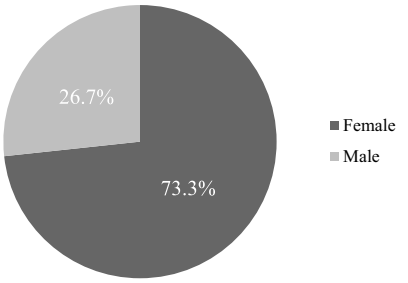


Fig. 5.6 Practitioners' gender

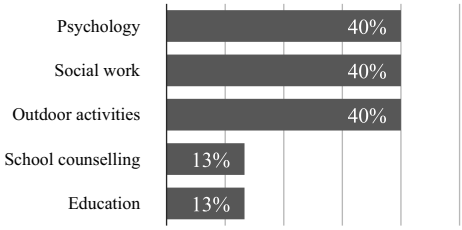


Fig. 5.7 Professional backgrounds of practitioners (multiple-choice question: the numbers represent the percentage of workers possessing this profession)

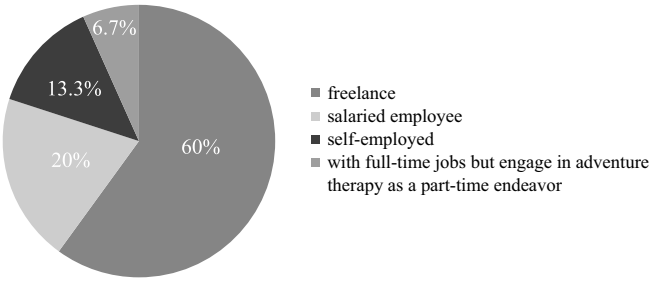


Fig. 5.8 Employment modes among practitioners

Regarding the age distribution of practitioners (as depicted in Fig. 5.9), the majority are within the age range of 31 to 40 years (46.7%), followed by those aged 41 to 50 years (26.7%), 51 to 60 years (20%), and 21 to 30 years (6.6%). Overall, this indicates a stable age structure conducive to the continued growth of this profession. Although the number of practitioners aged 21 to 30 is relatively low, it could be attributed to the high threshold for entering the adventure therapy profession, as individuals in this age group are still in the learning phase and may find it challenging to establish themselves before the age of 30.

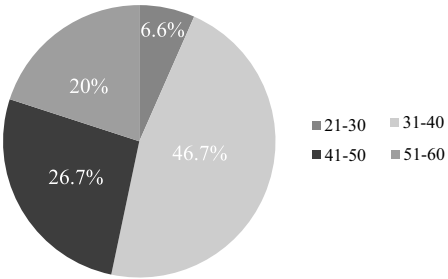


Fig. 5.9 Practitioners' ages

Analysis of the years of experience in helping professions and in adventure therapy (as shown in Fig. 5.10) indicates that the number of years in helping professions exceeds that in adventure therapy. Comparing the two, it can be observed that most practitioners have prior experience in helping professions before adopting adventure therapy models. Furthermore, there is no shortage of experienced practitioners in adventure therapy (73.3% have over 10 years of experience in helping professions, and 40% have over 10 years of experience in adventure therapy), suggesting that once practitioners adopt adventure therapy models, it becomes a frequently utilised approach in their work.

Characteristics of Case Profiles

The proportion of cases classified as "therapeutic adventure" versus "rigorous adventure therapy" (as depicted in Fig. 5.11) outlines three criteria that rigorous adventure therapy must meet: (1) clearly defining the physical, mental, or

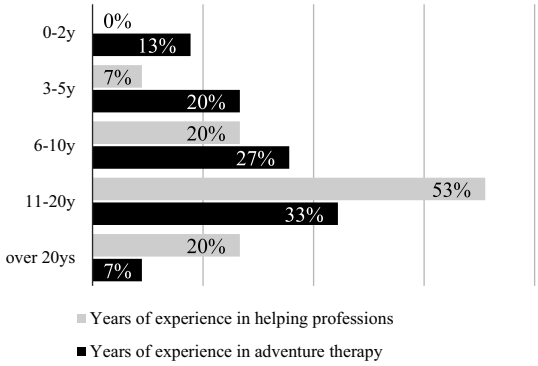


Fig. 5.10 Practitioners' years of experience in helping professions versus years of experience in adventure therapy

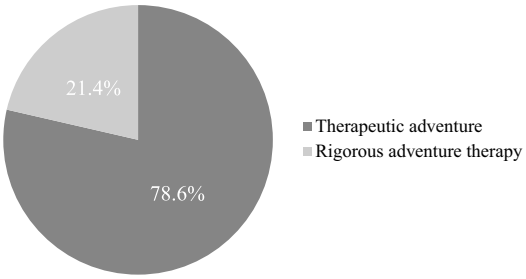


Fig. 5.11 Proportion of cases classified as "therapeutic adventure" versus "rigorous adventure therapy"

social issues that the service recipient needs to address, (2) designing adventure interventions specifically tailored to these issues, and (3) evaluating changes in the service recipient's condition during the process to adjust the intervention accordingly. Respondents were asked to self-rate whether their cases met these three criteria. The results showed that 21.4% of cases belonged to rigorous adventure therapy, while the remaining 78.6% were categorised as therapeutic adventure.

The relatively low proportion of rigorous adventure therapy cases might be attributed to the lack of outcome evaluation in those cases (as shown in Fig. 5.12), with 64% of cases not undertaking outcome evaluation. However, among the cases that did undertake outcome evaluation, the majority demonstrated positive results. The most commonly used evaluation method among respondents was the Life Effectiveness Questionnaire (LEQ), followed by self-designed questionnaires, interviews, observation records, and feedback from third parties.

Types of organisations utilising adventure therapy (as shown in Fig. 5.13) indicate that social welfare institutions are the most common users (45.2%), followed by primary and secondary schools (23.8%). Next in line are experiential education organisations, correctional facilities, and profit-making enterprises (each at 7.1%), followed by universities and counselling institutions (4.8%).

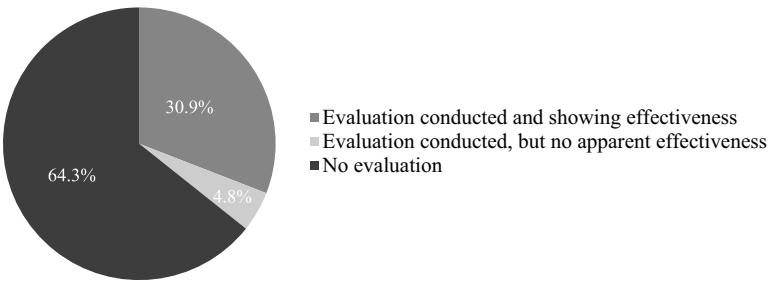


Fig. 5.12 Proportion of cases that implement objective outcome evaluation

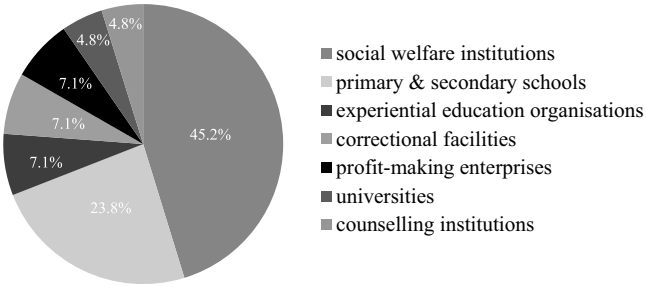


Fig. 5.13 Types of organisations utilising adventure therapy

When considering the age range of the population served (as depicted in Fig. 5.14), adolescents (aged 13 to 18) account for 69% of cases. This helps explain why adventure therapy is most frequently utilised in social welfare institutions and primary and secondary schools. It is evident that adventure therapy is a commonly used approach in service programs for adolescents conducted by social welfare institutions, highlighting its prevalence in this context.

Concerning the proportion of cases utilising adventure therapy for individuals, families, or groups (as illustrated in Fig. 5.15), it is noticeable that the vast majority are group interventions (97.6%), whereas individual cases constitute only 4.8%. Although there are no instances identified as family interventions, this does not imply that adventure therapy is not employed in family settings; rather, it might be less frequent. This resonates with the personal experience of the first author, where group interventions are more common, followed by individual cases, while family interventions are the least frequent.

Regarding the types of issues addressed (as shown in Fig. 5.16), the most common are self-exploration (66.7%) and interpersonal relationships (59.5%). This trend is likely related to the fact that the primary target population consists of adolescents, with group interventions predominant. Self-exploration often represents a crucial issue for adolescents, and group interventions naturally result in interpersonal issues arising.

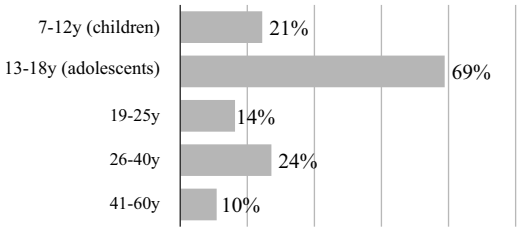


Fig. 5.14 Age range of the served population. *Note* Multiple-choice question. Some cases serve two age groups simultaneously. The numbers represent the percentage of that age group among all cases

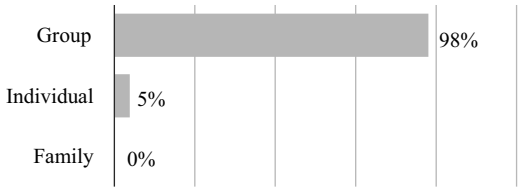


Fig. 5.15 Proportion of service cases: individual, family, or group based. *Note* Multiple-choice question. Some cases are composite. The numbers represent the percentage of that type among all cases

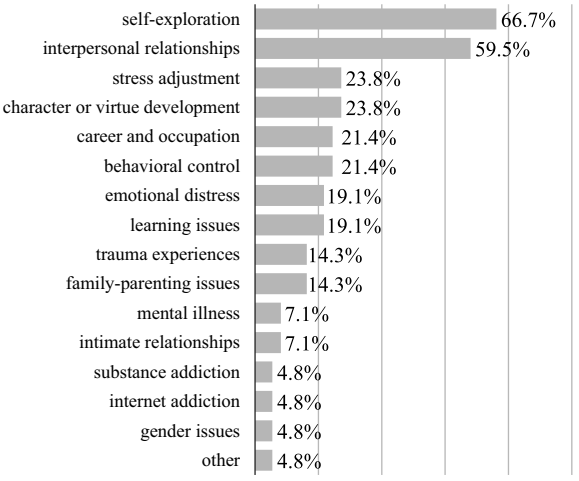


Fig. 5.16 Types of issues addressed. *Note* Multiple-choice question. Some cases address multiple issues simultaneously. The numbers represent the percentage of that issue among all cases

The utilisation of adventure tools (as shown in Fig. 5.17) involved providing respondents with a list of 17 options, including initiative and problem-solving activities, low-height activities, slacklining, high ropes, hiking, biking, rock climbing, tree climbing, rappelling, river trekking, sea swimming, canoeing, stand-up paddleboarding, surfing, camping, nature immersion activities, and wilderness solitude. Respondents were asked to select the tools they use. Among these, the most commonly used tool is ground-based activities (69%), followed by tree climbing (35.7%) and slacklining (33.3%). Ground-based activities have always been commonly utilised. In contrast, slacklining and tree climbing have gained acceptance and utilisation by adventure therapy practitioners in recent years compared to activities such as hiking, river trekking, rock climbing, and biking, which are relatively newer developments in adventure activities in Taiwan.

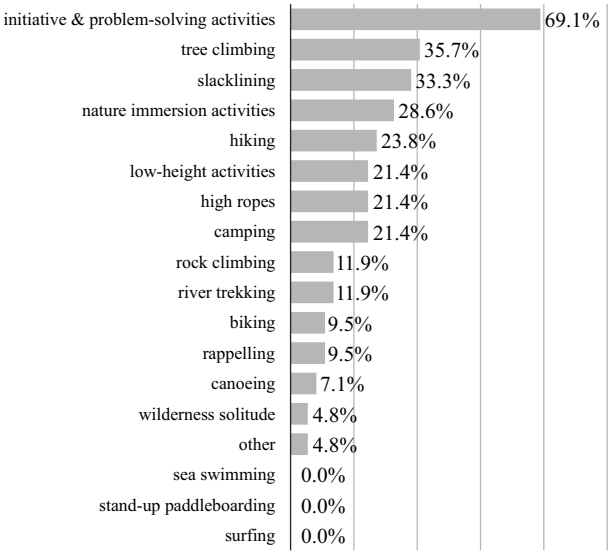


Fig. 5.17 Utilisation of adventure tools. *Note* Multiple-choice question. Some cases use multiple adventure tools simultaneously. The numbers represent the percentage of that adventure tool among all cases

From a temporal perspective (as shown in Fig. 5.18), single-day (or single-session) and periodic scheduling patterns are more prevalent in adventure therapy (accounting for 33.3% and 30.1%, respectively). Additionally, recent years have seen a decreasing trend in longer duration adventure therapy activities.

Perspectives of Practitioners on Adventure Therapy

Practitioners' perspectives about the healing processes facilitated by adventure therapy (as shown in Fig. 5.19) indicate that the highest rated aspects are trust and support among participants, as well as self-exploration and awareness

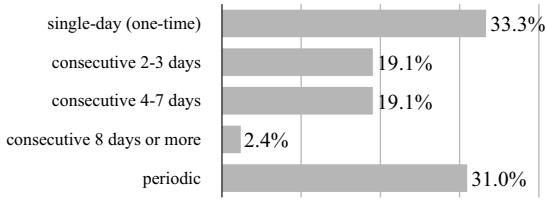


Fig. 5.18 Time patterns. *Note* Multiple-choice question. Some cases simultaneously involve different time patterns. The numbers represent the percentage of that time pattern among all cases

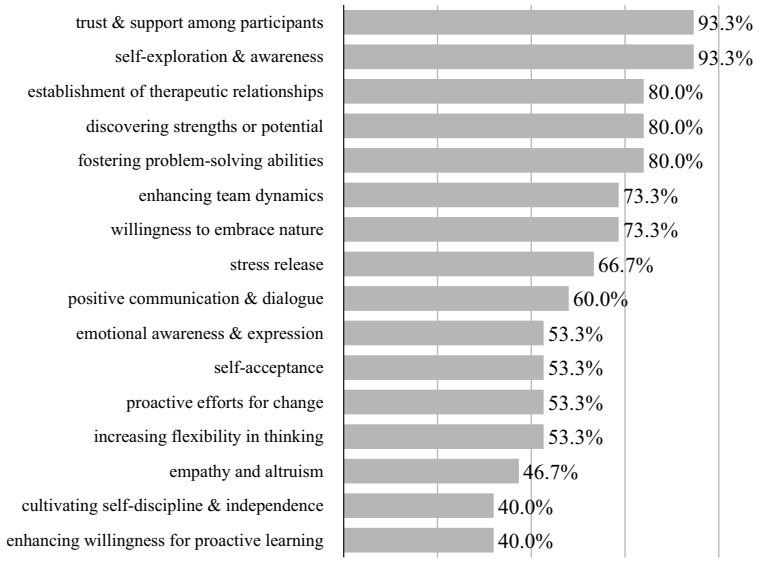


Fig. 5.19 Healing processes that practitioners believe can be effectively facilitated by adventure therapy. *Note* Multiple-choice question. The numbers represent the percentage of workers who agree with each item

(both at 93.3%). Nearly all practitioners acknowledged these processes. Following closely is the establishment of therapeutic relationships, the discovery of strengths or potential, and fostering problem-solving abilities (all at 80%). Next in line are enhancing team dynamics and a willingness to embrace nature (both at 73.3%).

Common challenges faced by practitioners in conducting adventure therapy (as shown in Fig. 5.20) include susceptibility to weather conditions (80%), which is the most prevalent issue, followed by a high staff-to-participant ratio that increases costs (66.7%). This situation is often exacerbated by limited funding from organising bodies (60%), resulting in the aforementioned challenges.

Methods used by practitioners to enhance their adventure therapy practice (as depicted in Fig. 5.21) primarily involve attending domestic adventure therapy-related seminars and workshops (86.7%), followed by reading pertinent Chinese-language books and literature (80%).

Regarding practitioners' confidence in the development of adventure therapy in the post-pandemic era (as shown in Fig. 5.22), the majority tend to be confident.

Summary of Survey Findings

Adventure therapy in Taiwan reflects a unique blend of cultural, educational, and professional influences that distinguish its practice from models in other parts of

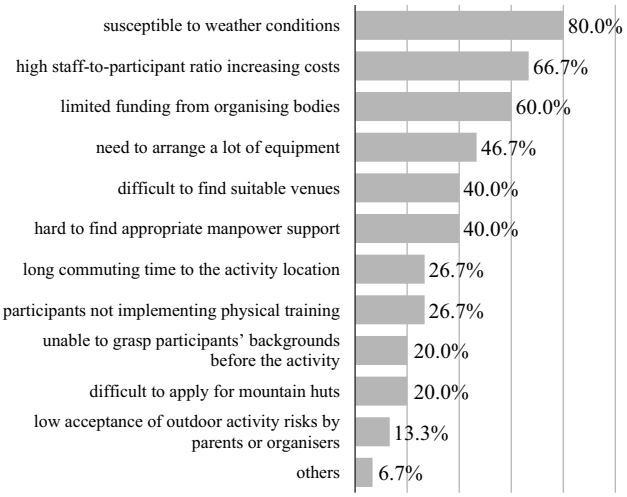


Fig. 5.20 Common challenges faced by practitioners. *Note* Multiple-choice question. The numbers represent the percentage of workers who agree with each item



Fig. 5.21 Methods employed by practitioners to enhance their adventure therapy practice. *Note* Multiple-choice question. The numbers represent the percentage of workers who agree with each item

the world. One of the most striking features is the integration of education and therapy. Many practitioners come from backgrounds in school teaching or experiential education, resulting in a fluid boundary between educational settings and therapeutic goals. This overlap indicates Taiwan's broader emphasis on holistic youth development, where schools are seen not only as places for academic learning but also as environments for nurturing emotional and social wellbeing (Bilau, 2024).

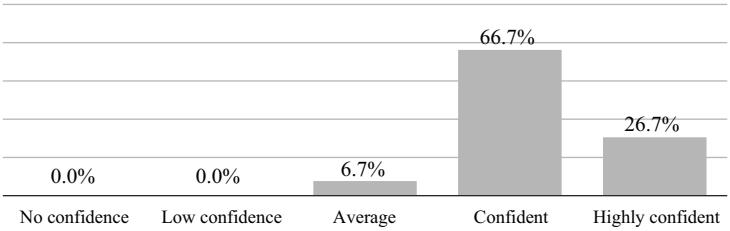


Fig. 5.22 Practitioners' confidence in the future development of adventure therapy

A particularly defining feature of Taiwanese adventure therapy is its strong focus on adolescents with multiple risk factors. Programs frequently target youth with behavioural challenges, academic underperformance, or those considered high risk, such as individuals from low-income or challenging family environments. This focus reflects a connection between adventure therapy and national efforts in educational reform (Lin, 2024) and youth social welfare (Chien & Chang, 2020). Often, these programs are implemented in partnership with foundations, nonprofit organisations (NGOs), or government-supported welfare institutions, suggesting a strategic alignment of therapeutic adventure with public policy priorities in youth services.

Structurally, the field remains largely community based. Most adventure therapy practitioners in Taiwan operate on a freelance basis, undertaking short-term or project-based work with schools or NGOs. Consequently, practitioners frequently transition between contracts with schools, welfare organisations, and other client groups, creating a dynamic yet potentially unpredictable employment landscape.

Professional development in Taiwanese adventure therapy also reflects a distinct localisation. Training is primarily obtained through domestic workshops and seminars, and practitioners rely heavily on Chinese-language literature. This focus on local resources may stem from both linguistic factors and the need or desire to adapt Western-origin models to Taiwanese cultural and environmental contexts. Consequently, adventure therapy in Taiwan has evolved through a process of adaptation and reinterpretation, shaped by practitioners who blend imported ideas with local insights.

In terms of activity preferences, Taiwanese practitioners have shown a growing inclination towards tools like slacklining and tree climbing. These activities, although relatively new compared to more established outdoor pursuits like rock climbing or river trekking, have gained rapid acceptance. This trend may be influenced by practical considerations such as urban accessibility and safety concerns, along with cultural attitudes towards engagement with nature in ways that feel novel yet manageable within densely populated environments.

Finally, the overwhelmingly group-oriented nature of adventure therapy in Taiwan highlights the influence of collectivist cultural values. Nearly all documented interventions are conducted in group settings, with a strong emphasis on fostering

interpersonal harmony, mutual support, and social learning. This preference reflects broader societal norms in Taiwan, where collectivism and harmony in groups are valued over individualism (Ali et al., 2005). As a result, adventure therapy in Taiwan is not only a tool for personal growth but also a means of reinforcing community bonds through shared adventure experiences.

Together, these themes illustrate how adventure therapy in Taiwan is both globally inspired and locally rooted, shaped by educational frameworks, social needs, cultural values, and practical realities unique to the Taiwanese context.

Trends and Future Development of Adventure Therapy in Taiwan

Is Adventure Therapy in Taiwan Becoming More Professional?

Building on these findings, the question now turns to whether adventure therapy in Taiwan is moving towards greater professionalisation. While its current landscape is characterised by localised practice and flexible employment, there are emerging developments towards more formalised standards and qualifications. This section examines that trajectory through the lens of four core professional criteria for "rigorous adventure therapy", highlighting how shifts in practitioner training, institutional support, and cross-sector collaboration reflect an increase in maturity in this field of practice.

First, concerning the necessity for therapists to receive training in mental health, current data indicates an increase in mental health trained practitioners. In terms of developmental events, the establishment of TTAPG and the promotion of "When Dewey Invites Jung to Ride Together" for seven consecutive years demonstrates an increased involvement of mental health practitioners in adventure therapy. As the field continues to professionalise, further discussion is needed regarding the qualifications necessary to practise adventure therapy in Taiwan. Currently, there is no unified licensure specifically for adventure therapy; however, there is a growing number of practitioners who are credentialed in counselling, social work, and clinical psychology, integrating adventure methods into their existing therapeutic practices. Comparing the two sets of data from pattern descriptions, the professional backgrounds of presenters at AAEE conferences before 2017 showed only 21% with backgrounds in mental health. However, in practical field surveys from 2018 to 2021, those with mental health backgrounds accounted for 40% of respondents, while social work backgrounds also represented 40%, and school counselling backgrounds accounted for 13.3%. This indicates a significant increase in the mental health-related training of adventure therapy practitioners in Taiwan.

Second, regarding the therapist's requirement to establish clear therapeutic goals for the individual and assess effectiveness, the practical field survey conducted from 2018 to 2021 revealed that 78.6% of practitioners self-reported the use

of therapeutic adventure, and 64.3% did not conduct outcome evaluations. This indicates that the professional demonstration of outcome evaluations by adventure therapy practitioners in Taiwan remains insufficient to identify as robust adventure therapy.

Third, therapists need to have clear therapeutic intentions and apply theoretical knowledge to implement adventure activities. The data do not clearly present the therapists' abilities in this regard, but their emphasis on this area can be viewed from two perspectives. First, regarding developmental events, the two translated books published by AAEE highlight the connection between therapeutic intentions and the implementation of adventure activities, providing examples for readers to reference. Additionally, the content of storytelling events organised by TTAPG in recent years consistently offers various knowledge frameworks, reminding practitioners to clarify therapeutic intentions. Second, a practical field survey from 2018 to 2021 investigated the practical issues practitioners faced, demonstrating a high level of diversity in content. Although the majority focused on self-exploration or interpersonal relationships (both accounting for over 50%), there were still as many as 14 different issues dispersed across various cases. This indicates that different cases have varying focal points of concern, serving as indirect evidence of therapists possessing therapeutic intentions.

Finally, the use of adventure experiences as therapeutic mediums can be observed in the presentations of papers and workshops at conferences prior to 2017, as well as in the practical field surveys conducted from 2018 to 2021. Taiwanese practitioners have extensively demonstrated a unique style of adventure therapy. A closer look at the usage proportions of various adventure tools in the practical field surveys from 2018 to 2021 reveals a notable trend towards standardisation in their use. The data suggest that the use of initiative and problem-solving activities remains prevalent, which is consistent with statistics from before 2017. Practitioners still seem to focus primarily on familiarity with adventure tools, particularly emphasising initiative and problem-solving activities. As mentioned above, when other tools are used, they tend to be slacklining and tree climbing, possibly because these are relatively easier to start with, leading to a higher number of practitioners utilising them. However, there appears to be a concentration on the use of these two activities.

What are the Bottlenecks in Professional Advancement of Adventure Therapy in Taiwan?

From the discussion in the previous section, it is clear that the overall professionalism of adventure therapy in Taiwan is increasing. However, it has also faced some bottlenecks, the most significant being the inability to implement outcome evaluation, followed by the monotony in using adventure tools.

Bottleneck 1: Failure to Implement Outcome Evaluation

From the practical field surveys conducted between 2018 and 2021, it is observed that the majority of adventure therapy practitioners are primarily mobile workers. This implies a lack of fixed salaries and frequent encounters with issues such as high labour costs and budget constraints (commonly viewed as the second or third most common challenges). Moreover, it suggests that practitioners may increase their personal workloads or reduce their hourly rates to meet budget limitations, creating structural barriers for conducting outcome evaluations. Since outcome evaluation does not yield financial rewards and consumes time comparable to leading adventure therapy sessions, practitioners face challenges in prioritising it. Although practitioners currently express high confidence in the future of adventure therapy, this confidence needs to be substantiated and validated by society. Only then can administering units recognise that expenditures perceived as high are actually reasonable and beneficial. However, the current situation makes it difficult for practitioners to balance their practical work and invest time in evaluating outcomes.

Bottleneck 2: Monotony in the Use of Adventure Tools

The practical field surveys reveal that despite the long historic development of adventure therapy, the most commonly used tools remain initiative and problem-solving activities. While the frequency of slacklining and tree climbing has increased in recent years, these two adventure tools are the only ones extensively utilised. Other activities such as hiking, rock climbing, river trekking, and cycling, although developed earlier in Taiwan, are not used as much, and water-based activities are even scarcer. This trend may relate to common challenges encountered in practical work, such as the need to manage risk and equipment, difficulty in finding suitable venues, and a lack of appropriate labour support (up to 40% of practitioners face these challenges). For example, when confronted with a request from a unit to use hiking as an adventure activity, practitioners encounter difficulties assisting the unit in obtaining hiking backpacks, sleeping bags, sleeping pads, and trekking poles, as well as finding suitable hiking routes (popular routes may be crowded with tourists) and securing guides or cooperation for support. When lacking the resources to address these challenges, practitioners may refrain from using this adventure tool, leading to a situation where the only tools offered are the ones that can be adequately managed (thus becoming increasingly monotonous). Additionally, the extra time required for adventure therapy practitioners to develop new tools is considerable, with individuals often not entering the field until their late twenties. Given this, the difficulty of spending more time learning adventure techniques or acquiring more resources to prepare adventure equipment is understandable.

Strategies for Overcoming Bottlenecks in the Professional Development of Adventure Therapy in Taiwan

Strategy 1: Introducing Research Capacity to Generate High-Quality Outcome Assessment Research

To overcome the bottleneck of ineffective outcome assessment, promoting collaboration between research-oriented graduate students and adventure therapy practitioners could be beneficial. Over the past two decades in Taiwan, experienced practitioners have established various fields of adventure therapy across the country, providing valuable opportunities for academic research. The knowledge and perspectives brought in by academia can help practitioners reflect on their intentions, designs, and implementation effectiveness. By integrating early into fieldwork, graduate students can shorten their adaptation period to professional settings. Moreover, feedback from research outcomes can enhance the quality of future professional services. This collaborative approach would be mutually beneficial for academia, practitioners, and service recipients, resulting in a win–win situation for all stakeholders.

Strategy 2: Facilitating the Integration Between the Leisure Industry and the Adventure Therapy Practice to Enhance the Industry's Value

To address the bottleneck posed by the repetitive use of adventure tools, it is essential to foster collaboration between the leisure industry and the adventure therapy profession. Particularly in the post-pandemic era, an increasing number of individuals are seeking outdoor experiences in nature as effective remedies for enhancing both physical and mental wellbeing. Based on observations of international trends in adventure therapy, there is a notable increase in emphasis on the therapeutic benefits associated with nature and outdoor activities. For example, the presentations at the 9th International Adventure Therapy Conference in 2022 (9IATC and 3GATE Full Program[1]) primarily focused on the applications of outdoor, nature, and wilderness activities within the realm of adventure therapy. Outdoor activities such as sea swimming, surfing, sailing, canoeing, rock climbing, mountain biking, archery, forest therapy, and solitude were particularly underscored.

Taiwan boasts abundant natural environments, and many Taiwanese outdoor leisure industries actively engage in these outdoor activities. There is potential to raise awareness among the leisure industry regarding adventure therapy and help them expand into the therapeutic domain. Collaboration between the two sectors would be another win–win strategy.

[1] https://9iatc.internationaladventuretherapy.org/wp-content/uploads/2022/06/9IATC-and-3GATE-FULL-PROGRAMME.pdf.

Conclusions

Adventure therapy in Taiwan reflects the region's deep cultural wealth and social values, offering a practice that is not only therapeutic but also rooted in collectivism, experiential education, and nature. Drawing from Taiwan's cultural emphasis on community and relational harmony (Yiu, 2024), adventure therapy has evolved into a unique model that prioritises group-based experiences and social learning.

The field is supported by Taiwan's educational and nonprofit organisations, where practitioners often blend roles as educators, counsellors, and facilitators. This interdisciplinary approach reflects Taiwan's broader commitment to integrated, community-centred care. Additionally, cultural orientations towards reflection, resilience, and respectful engagement with nature enrich the therapeutic process, allowing adventure therapy to be grounded in meaningful, culturally relevant practices.

As adventure therapy in Taiwan matures, it faces challenges—chiefly, the limited implementation of outcome evaluations, and a tendency towards using a narrow range of adventure tools. However, these challenges also present valuable opportunities. Taiwan's higher education system, active civic engagement, and rich natural landscapes offer an ideal setting for innovation and meaningful cultural adaptation in the field of adventure therapy.

Looking ahead, advancing adventure therapy in Taiwan will require stronger partnerships among researchers, practitioners, and the outdoor leisure sector to diversify methods, enhance training, and build evidence of impact. Yet as these professional collaborations grow, it is equally important to honour the wisdom and influence of Taiwanese culture on adventure therapy practice. The continued growth of adventure therapy in Taiwan depends on its ability to stay rooted in these cultural values while evolving in ways that reflect its unique societal and environmental context, offering a model of culturally grounded, place-based therapeutic practice with global relevance for the entire field of adventure therapy.

References

English

Ali, A. J., Lee, M., Hsieh, Y. C., & Krishnan, K. (2005). Individualism and collectivism in Taiwan. *Cross Cultural Management: Anales International Journal*, *12*(4), 3–16.

Alvarez, A. G., & Stauffer, G. A. (2001). Musings on adventure therapy. *Journal of Experiential Education*, *24*(2).

Alvarez, A. G., Stauffer, G. A., Lung, D. M., Sacksteder, K., Beale, B., & Tucker, A. R. (2020). *Adventure group psychotherapy: An experiential approach to treatment*. Routledge.

Bilau, Q. M. (2024). The enlightenments of social, emotional, and ethical learning on the development of core competencies in Taiwan's 108 curriculum. *International Journal of Research and Innovation in Social Science*, *8*(7), 3308–3320.

Chang, T. H., Tucker, A. R., Norton, C. L., Gass, M. A., & Javorski, S. E. (2017). Cultural issues in adventure programming: Applying Hofstede's five dimensions to assessment and practice. *Journal of Adventure Education and Outdoor Learning*, *17*(4), 307–320.

Chien, H. J., & Chang, W. C. (2020). Overview of the important policies for children and youth welfare in Taiwan. *Journal of the Formosan Medical Association*, *119*(7), 1133–1134.

Gass, M. A. (1993). *Adventure therapy: Therapeutic applications of adventure programming*. Kendall/Hunt Publishing.

Gass, M. A., Gillis, H. L., & Russell, K. C. (2012). *Adventure therapy: Theory, research, and practice*. Routledge.

Lin, Y. C. (2024). The alchemy of educational reform discourses in contemporary Taiwan: Translation processes, limits, and the political. *Cogent Education*, *11*(1). https://doi.org/10.1080/2331186X.2024.2322172

Lung, D. M., Stauffer, G., & Alvarez, T. (2008). *Power of one: Using adventure and experiential activities within one-on-one counseling sessions*. Wood N Barnes.

Lung, D. M., Stauffer, G., & Alvarez, T. (2015). *Power of family: An experiential approach to family treatment*. Wood N Barnes.

Norton, C. L., & Hsieh, C. M. (2011). Cultural bridging through shared adventure: Cross-cultural perspectives on adventure therapy. *Journal of Adventure Education & Outdoor Learning*, *11*(2), 173–188.

Schoel, J., & Maizell, R. S. (2002). *Exploring islands of healing: New perspectives on adventure-based counseling*. Project Adventure.

White, W. (2012). A history of adventure therapy. In M. Gass, H. L. Gillis, & K. C. Russell (Eds.), *Adventure therapy* (pp. 19–48). Routledge.

Williams, I. (2004). Adventure therapy or therapeutic adventure? In S. Bandoroff & S. Newes (Eds.), *Coming of age: The evolving field of adventure therapy* (pp. 195–208). Association for Experiential Education.

Yiu, L. (2024). A harmony-based approach to student diversity. *ECNU Review of Education*, *7*(3), 573–597.

Chinese

徐堅璽、謝智謀、Team One團隊 (譯) (2011)。一對一冒險體驗活動架構與諮商實例 (原作者: Lung, D. A., Stauffer, G., & Alvarez, T.)。亞洲體驗教育學會。(原著出版年: 2008)。[Hsu, C.-H., Hsieh, C.-M., & Team One (Trans.) (2011). Power of One: Using Adventure and Experiential Activities Within One on One Counseling Sessions (Original authors: Lung, D. A., Stauffer, G., & Alvarez, T.). Asia Association for Experiential Education. (Original work published 2008).]

徐堅璽、莊耀南、楊建中、李孟儒、陳逸茹 (譯) (2017)。家庭好好玩: 體驗式家族治療架構與實例 (原作者: Lung, D. A., Stauffer, G., Alvarez, T., & Conway, J.) 。亞洲體驗教育學會。(原著出版年: 2015)。 [Hsu, C.-H., Chuang, Y.-N., Yang, C.-C., Lee, M.-J., & Chen, I.-J. (Trans.) (2017). Power of Family: An Experiential Approach to Family Treatment (Original authors: Lung, D. A., Stauffer, G., Alvarez, T., & Conway, J.). Asia Association for Experiential Education. (Original work published 2015).]

徐堅璽 (2022)。你杜威約榮格了沒? 臺灣冒險治療圈的重要資產。張老師月刊, 537期, 44–47。 [Hsu, C.-H. (2022). Haven't you attended the "Dewey Invite Jung" yet?? A Valuable Asset in Taiwan's Adventure Therapy Community. Teacher Chang Monthly, Issue 537, pp. 44–47.]

陳俊霖 (2020)。杜威約榮格:當我們冒險在臺灣推動冒險治療。張老師月刊, 508期, 35–40。[Chen, C.-L. (2020). Dewey Invite Jung to Ride Together: A Story of Promoting Adventure Therapy in Taiwan. Teacher Chang Monthly, Issue 508, pp. 35–40.]

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 6
Green Care Interventions: A Review of Evidence for Outdoor Therapies and a Path to Better Health

Adriana Perez Angelucci, James Peak, Isabella Macpherson, and Antonio Mendoza Diaz

Sociocultural Positioning

The authors of this chapter are researchers with multicultural and multidisciplinary backgrounds and have expertise in clinical psychology, behavioural neuroscience, and medicine. Our scientific training shapes our evidence-based approach to green care, emphasising measurable outcomes and policy implications. While this strengthens our critical analysis, it also reflects a biomedical and biopsychosocial lens that may overlook experiential or culturally embedded perspectives. Furthermore, the team has a political bias towards left-leaning liberal values, which may colour our interpretation of the evidence. We acknowledge these biases and advocate for an inclusive, interdisciplinary dialogue on nature and health.

A. Perez Angelucci (✉) · J. Peak
Tasmanian Centre for Mental Health Service Innovation, Tasmanian School of Medicine, University of Tasmania, Hobart, TAS, Australia
e-mail: adriana.perezangelucci@utas.edu.au
e-mail: james.peak@utas.edu.au

A. Mendoza Diaz
Tasmanian Centre for Mental Health Service Innovation, Tasmanian School of Medicine, University of Tasmania, Hobart, TAS, Australia;
School of Psychological Sciences, University of Tasmania, Hobart, TAS, Australia;
Discipline of Psychiatry and Mental Health, School of Clinical Medicine, University of New South Wales, Sydney, NSW, Australia;
Child and Youth Mental Health Service, Tasmanian Health Service, Hobart, TAS, Australia
e-mail: tony.mendoza.diaz@ths.tas.gov.au

I. Macpherson
School of Psychological Sciences, University of Tasmania, Hobart, TAS, Australia
e-mail: isabella.macpherson@utas.edu.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_6

Introduction

Mounting evidence suggests interacting with nature, actively or passively, benefits human health. Numerous reviews have explored the benefits of nature to health and wellbeing (Barragan-Jason et al., 2023; Coventry et al., 2021; Jimenez et al., 2021; Mygind et al., 2019; Nejade et al., 2022; Nguyen et al., 2023; Paredes-Céspedes et al., 2024; Struthers et al., 2024; Yang et al., 2021). These reviews cover a range of viewpoints, from the impact of passive natural exposure on health outcomes to evidence for specific nature-based interventions (NBIs). NBIs are therapeutic interventions that incorporate natural elements targeted at specific outcomes in specific populations. Due to the diverse conceptualisations of "nature exposure" and NBIs, some papers have focused on conceptual discussions and framework development to structure or categorise NBIs and their integration with health care (Berget et al., 2010; Harper et al., 2021; Neil et al., 2023; Shanahan et al., 2019).

As an example, Jimemez et al. (2021) reviewed studies and showed nature exposure improves cognitive function, brain activity, blood pressure, mental health, physical activity, and sleep. Experimental studies have shown protective effects of nature exposure on mental health and cognitive function, whereas observational studies have indicated increased physical activity and reduced cardiovascular disease risk. Longitudinal studies have revealed long-term benefits in depression, anxiety, cognitive function, and chronic diseases. Reviews such as those by Jimenez et al. support views in the NBI community that nature's effects on mental health and wellbeing are multifaceted and most impactful when considered together.

Despite increasing evidence supporting outdoor health therapies and NBIs (Nejade et al., 2022), translating research into pragmatic policy and practice recommendations remains challenging (Marvier et al., 2023). For NBIs to be integrated into mainstream health care and secure funding, governments and funding bodies need more than general statements. Green care includes diverse modalities, such as therapeutic farming, animal-assisted therapy, horticultural therapy, adventure therapy, and forest therapy. Identifying effective interventions for specific populations and outcomes is essential. Implementation details such as accreditation bodies and schemes at various levels are also crucial. These ensure interventions are effective, safe, sustainable, and well supported, honouring public limited financial resources.

The Project Behind This Chapter

In 2024, the Tasmanian Government commissioned the Tasmanian Centre for Mental Health Service Innovation (TCMHSI) to provide (1) an evidence brief of

multiple green care modalities (e.g., therapeutic farming, adventure therapy, animal-assisted therapy, horticultural therapy) and (2) a scoping of accreditation schemes and funding models for green care operating in Australia and internationally. The findings aim to inform the accreditation and implementation of such practices within the state (focusing on therapeutic farming) and potentially across Australia. We partnered with Outdoor Health Australia as subject-matter expert consultants.

The evidence brief included a systematic review addressing the question:

> What is the evidence for the effectiveness of different green care modalities in improving mental health outcomes?

Given the project scope and breadth of existing research, the team first conducted a systematic assessment of high-level evidence (umbrella reviews) on specific green care modalities, which identified areas with strong evidence base and gaps lacking high-level summaries. Umbrella reviews synthesise results of systematic reviews and meta-analyses on a broad range of outcomes, being valuable for informing policy and practice (Choi & Kang, 2022).

This chapter presents the results of our initial systematic exploration of peer-reviewed umbrella reviews of green care modalities, identified gaps, and suggested recommendations. We hope this information provides readers with a quick glance at the highest level of evidence for these "green care" areas.

Research Strategy and Modifications

The search was conducted in August 2024 across seven databases: Medline-Ovid, Scopus, Embase-Ovid, PsycInfo-Ovid, Cochrane Library, CINAHL, and JBI EBP Database-Ovid. Keywords and variations included "green care," "animal-assisted therapy," "outdoor therapy," "adventure therapy," "therapeutic farming," "horticultural therapy," and "indigenous healing practices," combined using Boolean operator OR. These were further combined with outcome-related keywords using AND. Additional search terms and/or publication filters were applied to narrow the scope of the systematic review. The search was limited to publications from 2000 to present in English, Mandarin, Portuguese, and Spanish.

Two researchers independently screened eligible articles in a two-step process (title and abstract, followed by full-text screening), using the software Covidence (Veritas Health Innovation, 2024). The project was divided into two streams: (1) selection of eligible umbrella reviews for green care modalities where such evidence syntheses were available and (2) selection of eligible systematic reviews for green care areas lacking umbrella reviews, forming the basis for new umbrella reviews currently underway.

Results

Description of Reviews

Six umbrella reviews (see Table 6.1 for summary) covering the effectiveness of three green care modalities (animal-assisted therapy, forest therapy, and horticultural therapy) on mental health outcomes were identified. No umbrella reviews covering outdoor or adventure therapy, therapeutic farming, or indigenous healing practices were found. The reviews were published between 2019 and 2024 in Australia, Australia and New Zealand, Germany, Italy, Peru and the United States, Romania, and the United Kingdom.

Four reviews looked at broad populations (Antonelli et al., 2022; Panțiru et al., 2024; Stern & Chur-Hansen, 2019; Stier-Jarmer et al., 2021), and two were population-specific: One focused on people with dementia (Alarcon-Braga et al., 2023) and one on autistic children (Trembath et al., 2023). Five reviews examined broad health outcomes, including mental health outcomes (Alarcon-Braga et al., 2023; Antonelli et al., 2022; Trembath et al., 2023; Stier-Jarmer et al., 2021; Stern & Chur-Hansen, 2019), while one focused only on mental health and wellbeing (Panțiru et al., 2024). Regarding interventions, one review covered nonpharmacological interventions,

Table 6.1 Scope of identified umbrella reviews

ID	Reference	Population	Intervention	Outcomes
Green care modality: Forest therapy				
FT1	(Antonelli et al., 2022)	Broad	Specific ("forest bathing")	Broad
FT2	(Stier-Jarmer et al., 2021)	Broad	Specific ("forest-based interventions")	Broad
Green care modality: Horticultural therapy				
HT1	(Panțiru et al., 2024)	Broad	Specific ("gardening and horticultural therapy")	Specific (mental health, wellbeing, and quality of life)
Green care modality: Animal-assisted therapy				
AAT1	(Alarcon-Braga et al., 2023)	Specific (people with dementia)	Specific (animal-assisted therapy)	Broad
AAT2	(Stern & Chur-Hansen, 2019)	Broad	Specific (equine-assisted therapy)	Broad
AAT3	(Trembath et al., 2023)	Specific (autistic children)	Broad (nonpharmacological interventions, including animal-assisted therapy)	Broad

including green care (animal-assisted therapy; Trembath et al., 2023), whereas the other five covered specific green care modalities (Alarcon-Braga et al., 2023; Antonelli et al., 2022; Panțiru et al., 2024; Stier-Jarmer et al., 2021; Stern & Chur-Hansen, 2019).

Methodological Appraisal

Assessing methodological aspects is crucial for determining confidence in the results and conclusions of umbrella reviews. However, guidelines on how to conduct an umbrella review—and, consequently, what aspects to consider when appraising its quality—remain under debate (Fernandez et al., 2025; Gates et al., 2020). Moreover, no specific tool exists for evaluating the methodological quality of such "reviews of reviews." Although the JBI Critical Appraisal Checklist for Systematic Reviews and Research Syntheses (CACSRRS; Joanna Briggs Institute, 2020) provides some guidance, it is designed for appraising systematic reviews of primary studies. As a result, it fails to address key aspects specific to umbrella reviews, such as the overlap of primary studies and the risk of overestimating the evidence.

Drawing from established quality assessment tools for systematic reviews of primary studies (Aromataris et al., 2024; Shea et al., 2017), we recorded binary ("yes" or "no") responses for if authors searched for grey literature, had an "a priori" registered protocol, assessed overlap of primary studies across included systematic reviews, assessed the quality of included reviews using a valid tool, and provided information about the quality of primary studies included in the reviews. We also documented the number of databases used for searching within each umbrella review to assess search comprehensiveness. Rather than providing a score, our goal was to systematically assess important points and present them to readers to decide whether a particular umbrella review met their needs.

The number of searched databases ranged from four to 13. Three umbrella reviews searched for grey literature (Stern & Chur-Hansen, 2019; Stier-Jarmer et al., 2021; Trembath et al., 2023). Four umbrella reviews followed a registered protocol (Antonelli et al., 2022; Stern & Chur-Hansen, 2019; Stier-Jarmer et al., 2021; Trembath et al., 2023). Half of the reviews assessed the overlap of primary studies (Stern & Chur-Hansen, 2019; Stier-Jarmer et al., 2021; Trembath et al., 2023), which is crucial because including the same primary study in multiple reviews can overestimate the evidence (Pieper et al., 2014). Five umbrella reviews assessed the quality of the included reviews (Antonelli et al., 2022; Panțiru et al., 2024; Stern & Chur-Hansen, 2019; Stier-Jarmer et al., 2021; Trembath et al., 2023), whereas only three provided information on quality at the primary study level (Antonelli et al., 2022; Stier-Jarmer et al., 2021; Trembath et al., 2023). A summary of the methodological appraisal is in Fig. 6.1. Details for each review are in sections covering each green care modality separately.

Author	Antonelli et al., 2022.	Stier-Jarmer et al., 2021.	Pantiru et al., 2024.	Alarcon-Braga et al., 2023.	Stern & Chur-Hansen, 2019.	Trembath et al., 2023.
Number of databases searched	7	9	4	4	10	13
Did the authors search for grey literature?	🔴	🟢	🔴	🔴	🟢	🟢
Did the authors follow an a priori protocol?	🟢	🟢	🔴	🔴	🟢	🟢
Did the authors assess the overlap of primary studies?	🔴	🟢	🔴	🔴	🟢	🟢
Did the authors assess the quality of the included reviews with valid tools?	🟢	🟢	🟢	🔴	🟢	🟢
Did the authors provide information on the quality of primary studies?	🟢	🟢	🔴	🔴	🔴	🟢
🟢 : Yes 🔴 : No						

Fig. 6.1 Methodological appraisal of included umbrella reviews (The authors developed this Figure.)

Description of Umbrella Reviews by Green Care Modality

Forest Therapy

Two umbrella reviews were recently published on the green care modality "forest therapy" (Antonelli et al., 2022; Stier-Jarmer et al., 2021). Both reviews have a broad scope concerning population and outcomes, without focusing on a specific diagnosis or age group, and examining various outcomes, including mental health and wellbeing. Methodologically, both reviews had registered protocols, included a wide range of databases, and formally assessed the quality of included systematic reviews and primary studies. The review by Stier-Jarmer et al. (2021) also included grey literature and an assessment of overlap among included studies (Fig. 6.1).

The reviews differed slightly in intervention definitions. Stier-Jarmer et al. (2021) included any "forest-based intervention," while Antonelli et al. (2022) focused on "forest bathing," defined as walking, meditating, or resting in a forest for a specific time. Antonelli et al. (2022) sifted through primary studies to include only forest bathing data, even in reviews of broader NBIs.

Twenty-one unique systematic reviews on forest therapy were included across the two umbrella reviews. Fifteen appeared in only one review, whereas six appeared in both. Here, we present separate descriptions of both umbrella reviews.

FT1: "Effects of Forest Bathing (Shinrin-Yoku) on Individual Well-Being: An Umbrella Review" (Antonelli et al., 2022)

Antonelli et al. (2022) aimed to outline the most relevant benefits of forest bathing and grade the strength of potential recommendations for promoting individual wellbeing. Sixteen systematic reviews (six with meta-analyses) published between 2012 and 2021 were included, covering 281 primary studies. The authors did not assess the overlap of primary sources across reviews; therefore, it was not possible to evaluate the risk of overestimating the evidence. The quality of the included systematic reviews was assessed using an eight-item appraisal tool from the U.S. National Institutes Of Health (2021). Five reviews rated as "good quality," seven as "fair quality," and four as "poor quality." At the primary study level, the quality of the included studies was deemed "fair to poor."

The population included healthy individuals and those affected by various health or mental health concerns, excluding paediatric populations. Sample sizes ranged from 112 to 2257 participants, with a median of 870. Of the 16 reviews, only five focused exclusively on forest bathing, while the others addressed broader NBIs or nature exposure. Only data specifically related to forest bathing were included and analysed in the umbrella review, excluding virtual forest experiences and activities in urban parks.

Outcomes of interest were grouped into five categories: psychophysical stress, mental illness (particularly anxiety and depression), hypertension, immune system functioning, and overall health. Forest bathing interventions were considered successful for relaxation, stress relief, and improving anxiety and mood. The authors concluded that the strongest evidence supports forest bathing as a complementary practice for enhancing mental wellbeing, including stress, anxiety, and mild mood issues. However, they emphasised that more research is needed before it can be prescribed for specific conditions. A summarised list of recommendations and grades of evidence, as presented by the authors, can be found in Table 6.2, adapted from Antonelli et al. (2022).

FT2: "The Psychological and Physical Effects of Forests on Human Health: A Systematic Review of Systematic Reviews and Meta-Analyses" (Stier-Jarmer et al., 2021)

Stier-Jarmer et al. (2021) conducted an umbrella review on psychological and physical effects of forests on human health, including 11 systematic reviews (three with meta-analyses), published between 2016 and 2019, representing 131 primary sources (39 randomised controlled trials, 55 nonrandomised controlled trials, 32 noncontrolled trials, and five with no information provided). The risk of overestimating evidence due to primary study overlap was considered low. Using AMSTAR-2 (Shea et al., 2017) to assess review quality, they identified three reviews of very low quality, six of low quality, and two of moderate

Table 6.2 FT1: Summary of results, as presented by the authors

FT1: Summary of results, as presented by Antonelli et al. (2022)
Major recommendations (Grade 1—strong evidence, 2A—probable evidence) of forest bathing as a complementary practice for wellbeing promotion in healthy or subhealthy subjects: – psychophysical relaxation and stress relief: Grade 1 (seven SRs) – anxiety reduction: Grade 2A (two SRs) – mood improvement: Grade 2A (four SRs)
Minor recommendations (Grade 2B—possible evidence) (considering studies other than SRs included): – (+) mood in alcohol addiction, cardiovascular conditions, respiratory conditions – (+) cognitive function in heathy subjects – (−) stress levels, (−) inflammatory markers and (=) immune markers in healthy subjects – (−) heart rate, blood pressure, inflammatory markers in cardiovascular conditions
Minor recommendations (Grade 2C—limited evidence) (considering studies other than SRs included): – (+) sleep quality in patients with insomnia or impaired sleep quality – (+) subjective wellbeing and (−) stress levels in war-related PTSD – (−) ADHD-related behavioural symptoms in ADHD patients – Improvements in symptoms and/or functional markers of respiratory conditions (asthma, COPD), diabetes, atopic dermatitis
Key findings from six meta-analysis: Duration: Longer forest bathing sessions tend to have greater effects. Participants: Women and individuals from Asian cultures may benefit more

Note SR = systematic review; (+) = improved; (−) = decreased; (=) = no difference; PTSD = post-traumatic stress disorder; ADHD = attention-deficit/hyperactivity disorder; COPD = chronic obstructive pulmonary disease

quality. None were high quality. At the primary study level, authors reported a high risk of bias—mainly selection, detection, and performance biases—in most studies.

The systematic reviews examined populations ranging from healthy children, adolescents, and adults to individuals with health concerns. Total sample sizes varied from 126 to 2257 participants. Interventions included active and passive forest experiences, lasting 15 min to 9 days. Outcomes were grouped into six categories: cardiovascular system, immune and inflammatory parameters, metabolic parameters, atopic dermatitis parameters, mental health, and sociality. Outcome measures were diverse and heterogeneous across primary studies. Psychological outcomes included depression and anxiety scores, stress response, anger, self-esteem, resilience, and scales measuring quality of life, health-promoting behaviour, and subjective wellbeing.

Table 6.3 summarises the umbrella review results. Interventions were considered successful, with beneficial effects in mental health mainly observed in reducing stress, depression, anxiety, and negative emotions. The authors noted limitations due to methodological concerns: Most systematic reviews were of low quality, citing poor study design, inadequate control groups, and unsuitable populations, limiting overall evidence strength. However, they emphasised that higher

Table 6.3 FT2: Summary of results, as presented by the authors

FT2: Summary of results, as presented by Stier-Jarmer et al. (2021)
Summary of associations between forest-based interventions and health effects or outcomes on:
Mental health: six reviews – stress (cortisol level and PRO): (+) mainly improvement in five reviews (low quality) – anxiety and depression (PRO): (+) mainly improvement in five reviews (four low quality and one moderate) or (+/ −) mixed results in one review – negative emotions (PRO): (+) mainly improvement in four reviews – quality of life or wellbeing (PRO): (+) mainly improvement in two reviews (low quality) or (+/ −) mixed results in one review (low quality)
Sociality: one review (low quality): primary school children – (+) mainly improvement in sociality (PRO), social competence (PRO), school violence attitude (PRO), life respect (PRO) – (+/ −) mixed results: school adjustment (PRO)

Note PRO = patient-reported outcome; (+) = mainly improvement; (+/ −) = mixed results

quality reviews indicated forest bathing may benefit cardiovascular health by lowering blood pressure and heart rate and improve mental health by reducing stress, depression, anxiety, and anger in healthy individuals and those with health concerns.

Horticultural Therapy

HT1: "The Impact of Gardening on Wellbeing, Mental Health, and Quality of Life: An Umbrella Review and Meta-Analysis" (Panțiru et al., 2024)

Panțiru et al. (2024) aimed to synthesise knowledge on the impact of gardening-centred activities on wellbeing outcomes (mental health, wellbeing, and quality of life) and evaluate evidence quality. Defining "gardening" as "domestic, recreational, and therapeutic activities with gardening as a key component," they searched four databases and Google Scholar, excluding grey literature. Quality assessment used AMSTAR-2 (Shea et al., 2017) but provided no information on primary study quality assessment (see Fig. 6.1).

Forty reviews published between 2014 and 2023 were included: 10 contained only interventional studies, two included only observational studies, and 28 included both. Six performed meta-analyses. The reviews encompassed 164 primary sources (four to 84 per review). Overlap among primary studies was not assessed, precluding comments on potential evidence overestimation.

The population included adults living independently, in residential or care homes, and specific clinical populations. Participant numbers ranged from 248 to 1669. Interventions included home gardening, allotment or community gardening,

and therapeutic gardening. Outcomes were grouped into mental health, wellbeing, and quality of life; however, no data were provided on specific outcome measures.

Of the 40 reviews included, eight covered horticultural therapy specifically, rather than any gardening activity, and were deemed more relevant for the Centre's project of accruing green care evidence. These eight reviews focused exclusively on interventions: six on horticultural therapy alone and two on studies including both horticultural therapy and general gardening activities. Quality assessment of these eight papers, using AMSTAR-2 (Shea et al., 2017), found five reviews of very low quality, one of low quality, and two of moderate quality. None was considered high quality. Overall, data indicated positive effects of horticultural therapy on mental health (four out of six reviews), wellbeing (four out of six reviews), and less consistent effects on quality of life (one out of three reviews). A summary of the results is presented in Table 6.4.

The authors highlighted that study findings should be viewed cautiously because of the low quality of most included reviews and significant variability among available meta-analyses. Consequently, they noted that current evidence does not support strong recommendations regarding the benefits of gardening activities and horticultural interventions for wellbeing outcomes, emphasising the need for more detailed research. This included examining whether specific aspects of gardening

Table 6.4 HT1: Summary of results, as presented by the authors

HT1: Summary of results, as presented by Panțiru et al. (2024)
Data from $N = 8$ reviews focusing solely on interventional studies of HT or HT + Gardening:
a. Mental health: assessed in six reviews – positive effects: four (one in cognition, one in depression) reviews – unclear effects: two reviews – negative effects: none
b. Wellbeing: assessed in six reviews – positive effects: four reviews – unclear effects: two reviews – negative effects: none
c. Quality of life: assessed in three reviews – positive effects: one review – unclear effects: two reviews – negative effects: none
Data from other 21 reviews (that included both observational and interventional studies, being 17 solely HT and four HT + Gardening): overall positive results for all constructs and in different populations
Meta-analysis in a subsample of six studies (not only HT): overall 55% increment in wellbeing measures (95% CI: 0.23–0.87) for gardening. This interpretation is made cautiously given the variation in measures of effect size (e.g., SMD vs MD) between the studies. Heterogeneity across the included studies was statistically significant ($I2 = 88.5\%$, $p < 0.001$)

Note HT = horticultural therapy; CI = confidence interval; SMD = standardised mean difference; MD = mean difference

were associated with the outcomes studied. Recommendations for future studies included focusing on specific types, quantities, and intensities of gardening activities and conducting robust randomised controlled trials to establish causal relationships between gardening and wellbeing.

Animal-Assisted Therapy

Three umbrella reviews on animal-assisted therapy, published between 2018 and 2023, were retrieved during our exploratory search (Alarcon-Braga et al., 2023; Stern & Chur-Hansen, 2019; Trembath et al., 2023). All three explored broader outcomes, including mental health and wellbeing. One review focused on general animal-assisted therapy for people with dementia (Alarcon-Braga et al., 2023), one investigated equine-assisted therapy for nonspecific populations (Stern & Chur-Hansen, 2019), and the third focused on broader nonpharmacological interventions for autistic children, including animal-assisted therapy (Trembath et al., 2023).

In total, 25 systematic reviews, published between 2007 and 2020, were included across the three umbrella reviews. Due to the heterogeneity of scopes, overlapping of systematic reviews was minimal, with only one review featured in two umbrella reviews. Two umbrella reviews (Stern & Chur-Hansen, 2019; Trembath et al., 2023) can be considered methodologically stronger (see Fig. 6.1 for reasons).

AAT1: "Animal-assisted Therapy in Dementia: An Updated Literature Review" (Alarcon-Braga et al., 2023)

In this updated literature review, Alarcon-Braga et al. (2023) aimed to identify studies evaluating the role of animal-assisted therapy in patients with dementia and summarise the latest evidence. The authors searched four databases, excluding grey literature. They included 22 studies published between 2010 and 2020, including six systematic reviews encompassing 143 primary sources. No meta-analysis, study type description, review quality assessment, or primary study quality data were reported.

The included systematic reviews investigated the effects of animal-assisted therapy, involving various animals and robot dogs, in people with dementia. Outcomes were grouped into psychiatric or psychological effects, cognitive and physical benefits, and quality of life and daily living. Examples of outcome measures included quality of life, agitation, depression, daily life activities, cognitive impairment, aggression, mood, social behaviour, activity, diet, behavioural disturbances, functional status, and physical health.

A summary of the results is presented in Table 6.5. Overall, the reviews found mostly marginal, mixed, and inconclusive results across all outcome groups. The authors concluded that evidence regarding the effectiveness of animal-assisted therapy for people with dementia is conflicting. Some studies

Table 6.5 AAT1: Summary of results, as presented by the authors

AAT1: Summary of results, as presented by Alarcon-Braga et al. (2023)
(1) Psychiatric or psychological effects – aggressive behaviour: one SR with mixed results – agitation: two SR with null results – social behaviour: one SR inconclusive – depression: one SR with positive association, one SR inconclusive
(2) Cognitive and physical benefits: – one SR showing small intervention effect in cognitive capacity (0.13, with substantial heterogeneity)
(3) Quality of life and daily living: – trends towards positive results in one SR

Note SR = systematic review

reported significant improvements in neurocognition, motor skills, and quality of life, whereas others found no effects. Similar inconsistencies exist regarding animal-assisted therapy's impact on social behaviour, aggression, agitation, and depression. The authors suggested more high-quality studies with larger sample sizes are needed, as current evidence does not allow for definitive conclusions in any evaluated area.

AAT2: "An Umbrella Review of the Evidence for Equine-Assisted Interventions" (Stern & Chur-Hansen, 2019)

Stern and Chur-Hansen (2019) published an umbrella review examining evidence for equine-assisted therapy to determine the levels of evidence for this intervention on biological, psychological, and social health and wellbeing of diverse populations. They defined animal-assisted therapy as "a goal-oriented, planned, structured and documented therapeutic intervention directed by health and human service providers as part of their profession" (p. 363). Animal-assisted activity was defined as activities that "provide opportunities for motivational, educational, and/or recreational benefits to enhance quality of life. While more informal in nature, these activities are delivered by a specially trained professional, paraprofessional, and/or volunteer, in partnership with an animal that meets specific criteria for suitability" (p. 363). This review included both animal-assisted activity and animal-assisted therapy, with the animal being a living horse, referred to as equine-assisted intervention.

The review was registered with an a priori protocol. The authors searched 10 databases, including grey literature, and included 13 reviews published between 2007 and 2018, with meta-analyses in two. The reviews encompassed 128 primary sources, representing 79 unique studies, with slight overlap (CCA = 4.63%; Pieper et al., 2014), indicating low risk of overestimating evidence. The authors assessed quality using the JBI 11-item CACSRRS (Joanna Briggs Institute, 2020), assigning

scores from 0 to 11. Two reviews scored 10/11, five 9/11, five 8/11, and one 5/11. Six reviews were excluded for not meeting essential criteria.

Regarding populations, six reviews focused on children and adolescents (mainly those with cerebral palsy), five exclusively on adults, and two on mixed populations. Most reviews targeted specific health conditions or impairments, whereas two had no specific predefined criteria. Study participants ranged from 36 to 601.

The reviews were not exclusive to animal-assisted interventions. Four examined broader interventions, of which equine-assisted intervention was one of multiple included. Studies described equine-assisted interventions in various ways, encompassing different intervention types delivered by different professionals. Most reviews distinguished between hippotherapy (equine-assisted therapy) and therapeutic horseback riding (equine-assisted activity). Most sessions lasted 30 to 60 min, provided once or twice weekly, with program durations of 4 to 33 weeks.

Findings were grouped by population or condition, with outcomes categorised under the biopsychosocial model: biological (e.g., blood pressure, heart rate, mobility), psychological (e.g., depression, anxiety, quality of life, cognitive status), and social (e.g., social functioning, interaction). The included reviews predominantly presented biological outcomes, with gross motor function measure (GMFM) being the most frequently reported. Reviews on autism spectrum disorder (ASD) measured more psychological outcomes. Only six of 13 reviews investigated mental health and quality of life outcomes.

A summary of results (excluding motor and physical outcomes) can be found in Table 6.6. Overall, results were mixed and inconsistent across included primary studies. The authors concluded that current evidence for equine-assisted interventions for adults and children across various conditions is inconclusive. Due to methodological flaws, they stated, these interventions cannot yet be considered best practice. More rigorous research is required to establish their effectiveness.

AAT3: "Non-pharmacological Interventions for Autistic Children: An Umbrella Review" (Trembath et al., 2023)

Trembath et al. (2023) conducted an umbrella review of nonpharmacological interventions for autistic children, including 58 systematic reviews (2015–2020) encompassing 1787 original publications. Seven systematic reviews investigated animal-assisted therapy, covering 59 primary sources. The overlap of primary studies was considered low (CCA = 0.65%; Pieper et al., 2014), indicating a small risk of overestimating evidence. The review was conducted with high methodological rigour, using an a priori registered protocol, and searches across 13 databases and grey literature. Quality assessment used the JBI 11-item CACSRRS (Joanna Briggs Institute, 2020), resulting in two high-quality and five low-quality systematic reviews. At the primary study level, one systematic review included solely high-quality or low-risk-of-bias studies, two included low-quality or high-risk-of-bias studies, and no data were provided for four systematic reviews.

Table 6.6 AAT2: Summary of results as presented by the authors

AAT2: Summary of results, as presented by Stern and Chur-Hansen (2019) (excluding biological outcomes)
Children with cerebral palsy: Outcomes reported were exclusively motor or physical outcomes, and findings were mixed
Children and adolescents with ASD: two reviews—domains: – social communication: nine in 11 studies showing significant improvements – behavioural: five in seven studies showing significant improvement – quality of life: two in three studies showing improvements – physiological, functional participation, and executive functioning: one study each, all showing significant effects following the intervention – calculation of effect sizes: the intervention only produced positive effects in the behavioural domain
Adults with multiple sclerosis: three reviews. Most outcomes in the physical domain. – individual studies showing improvements in depression; and showing no improvements in quality of life
Elderly: two reviews. Most outcomes reported were in the physical domain. A single study showed improvement in quality of life
Adult post-stroke: three reviews. Most outcomes reported were in the physical domain. A single study showed improvement in quality of life
Spinal cord injuries: one review. Mixed results for wellbeing
Adults with serious mental illness: two reviews (schizophrenia and aggression). An improvement in negative psychiatric symptoms and a reduction in hospitalisations were noted in the first study using THR (statistical data not provided), while a statistically significant reduction in violent incidences and aggression was reported in the other study utilising hippotherapy
Brain disorders: no changes in depression (one study)
Breast cancer survivors: significant improvement in quality of life (one study)

Note ASD = autism spectrum disorder; THR = therapeutic horse riding

The population was children with autism (including ASD, Asperger's syndrome, and variations), with sample sizes ranging from 66 to 428 participants. The authors did not provide a specific definition of animal-assisted therapy. Interventions included canine-assisted therapy (two systematic reviews), equine-assisted therapy (three systematic reviews), and unspecified animal-assisted therapy (two systematic reviews). No information on duration or other intervention characteristics was provided.

Outcome domains were grouped into four categories: core autism characteristics, related skills and development, education and participation, and family wellbeing. For the seven systematic reviews relevant to green care and its impact on mental health and wellbeing, outcomes included social communication, overall autism characteristics, behaviours, sensory function, cognition, and general outcomes.

A summary of the effects of animal-assisted interventions on the selected outcomes is shown in Table 6.7. Therapeutic effects were inconsistent for most systematic reviews across the different outcomes. Consistent null effects for

Table 6.7 AAT3: Summary of results, as presented by the authors

AAT3: Summary of effects on selected outcomes, as presented by Trembath et al. (2023)
Assorted animals (two SRs low quality): – null effect for general outcomes
Canine assisted (two SRs, one low quality, one high quality): – inconsistent therapeutic effect for social communication
Equine assisted (three SRs, one high quality, two low quality): – positive therapeutic effect: sensory behaviours (one low quality SR) – inconsistent therapeutic effect: motor skills, social–emotional challenging behaviour, quality of life, community participation (one low-quality SR each outcome); general outcomes (one low quality + one high quality SR) – null therapeutic effect: social communication, communication, cognition, adaptive behaviour (one low quality SR each)
Adverse effects: – not reported in five SR – considered and none identified in one SR (equine assisted) – reported in one SR (canine assisted)—"undesirable behaviours": increase in tantrums, anxiety and aggression (one primary study); some anxiety towards the dog (one primary study); increase in self-stimulating behaviours (hand flapping frequency or duration; one primary study)

Note SR = systematic review

general outcomes were reported in two low-quality systematic reviews on animal-assisted therapy with assorted animals. Five systematic reviews showed mixed effects for equine-assisted therapy, whereas inconsistent effects on social communication were reported for canine-assisted therapy. One systematic review on canine-assisted therapy reported adverse effects in three primary studies (e.g., "undesirable behaviours," anxiety towards the dog, and an increase in self-stimulating behaviours).

The authors' conclusions pertained to the broad umbrella review of grouped nonpharmacological interventions. They stated the umbrella review identified various positive effects of interventions for autistic children, benefiting both child and family outcomes. However, no single intervention was the most effective for all children or addressed all outcomes effectively. The potential impact of intervention and child characteristics on outcomes remains largely uncertain. No specific conclusions were drawn regarding animal-assisted interventions.

Other Green Care Modalities

Currently, no umbrella review exists on therapeutic farming or adventure therapy, although multiple systematic reviews of these modalities have been identified. Our team is conducting two separate umbrella reviews on therapeutic farming and

adventure therapy. The literature search is complete, and we are extracting data, including quality assessments, evidence summaries, and discussions. Here, we provide a brief overview of the key systematic reviews identified during the umbrella review process.

Therapeutic Farming

Nine systematic reviews on therapeutic farming were identified (Berget & Braastad, 2011; Gorman & Cacciatore, 2017; Iancu et al., 2015; Lakhani et al., 2019; Murray et al., 2019; Nguyen et al., 2023; Obeng et al., 2023; Rueff & Reese, 2023; Steigen et al., 2016), covering primary studies from 1993 to 2021. Published between 2011 and 2023, these reviews originated from countries such as Australia, Norway, and the United Kingdom. Four reviews focused on therapeutic farming (Berget & Braastad, 2011; Gorman & Cacciatore, 2017; Iancu et al., 2015; Murray et al., 2019), whereas five examined broader NBIs, including therapeutic farming (Lakhani et al., 2019; Nguyen et al., 2023; Obeng et al., 2023; Rueff & Reese, 2023; Steigen et al., 2016).

The definition of therapeutic farming varied but generally involved therapeutic interventions in a farm setting, with participants performing farming activities, such as animal care and horticulture. Interventions varied in content and duration. The reviews differed in population focus, targeting individuals with mental health conditions or broader groups. Outcome definitions were diverse, assessing general health effects or focusing on mental health and wellbeing.

In total, 32 unique primary studies were included, mostly uncontrolled before-and-after (UBA) designs, along with randomised controlled trials, cross-sectional studies, cohort studies, and nonrandomised trials. A moderate overlap of primary studies (CCA: 8.2%; Pieper et al., 2014) was noted, potentially inflating the evidence estimates. Relevant therapeutic farming studies per review ranged from two to 13, with sample sizes from 88 to 682 participants. Most studies were conducted in Norway, the Netherlands, and the United Kingdom.

Preliminary results show most reviews report short-term positive effects on depression, anxiety, psychosocial functioning, and wellbeing. However, methodological limitations, including small sample sizes, limited follow-up, and reliance on uncontrolled trials, affect the evidence strength. Rigorous research is needed to understand the effectiveness of therapeutic farming across populations and its implementation in specific health conditions.

Adventure Therapy

Sixteen systematic reviews on adventure therapy, published between 2000 and 2024, were identified (Annerstedt & Wahrborg, 2011; Beck & Wong, 2022;

J. Bettmann et al., 2016; J. E. Bettmann et al., 2024; Bowen & Neill, 2013; Cahill et al., 2020; Chan et al., 2021; Gillis et al., 2016; Greer & Vin-Raviv, 2019; Lackey et al., 2021; Lakhani et al., 2019; Mann et al., 2022; Mygind et al., 2019; Obeng et al., 2023; Rosa et al., 2023; Wilson & Lipsey, 2000), six including meta-analyses (Beck & Wong, 2022; J. Bettmann et al., 2016; J. E. Bettmann et al., 2024; Bowen & Neill, 2013; Gillis et al., 2016; Wilson & Lipsey, 2000). The reviews originated from various countries, with seven from the United States and two from Australia. Eight reviews focused specifically on adventure therapy (Beck & Wong, 2022; J. Bettmann et al., 2016; Bowen & Neill, 2013; Chan et al., 2021; Greer & Vin-Raviv, 2019; Rosa et al., 2023; Wilson & Lipsey, 2000), whereas eight included various NBIs but provided grouped data for adventure therapy (Annerstedt & Wahrborg, 2011; J. E. Bettmann et al., 2024; Cahill et al., 2020; Gillis et al., 2016; Lackey et al., 2021; Lakhani et al., 2019; Mann et al., 2022; Mygind et al., 2019; Obeng et al., 2023).

Definitions of adventure therapy varied significantly across reviews. The most distinguishing features were its setting in nature and inclusion of "adventure" (e.g., risk or novelty). Interventions differed in content and duration. Target populations varied widely, ranging from the general population to individuals with specific needs, including vulnerable youth and people with mental health conditions. Seven reviews focused primarily on children and adolescents, three on adults, and five included both. Outcomes were heterogeneous across reviews, with some evaluating specific mental, social, or behavioural outcomes, and others evaluating broader health outcomes.

Although preliminary results are in development, reviews on adventure therapy likely share similar limitations with those on therapeutic farming, including a lack of controlled studies, limited follow-up data, small sample sizes, and heterogeneous interventions, affecting the strength of evidence.

Summary of the Conclusions

Evidence from umbrella reviews is available for three of the five studied green care modalities: forest, horticultural, and animal-assisted therapies. While each has distinct characteristics, they follow a similar pattern in terms of evidence strength. Numerous reviews and primary studies exist, but most use single-group, UBA designs, limiting effectiveness assessment due to lack of control groups, follow-up data, and small sample sizes. Despite methodological limitations, studies generally report short-term positive effects across various outcomes, although some findings are not statistically significant. As populations, interventions, and outcomes are highly heterogeneous, conclusions regarding specific intervention aspects for specific needs in specific populations are inconclusive. Table 6.8 summarises conclusions from each umbrella review discussed in this chapter.

Table 6.8 Summary of conclusions from umbrella reviews on forest therapy, horticultural therapy, and animal-assisted therapy

Modality	Umbrella review	Conclusion
Forest therapy	(Antonelli et al., 2022)	• Forest bathing interventions generally found to be effective for relaxation, stress relief, and improving anxiety and mood. • The most robust evidence supports forest bathing as a complementary practice for enhancing mental wellbeing, particularly for stress, anxiety, and mild mood issues • Need for more research before it can be recommended for specific medical conditions • Its positive effects on quality of life and cost effectiveness could justify its use in preventive medicine
	(Stier-Jarmer et al., 2021)	• Forest-based interventions generally deemed successful, showing positive effects on mental health, particularly in reducing stress, depression, anxiety, and negative emotions • Most systematic reviews were of low quality, with poor study design, inadequate control groups, and unsuitable populations, limiting their overall contribution to the evidence • Higher quality reviews suggested forest bathing could benefit cardiovascular health by lowering blood pressure and heart rate and improve mental health by reducing stress, depression, anxiety, and anger in both healthy individuals and those with health conditions
Horticultural therapy	(Panțiru et al., 2024)	• The current evidence does not support strong recommendations regarding the benefits of gardening activities and horticultural interventions for wellbeing outcomes • Main limitations: low quality of most included reviews and significant variability among the available meta-analyses
Animal-assisted therapy	(Alarcon-Braga et al., 2023)	• Research on animal-assisted therapy for dementia patients yields mixed results • More high-quality studies with larger sample sizes are needed • The current evidence is insufficient to draw definitive conclusions in the areas of neurocognition, motor skills, quality of life, social behaviour, aggression, agitation, and depression

(continued)

Table 6.8 (continued)

Modality	Umbrella review	Conclusion
	(Stern & Chur-Hansen, 2019)	• The current evidence for equine-assisted interventions for both adults and children across various conditions is inconclusive • Due to numerous methodological flaws, these interventions cannot yet be considered best practice • More rigorous research is required to establish their effectiveness
	(Trembath et al., 2023)	• Several positive effects of broader nonpharmacological interventions for autistic children, benefiting both the children and their families • No single intervention was universally effective for all children or addressed all outcomes comprehensively • The influence of intervention and child characteristics on outcomes remains largely unclear • No specific conclusions were drawn regarding animal-assisted interventions

Final Considerations

In combining these findings, the team recognised a tension between generally positive effects (few adverse side effects; general trend towards individuals finding these strategies helpful) and a lack of evidence supporting specific interventions for targeted health and mental health outcomes. While evidence for specific interventions targeting defined conditions may be "in development," the corpus of evidence suggests that exposure to natural environments likely positively affects health and overall wellbeing. Benefits to mental health, physical health, and wellbeing are consistently evidenced across green care interventions. Despite the strong association between nature and health, there remains a lack of high-quality clinical trials directly associating particular interventions with quantifiable health outcomes for populations with specific identified needs. UBA studies, small sample sizes, and sparse follow-up data undermine the evidence base quality. If the goal is to position these interventions as alternatives to mainstream treatments, resolving such methodological issues is essential for moving the field forward. Nonetheless, evidence is arguably supportive of the use of NBIs as preventive or positive experiences that can support individuals' mental health and wellbeing.

A significant limitation of these reviews is the insufficient exploration of crucial practical elements including safety, risk management, accreditation, and professional standards. With the expansion of green care interventions, it is necessary to

develop guidelines to promote safe and effective delivery. These aspects should be included in future research to derive a full picture of the feasibility and scalability associated with outdoor therapies.

Next Steps

Some key actions can strengthen the evidence base and enhance the legitimacy of green care interventions. For researchers, expanding umbrella reviews to cover areas such as therapeutic farming and adventure therapy will help create a more comprehensive map of outdoor therapy evidence, potentially clarifying their benefits, identifying key populations, and refining intervention models, for a more precise understanding of their effectiveness.

At the evidence synthesis level, incorporating a broader range of literature (including grey literature and non-English studies), examining primary study overlap, and conducting rigorous quality appraisals will improve the robustness of the synthesis. However, because the strength of systematic reviews depends on the quality of the studies they analyse, investing in well-designed controlled trials with standardised outcome measures, long-term follow-up data, and strong evaluation frameworks—including implementation aspects—is essential. This approach will generate the reliable evidence needed to inform policy decisions and support the long-term integration of outdoor therapies into healthcare systems.

Another key strategy is to identify best practices through case studies of effective programs for different green care modalities worldwide. An example is assessing approaches employed by nations like the United Kingdom (Mitchell & Finton, 2022; NatureScot, n.d.), Norway (Inn På Tunet Norge SA, 2022; Norwegian Ministry of Agriculture and Food and Norwegian Ministry of Local Government and Regional Development, 2012), and the Netherlands (Federatie Landbouw en Zorg and [Federation of Agriculture and Care], 2025a, 2025b) in planning, funding, and operating therapeutic farming as part of their healthcare systems. By analysing such cases, best practices can be highlighted and empirical evidence of their impact provided. These case studies can act as templates for replication and scale-up in diverse settings. It is surprisingly difficult to find accessible accounts of how specific interventions work (i.e., are regulated, managed, funded) across settings. Case studies that provide a comprehensive depiction of specific interventions would be a welcome addition for stakeholders unfamiliar with the field.

Consultation with practitioners in outdoor health and allied professions can yield insights into scaling up interventions, enhancing methodological rigour, and filling gaps in areas such as safety and accreditation. Including knowledge from individuals actively engaged in the field can link research and policy work more closely to implementation practicalities.

Lastly, promoting collaboration at national and state levels can ensure the incorporation of green care interventions into general health and social care systems. Partnerships among researchers, policymakers, healthcare providers, and outdoor health

organisations can empower policy development, funding opportunities, and implementation approaches that advance the availability of outdoor therapies in Australia. By embracing such practices, outdoor health can advance towards a more coherent, evidence-based approach, ensuring NBIs continue delivering significant gains to public health and wellbeing.

References

Alarcon-Braga, E. A., Salazar-Valdivia, F. E., Valdez-Cornejo, V. A., Mosquera-Rojas, M. D., Rondon-Saldana, J. C., & Segura, E. R. (2023). Animal-assisted therapy in dementia: An updated literature review. *Aging Medicine and Healthcare*, *14*, 43–47.

Annerstedt, M., & Wahrborg, P. (2011). Nature-assisted therapy: Systematic review of controlled and observational studies. *Scandinavian Journal of Public Health*, *39*, 371–388.

Antonelli, M., Donelli, D., Carlone, L., Maggini, V., Firenzuoli, F., & Bedeschi, E. (2022). Effects of forest bathing (shinrin-yoku) on individual well-being: An umbrella review. *International Journal of Environmental Health Research*, *32*, 1842–1867.

Aromataris, E., Lockwood, C., Porritt, K., Pilla, B., & Jordan, Z. (2024). *JBI manual for evidence synthesis*. JBI. https://synthesismanual.jbi.global/

Barragan-Jason, G., Loreau, M., De Mazancourt, C., Singer, M. C., & Parmesan, C. (2023). Psychological and physical connections with nature improve both human well-being and nature conservation: A systematic review of meta-analyses. *Biological Conservation*, *277*, 109842.

Beck, N., & Wong, J. S. (2022). A meta-analysis of the effects of wilderness therapy on delinquent behaviors among youth. *Criminal Justice and Behavior*, *49*, 700–729.

Berget, B., & Braastad, B. O. (2011). Animal-assisted therapy with farm animals for persons with psychiatric disorders. *Annali dell'Istituto Superiore di Sanita*, *47*, 384–390.

Berget, B., Braastad, B., Burls, A., Elings, M., Hadden, Y., Haigh, R., Hassink, J., & Haubenhofer, D. (2010). *Green care: A conceptual framework. A report of the working group on the health benefits of green care*. Loughborough University.

Bettmann, J., Gillis, H., Speelman, E., Parry, K., & Case, J. (2016). A meta-analysis of wilderness therapy outcomes for private pay clients. *Journal of Child & Family Studies*, *25*, 2659–2673.

Bettmann, J. E., Speelman, E., Blumenthal, E., Couch, S., & Schmalz, D. L. (2024). Nature exposure, even as little as 10 minutes, is likely to yield short-term benefits for adults with mental illness: A meta-analysis. *Ecopsychology*, *16*(3), 174–190.

Bowen, D. J., & Neill, J. T. (2013). A meta-analysis of adventure therapy outcomes and moderators. *The Open Psychology Journal*, *6*.

Cahill, S. M., Egan, B. E., & Seber, J. (2020). Activity- and occupation-based interventions to support mental health, positive behavior, and social participation for children and youth: A systematic review. *The American Journal of Occupational Therapy*, *74*, 7402180020p1–7402180020p28

Chan, Y. T., Lau, H. Y., Chan, W. Y., Cheung, C. W., Lui, W., Chane-Thu, Y. S. J., Dai, W. L., To, K. C., & Cheng, H. L. (2021). Adventure therapy for child, adolescent, and young adult cancer patients: A systematic review. *Supportive Care in Cancer*, *29*, 35–48.

Choi, G. J., & Kang, H. (2022). The umbrella review: A useful strategy in the rain of evidence. *The Korean Journal of Pain*, *35*, 127–128.

Coventry, P. A., Brown, J. E., Pervin, J., Brabyn, S., Pateman, R., Breedvelt, J., Gilbody, S., Stancliffe, R., Mceachan, R., & White, P. L. (2021). Nature-based outdoor activities for mental and physical health: Systematic review and meta-analysis. *SSM—Population Health*, *16*, 100934.

Federatie Landbouw En Zorg & [Federation of Agriculture and Care]. (2025a). *Kwaliteit Laat Je Zien! [Quality Shows You!]*. https://www.kljz.nl/

Federatie Landbouw En Zorg & [Federation of Agriculture and Care]. (2025b). *Wat is zorglandbouw [What is care farming]*. https://www.zorgboeren.nl/over-zorglandbouw/de-kracht-van-zorglandbouw

Fernandez, R., Sharifnia, A. M., & Khalil, H. (2025). Umbrella reviews: A methodological guide. *European Journal of Cardiovascular Nursing*, zvaf012. Advance online publication. https://doi.org/10.1093/eurjcn/zvaf012

Gates, M., Gates, A., Guitard, S., Pollock, M., & Hartling, L. (2020). Guidance for overviews of reviews continues to accumulate, but important challenges remain: A scoping review. *Systematic Reviews*, *9*, 254.

Gillis, H. L., Jr., Speelman, E., Linville, N., Bailey, E., Kalle, A., Oglesbee, N., Sandlin, J., Thompson, L., & Jensen, J. (2016). Meta-analysis of treatment outcomes measured by the Y-OQ and Y-OQ-SR comparing wilderness and non-wilderness treatment programs. *Child & Youth Care Forum*, *45*, 851–863.

Gorman, R., & Cacciatore, J. (2017). Cultivating our humanity: A systematic review of care farming & traumatic grief. *Health & Place*, *47*, 12–21.

Greer, M., & Vin-Raviv, N. (2019). Outdoor-based therapeutic recreation programs among military veterans with posttraumatic stress disorder: Assessing the evidence. *Military Behavioral Health*, *7*, 286–303.

Harper, N. J., Fernee, C. R., & Gabrielsen, L. E. (2021). Nature's role in outdoor therapies: An umbrella review. *International Journal of Environmental Research and Public Health*, *18*(10), 5117.

Iancu, S. C., Hoogendoorn, A. W., Zweekhorst, M. B. M., Veltman, D. J., Bunders, J. F. G., & Van Balkom, A. J. L. M. (2015). Farm-based interventions for people with mental disorders: A systematic review of literature. *Disability and Rehabilitation*, *37*, 379–388.

Inn På Tunet Norge SA. (2022). *Tilrettelagte velferdstjenester på gårdsbruk* [Adapted welfare services on farms]. https://innpatunet.no/

Jimenez, M. P., Deville, N. V., Elliott, E. G., Schiff, J. E., Wilt, G. E., Hart, J. E., & James, P. (2021). Associations between nature exposure and health: A review of the evidence. *International Journal of Environmental Research and Public Health*, *18*, 4790.

Joanna Briggs Institute. (2020). *Checklist for systematic reviews and research syntheses*. https://jbi.global/sites/default/files/2019-05/JBI_Critical_Appraisal-Checklist_for_Systematic_Reviews2017_0.pdf

Lackey, N. Q., Tysor, D. A., Mcnay, G. D., Joyner, L., Baker, K. H., & Hodge, C. (2021). Mental health benefits of nature-based recreation: A systematic review. *Annals of Leisure Research*, *24*, 379–393.

Lakhani, A., Norwood, M., Watling, D. P., Zeeman, H., & Kendall, E. (2019). Using the natural environment to address the psychosocial impact of neurological disability: A systematic review. *Health & Place*, *55*, 188–201.

Mann, J., Gray, T., Truong, S., Brymer, E., Passy, R., Ho, S., Sahlberg, P., Ward, K., Bentsen, P., Curry, C., & Cowper, R. (2022). Getting out of the classroom and into nature: A systematic review of nature-specific outdoor learning on school children's learning and development. *Frontiers in Public Health*, *10*, 877058.

Marvier, M., Kareiva, P., Felix, D., Ferrante, B. J., & Billington, M. B. (2023). The benefits of nature exposure: The need for research that better informs implementation. *Proceedings of the National Academy of Sciences of the United States of America*, *120*(44), e2304126120.

Mitchell, R., & Finton, B. (2022, November). *Green health partnerships in Scotland: Evaluation of the first three years*. NatureScot.

Murray, J., Wickramasekera, N., Elings, M., Bragg, R., Brennan, C., Richardson, Z., Wright, J., Llorente, M. G., Cade, J., Shickle, D., Tubeuf, S., & Elsey, H. (2019). The impact of care farms on quality of life, depression and anxiety among different population groups: A systematic review. *Campbell Systematic Reviews*, *15*, e1061.

Mygind, L., Kjeldsted, E., Hartmeyer, R. D., Mygind, E., Bolling, M., & Bentsen, P. (2019). Immersive nature-experiences as health promotion interventions for healthy, vulnerable, and sick populations? A systematic review and appraisal of controlled studies. *Frontiers in Psychology*, *10*, 943.

National Institutes Of Health. (2021). *Study quality assessment tools*. https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools

NatureScot. (n.d.). *Our natural health service*. https://www.nature.scot/professional-advice/contributing-healthier-scotland/our-natural-health-service

Neil, A. L., Pryor, A., Kneebone, J., & Flies, E. J. (2023). Outdoor mental healthcare: What, who, why and where to? *Australasian Psychiatry*, *31*, 798–805.

Nejade, R. M., Grace, D., & Bowman, L. R. (2022). What is the impact of nature on human health? A scoping review of the literature. *Journal of Global Health*, *12*, 04099.

Nguyen, P.-Y., Astell-Burt, T., Rahimi-Ardabili, H., & Feng, X. (2023). Effect of nature prescriptions on cardiometabolic and mental health, and physical activity: A systematic review. *The Lancet Planetary Health*, *7*, e313–e328.

Norwegian Ministry of Agriculture and Food & Norwegian Ministry of Local Government and Regional Development. (2012). *Green care national strategy*.

Obeng, J. K., Kangas, K., Stamm, I., & Tolvanen, A. (2023). Promoting sustainable well-being through nature-based interventions for young people in precarious situations: Implications for social work. A systematic review. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, *24*, 2881–2911.

Panțiru, I., Ronaldson, A., Sima, N., Dregan, A., & Sima, R. (2024). The impact of gardening on well-being, mental health, and quality of life: An umbrella review and meta-analysis. *Systematic Reviews*, *13*, 45.

Paredes-Céspedes, D. M., Vélez, N., Parada-López, A., Toloza-Pérez, Y. G., Téllez, E. M., Portilla, C., González, C., Blandón, L., Santacruz, J. C., & Malagón-Rojas, J. (2024). The effects of nature exposure therapies on stress, depression, and anxiety levels: A systematic review. *European Journal of Investigation in Health, Psychology and Education*, *14*, 609–622.

Pieper, D., Antoine, S. L., Mathes, T., Neugebauer, E. A., & Eikermann, M. (2014). Systematic review finds overlapping reviews were not mentioned in every other overview. *Journal of Clinical Epidemiology*, *67*(4), 368–375.

Rosa, C. D., Chaves, T. S., Collado, S., Larson, L. R., & Profice, C. C. (2023). The effect of nature-based adventure interventions on depression: A systematic review. *Environment and Behavior*, *55*, 140–174.

Rueff, M., & Reese, G. (2023). Depression and anxiety: A systematic review on comparing ecotherapy with cognitive behavioral therapy. *Journal of Environmental Psychology*, *90*, 1–18.

Shanahan, D. F., Astell-Burt, T., Barber, E. A., Brymer, E., Cox, D. T. C., Dean, J., Depledge, M., Fuller, R. A., Hartig, T., Irvine, K. N., Jones, A., Kikillus, H., Lovell, R., Mitchell, R., Niemelä, J., Nieuwenhuijsen, M., Pretty, J., Townsend, M., Van Heezik, Y., … & Gaston, K. J. (2019). Nature-based interventions for improving health and wellbeing: The purpose, the people and the outcomes. *Sports*, *7*(6), 141.

Shea, B. J., Reeves, B. C., Wells, G., Thuku, M., Hamel, C., Moran, J., Moher, D., Tugwell, P., Welch, V., Kristjansson, E., & Henry, D. A. (2017). AMSTAR 2: A critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *British Medical Journal*, *358*, j4008.

Steigen, A. M., Kogstad, R., & Hummelvoll, J. K. (2016). Green care services in the Nordic countries: An integrative literature review. *European Journal of Social Work*, *19*, 692–715.

Stern, C., & Chur-Hansen, A. (2019). An umbrella review of the evidence for equine-assisted interventions. *Australian Journal of Psychology*, *71*, 361–374.

Stier-Jarmer, M., Throner, V., Kirschneck, M., Immich, G., Frisch, D., & Schuh, A. (2021). The psychological and physical effects of forests on human health: A systematic review of systematic reviews and meta-analyses. *International Journal of Environmental Research and Public Health*, *18*, 1770.

Struthers, N. A., Guluzade, N. A., Zecevic, A. A., Walton, D. M., & Gunz, A. (2024). Nature-based interventions for physical health conditions: A systematic review and meta-analysis. *Environmental Research*, *258*, 119421.

Trembath, D., Varcin, K., Waddington, H., Sulek, R., Bent, C., Ashburner, J., Eapen, V., Goodall, E., Hudry, K., Roberts, J., Silove, N., & Whitehouse, A. (2023). Non-pharmacological interventions for autistic children: An umbrella review. *Autism*, *27*, 275–295.

Veritas Health Innovation. (2024). *Covidence systematic review software*. https://www.covidence.org/

Wilson, S., & Lipsey, M. (2000). Wilderness challenge programs for delinquent youth: A meta-analysis of outcome evaluations. *Evaluation and Program Planning*, *23*, 1–12.

Yang, B.-Y., Zhao, T., Hu, L.-X., Browning, M. H. E. M., Heinrich, J., Dharmage, S. C., Jalaludin, B., Knibbs, L. D., Liu, -X.-X., Luo, Y.-N., James, P., Li, S., Huang, W.-Z., Chen, G., Zeng, X.-W., Hu, L.-W., Yu, Y., & Dong, G.-H. (2021). Greenspace and human health: An umbrella review. *The Innovation*, *2*(4), 100164.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 7
Becoming Ethical: A Reflective Journey Towards Transformative Outdoor Health Practices

Ben Knowles, Rebecca Harth, and Anita Pryor

Sociocultural Positioning

Author 1

I am a middle-aged, able-bodied, heterosexual man of Australian, Anglo-Celtic, and Germanic heritage. I live in a beautiful river valley with my wife and two children on Bpangerang Lands in Northeast Victoria, Australia. While these features offer only a thin description of who I am, the experiences I bring, and the cis White male privileges I hold, they allude to important factors that shape how I see the world and how I understand and make sense of my own experiences. They also shape the starting point of how I see the experience of others. Just as significantly, they influence what I may not see or know—what remains outside my awareness—about my position and the lived realities of others. Naming these features of age, gender, sexuality, geography, and ethnicity helps to position my agency and responsibilities at the intersections of harm and benefit that

B. Knowles (✉)
Adventure Works Australia, Hobart, TAS, Australia;
University of Tasmania, Hobart, TAS, Australia;
Outdoor Health Australia, Templestowe, VIC, Australia;
International Association for Adventure and Nature-based Therapies, South Hobart, Australia
e-mail: ben@adventureworks.org.au

A. Pryor
Adventure Works Australia, Hobart, TAS, Australia;
Outdoor Health Australia, Templestowe, VIC, Australia;
International Association for Adventure and Nature-based Therapies, South Hobart, Australia
e-mail: anita@adventureworks.org.au

R. Harth
Outdoor Health Australia, Templestowe, VIC, Australia;
The Outdoor Education Group, Eildon, VIC, Australia
e-mail: rebecca@outdoorhealth.org.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_7

practitioners navigate in any therapeutic or relational practice. I offer this reflection to clarify the lens through which I write and to invite readers into their own reflexive engagement with the material that follows.

Author 2
I am a tertiary-educated Australian woman of primarily Germanic and northwest European descent in my mid-thirties. I was raised on Djabugandji Country (rainforest) with a deep sense of belonging to nature and community. I now live on Dharawal Country (coastal) with my husband and young child.

Alongside the privileges I hold by being cisgender, White, able-bodied, and educated, I recognise the privileges of my upbringing in an ethical and nature-centred family including healthy and trusting relationships, coregulation from caregivers, feeling safe in nature and with others, support to assert my needs, and caregivers who modelled curiosity, reflection, and lifelong learning. My contribution to this work echoes my recognition of these privileges.

Author 3
I am of Celtic-Kernow and Anglo-European ancestry with immigrant settler background. My heritage includes paternal lineage that experienced the colonisation of Kernow (Cornwall) and resultant economic refugee status in Australia three generations ago. My family of origin provided a stable and secure home life for me, my older brother, and identical twin sister. I identify as woman (she/her), able-bodied, white-skinned. I am married to a cisgender White man, and we have three daughters. My professional training and experiences span outdoor education, deep ecology, adventure tourism, and multiple therapeutic modalities, including clinical registration as a family and systemic therapist. My intention is to offer culturally informed, nature-based, embodied, and evidence-informed practices. I value the role of outdoor health in supporting both individual and collective transformation, as well as its potential for changing the status quo. I'm motivated to support and advance the decolonisation of health care in Australia and beyond, alongside Aboriginal friends, Elders, and colleagues.

Introduction and Context

In Australia, Outdoor Health (OH) is an umbrella term that includes a broad range of evidence-informed outdoor, adventure, and nature-based interventions (Pryor et al., 2024). Outdoor Health Australia (OHA) now recognises over 30 forms of outdoor health, wellbeing, and therapy being practised in Australia and internationally (OHA, n.d.-a, n.d.-b). We acknowledge that while OH is a relatively new term, the practices upon which wide-ranging OH services are based have evolved over millennia through Aboriginal and place-based wisdoms and continue to evolve today in response to the needs of people and places. OH practices range in lineage from continuation and reclamation of ancient Indigenous healing practices (Prehn, 2021), to well-established models of therapeutic outdoor practice in

operation since the 1980s and 1990s (Itin, 1997), to fledgling nature-prescribing initiatives finding their place alongside primary healthcare networks in recent times (Ivers & Astell-Burt, 2023). In Australia, OH practices can be found across the continuum of care within our health system (health promotion and prevention, primary health care, specialist care, and hospital care) and, increasingly within early childhood education (Geuens et al., 2024), dementia care, aged care, and palliative care (Carver et al., 2020; de Bruin et al., 2020).

Due to the conscious, collaborative, and hard-earned culture of care within the national OH community of practice in Australia, OH practices are often underpinned by liberatory and transformative values that respond to individual difficulty, disadvantage, and systemic harm. OH practices can be deeply relational, offer rich opportunities to explore and embody diverse, healthy "ways of being," with each other and our place on the planet (Knowles, 2013; Pryor, 2018; Pryor et al., 2024). While it is beyond the scope of this chapter to detail the full range of benefits associated with OH practices, the authors acknowledge the potential for OH practices to do both great good and significant harm (Crisp, 2004; Pryor et al., 2006, 2018a; Williams, 2004).

This chapter introduces the set of OHA Ethical Practice Principles ("the Principles"), which provide a shared guiding framework to support practitioners and services to navigate professional scope and boundaries, including sometimes complex ethical issues. Because of the existing depth and strength of participant testimonials, in-house evaluations, and grounded critical ethical research (Bowen & Neill, 2013; Carpenter, 2008; Nicholls, 2008; Pryor, 2009a, 2009b), the authors take the view that most people working in this field do safe, ethical practice. Yet we cannot assume that all OH practice is safe enough or reflexive enough. The development of the Principles and framework does not override the good practices already being provided, nor does it offer enough detail to provide a manualised approach for newcomers. Rather, it aims to complement and deepen existing commitments, offering a shared language and framework for reflection, collaboration, and further growth and guidance for when dilemmas arise.

Historical Evolution of Ethical Practices in Australia

It must first be acknowledged that Aboriginal and Torres Strait Islander peoples have provided OH within their communities for millennia, with their practices continuing to evolve to meet changing needs over time. In addition, contemporary forms of OH have been provided in Australia by immigrant settler communities since at least as early as the 1950s (Pryor, 2009a, 2009b).

Early forms of contemporary OH were usually community driven, based on need, and offered as grassroots volunteer-based initiatives. Early programs were often weekends away for young people at risk of entering the youth justice system due to antisocial behaviours (now better understood in light of trauma research). Various informal peer networks supported practice through the 1980s and 1990s,

when professional events began to emerge and networks became more organised. Over time, practitioners and organisations developed diverse models of practice, some based on earlier movements like Scouting, Christian youth and family camps (Slater, 1984), and Outward Bound (Abbott, 1990; Ibbott & Associates, 1998; Sveen, 1990). Professional events associated with youth and youth justice, as well as state and national outdoor education conferences, prompted deeper engagement in the ethical dimensions of practice (Reddrop, 1997). From the mid 1990s, changes in understandings about trauma, therapy, and effective treatments led to significant and consistent shifts towards participant-centred practice, strength-based approaches, and trauma-informed design principles. By the late 1990s, humanistic participant-centred and strengths-based therapeutic practices were the norm, with some non-First Nations programs privileging First Nations perspectives and many practitioners becoming dual trained in outdoor leadership and therapeutic modalities. The strong sense of excitement and collegiality at the First International Adventure Therapy Conference held in Australia in 1997 was dominated by a few White men psychologists who believed theirs was the only profession equipped to provide mental health care outdoors (Itin, 1997). This theme was hotly debated, and these arguments faded as the Australian and New Zealand communities of practice chose to value diversity over homogeneity, as evidenced by informal network meetings held in Victoria from around 1996, which were well attended by people from diverse professional backgrounds. The First South Pacific Wilderness Therapy Forum, held in 2002 in Australia (Pryor & Carpenter, 2002), highlighted for those present the importance of connection with nature and community over the glorification of mechanistic biomedical approaches colonising perspectives on what constitutes science-based practice.

By the early 2000s, coercive boot camp models were almost fully eradicated, and the inclusion of trauma-informed practices and ecological relational lenses were becoming the norm in Australian practice (Beringer & Martin, 2003). These shifts reflected trends in Australia of challenging imported models, valuing place-based and tailored models, and recognising the need to decolonise and reorient practice towards relational and naturalistic approaches rather than positivist and behaviourist approaches (Pryor, 2006). It cannot be overstated how important these critical collective shifts have been in the evolution and current orientation of Australian OH practices today.

Terminology for OH practices has shifted over time to match the changing emphasis of collective values. While in the 1990s non-Indigenous practitioners emphasised "wilderness" as a key feature of practice, by 2004, the national network discussed and chose a more locally grounded term, *bush*, to describe outdoor contexts in Australia. Where wilderness implies places that are "people free," the term bush recognises that Australia has never been people free and that healthy Australian landscapes have always been shaped by human–nature relationships.

Following several years of consultation with community members and stakeholders, the Australian Association for Bush Adventure Therapy Inc. (AABAT) was established in 2008. Its establishment was in no small part aimed at supporting more consistently ethical practice and improving safety across programs. At that

time, the original AABAT Ethical Practice Principles (Fig. 7.1) were developed from research undertaken by Pryor (2009a, 2009b) and endorsed by AABAT in 2009. The AABAT Principles continued to guide practice in a safe and ethical direction until the recent refinements.

Changing Australian sociopolitical and fiscal conditions towards neoliberalism in the early 2000s led to major changes in government-subsidised health care, mental health care, and disability support service systems, resulting in decreased funding available for group-based and place-based outdoor programs. These trends raised the importance of OH services engaging with government and policymakers to attract funding from the smaller public budgets. In 2018, AABAT established a Policy Unit to explore terminology beyond "bush adventure therapy," with the aim of more effectively advocating to government for funding for services. Through that consultative work, AABAT chose to transition to use of the umbrella term "outdoor health" to include all forms of evidence-informed nature-based interventions, many proponents of which were already joining AABAT events. The new term widened the sector to be more inclusive of health, wellbeing, and education, alongside therapy, and more inclusive of therapeutic modalities that intentionally involved nature but did not align with the term *adventure*. Aboriginal cultural mentors approved of the proposed change. After lengthy volunteer-based work from a small team of dedicated practitioners, pro bono support from a law firm, and a small grant from a Victorian Government department, the new entity, Outdoor Health Australia (a not for

AABAT Ethical Principles (2009 to 2024)

BAT practitioners work towards:

- Positive regard for all people
- Respect for differences in culture, gender, age and identity
- Strong family and community connections
- Transparency, informed consent, confidentiality
- Voluntary participation (within the confines of service type)
- Selection for 'readiness' to participate
- Attention to individual and group needs and hopes
- Supportive physical, psychological and social environments
- Tailored adventure experiences
- Provision of options and choices (including supported exits)
- Respect for cultural custodianship of country
- Increasing self awareness and reflexive practice
- Safety and no harm to self, others or natural environments

(OHA, n.d.)

Fig. 7.1 AABAT Inc. Ethical Practice Principles (OHA, n.d.-b)

profit Company Limited by Guarantee) was launched at our 16th annual national forum held in Lutruwita/Tasmania in April 2024.

Ethics and Ethical Practice

From an academic perspective, ethics can be considered a subfield of philosophy, focused on establishing shared moral principles that govern behaviour (Singer, 1994). From a practice oriented OH perspective, ethical endeavour can be seen as our everyday commitment to critically reflect on, embody, and practice in alignment with shared professional values (Knowles et al., 2024). In this case, the shared professional values—such as equity, justice, cultural humility, ecological care, diversity, and accountability—have been embedded within the OHA Ethical Practice Principles.

Singer (2011) suggested that ethics should avoid simplistic statements about what should or should not be done and instead transcend individual needs to reflect a shared agreement about what is given value. In a recent scoping review, Knowles et al. (2024) noted the limitations of more directive biomedical ethics frameworks in responding to the diverse ecological contexts in which OH practice takes place. These authors invited an integration of environmental ethics with human and health ethics to frame OH ethics as involving critical reflection on the relationships between the health of people, culture, place, and planet. These integrated features of the proposed ethics framework can also be understood through *liberatory ethics*, which aims to recognise, resist, and dismantle the conditions that lead to systemic forms of harm and oppression (Cortina & Winter, 2021), and *transformative ethics*, which supports practitioners and participants to imagine new and healthier possible futures (Foucault, 1994; Prescott & Logan, 2019). Together, these ethical paradigms influenced the Knowles et al. (2024) review and informed the development of the OHA Ethical Practice Principles.

Through the process of refining AABAT's Principles to become OHA's Principles, the authors have come to see liberatory and transformative forms of ethics as key foundational building blocks from which to create safe, or "safe enough" OH practices.

The Need for a Comprehensive Ethical Practice Framework

This chapter is written in a time of significant social, cultural, and ecological change and challenges at local and global scales (Australian Institute of Health and Welfare, 2025; World Health Organization, 2025). Globally, the structures of neocolonialism continue to fuel health inequity (Amri et al., 2025). At a local level

in Australia, emerging research underscores how climate-related natural disasters, pandemics, political machinations, and cultural shifts can significantly affect OH practice contexts and widen healthcare service gaps. Existing OH providers are adapting their models to meet the changing needs of people and communities (Knowles, in preparation). Since 2000, a plethora of research has described the benefits of nature for health, and since the 2020 COVID-19 pandemic, there has been an observed spike in interest from primary health, allied health, and community health professionals seeking to take their practice out of doors (AABAT Inc, 2021). These shifts not only affect the scope and shape of service delivery but also bring into focus complex intersecting questions related to access, equity, cultural safety, ecological responsibility, and scope of practice. Together these factors and the questions they raise highlight the need for diverse OH services and for ongoing critical engagement with ethical issues.

While registered allied health professions in Australia have ethical codes of conduct and discrete scope of practice parameters that limit what can and cannot be done within their profession (Australian Association of Social Workers [AASW], 2020; Australian Psychological Society [APS], 2018; Occupational Therapy Australia [OTA], 2024; Psychotherapy and Counselling Federation of Australia [PACFA], 2017) and outdoor leadership practice is underpinned by the Australian Adventure Activity Standard and Good Practice Guides for Outdoor Leaders (Outdoor Council of Australia [OCA], 2019), the rich diversity of OH practices and practice contexts requires consideration of significant professional diversity and therefore ethical complexity. While each of these frameworks supports practitioners to address various dimensions of safety within their practices and provides complementary guidance for OH practice, none of the existing related codes, guides, and standards adequately cater to the diversity and unique contextual and relational milieu common to OH practices (Knowles et al., 2024).

The Process of Review and Development

The current OHA Principles, Service Attributes, and Standards are the result of a review of the original AABAT ethics, a literature review conducted by Knowles et al. (2024), followed by a collaborative project initiated by OHA in early 2024 and supported by the Victorian Government (Australia). The literature review and collaborative project were informed by the authors' previous research endeavours (AABAT Inc, 2021; Knowles et al., 2024; Pryor, 2009a, 2009b; Pryor et al., 2006, 2018b) and broad sector-based consultation and collaboration. While the project did not follow a single formalised methodology, it was informed by descriptive research approaches, including content and material analysis. It reflects aspects of comparative policy research (Steiner-Khamsi & Morais de Sa e Silva, 2024) and drew on the findings of the first author's current PhD comparative case study

(Bartlett & Vavrus, 2016). These approaches provided a structured basis for reviewing existing frameworks and guiding the collaborative development of the refined Principles.

To inform the development of new principles, previous research was reviewed, considered, and discussed, along with insights and lessons learned from previous national and international networks and decades of practice experience. While attention was given primarily to Australian perspectives over the last two decades (AABAT Inc, 2021; Carpenter & Pryor, 2004; Knowles et al., 2024; Pryor, 2009a, 2009b, 2018; Pryor et al., 2018b), international perspectives and collaborations were also taken into consideration (Borroel et al., 2021; Crisp, 1996; Dobud, 2021; Norton et al., 2015).

The collaborative process to refine the Principles included the following features and steps:

- analysis and incorporation of Knowles et al.'s (2024) OH ethical issue scoping review;
- review of related professional ethical frameworks;
- incorporation of ethics research and evidence;
- collaborative discussion on refinement of the Principles for diverse practice contexts;
- national and international consultation on draft principles;
- amendments based on feedback received;
- an open invitation to provide feedback for future iterations (a continuous work in progress).

Literature Review Results

The development of the current OHA Principles was significantly informed by Knowles et al.'s (2024) scoping review. The findings demonstrated the need for a comprehensive ethical practice framework and the benefits of addressing ethics across entire systems to reflect aspirational ecological and planetary needs, while being grounded in practice realities. The review identified over fifty distinct ethical issues that could be viewed through six guiding principles: (1) diversity, (2) equity, (3) advocacy, (4) justice, (5) accountability, and (6) competence. These themes provided a foundational basis for reviewing AABAT's original AABAT Principles and shaping the refined OHA Principles. Above all, the review highlighted the need for critical, reflexive engagement as a routine feature of safe and effective OH practice.

Reviewing Related Professional Ethical Frameworks

Alongside the literature review, a desktop review of the ethical codes and self-regulatory processes of related allied health disciplines was undertaken. Commonalities and differences were identified, giving the authors current perspectives on perceived commonly accepted practices and professional standards in related allied health sectors. The desktop review included analysis of the ethical practice frameworks of the Australian Psychological Association, the Australian Association of Social Workers, and the Psychotherapy and Counselling Federation of Australia, among others. Discussion was held with other peak bodies, such as Allied Health Professions Australia (AHPA) and the National Alliance of Self Regulating Health Professions (NASRHP) about their criteria for registering allied health professionals. This work showed the strengths and limitations of existing allied health ethical codes and outdoor leadership standards and highlighted the utility of aiming for guiding "principles" over an ethical "code." While *principled ethics* in philosophical traditions can be viewed as rigid, the OHA Ethical Practice Principles are designed as guiding commitments rather than prescriptive rules. This design aims to balance the need for collectively holding a position on issues such as personal and ecological justice with subjective needs such as relationally responsive care and dignity. Their flexibility lies in their invitation to context-specific reflection and dialogue, rather than in fixed application. Unlike more rigid codes, the Principles invite practitioners to engage in ongoing reflection and ethical dialogue, allowing for flexible professional judgement and responsiveness to the unique needs of individuals, communities, and ecosystems (Knowles et al., 2024). In this way, the OHA Principles offer a flexible yet grounded ethical framework suited to the diverse realities of OH practice.

Incorporation of Ethics Research and Evidence

The "collaborative OHA ethics project" (the Project) was initiated in early 2024 by OHA with financial support from the Victorian Government, Australia. For clarity, the Project refers specifically to the OHA-led initiative described in this chapter. The Project drew on multiple sources, including findings from the third author's PhD, a national sector-mapping project report completed by the third author, and preliminary findings from the first author's current PhD thesis. Where the first author's preliminary PhD findings are included in this chapter, they are referenced as Knowles (in preparation).

The Project explored what is involved in undertaking ethical OH practice, supported analyses of literature review findings, and helped to ground the development of each OHA Ethical Principle in primary data drawn from current OH practice contexts.

Collaborative Discussion on Refinements of the Principles

During the previous steps, the authors considered the AABAT Ethical Principles alongside questions including:

- How has OH practice evolved since the AABAT Principles were developed?
- What are the current contexts in which OH practice is carried out or provided?
- What health, social, cultural, and ecological issues are OH practices currently facing and addressing?
- How does OHA envision the role of OH practice within the Australian health system?
- What are the expectations set by mainstream health standards?
- What form should OH Principles take to be useful in guiding diverse OH practices?
- In what ways can OH approaches contribute to, or guide, mainstream health practices, particularly in relation to ethical principles?

Throughout this iterative process, the authors drafted and redrafted amendments and extensions to the existing AABAT Principles and added several new ones.

National and International Consultation on Draft Principles

When the refined principles were drafted, the authors invited broad participation in two live online webinars, hosted as focus groups, to discuss the principles. The first webinar was intended for diverse stakeholders from across Australia. Participants included Aboriginal mentors, along with researchers, practitioners, and interested allies from diverse subcultures, modalities, and professional backgrounds. The second webinar invited participation from international practitioners and researchers familiar with the international adventure and nature-based therapy fields. The authors provided an overview of the process and presented the draft principles, descriptions, attributes, and standards to the focus group participants. Focus group participants engaged in critical conversations about each draft principle, provided robust feedback in relation to specific principles and descriptors, and ultimately provided broad endorsement of the process and principles, with minor amendments.

All feedback received in verbal or written form was reviewed and integrated into a revised draft of the ethical principles. The feedback and suggested amendments certainly improved the principles and strengthened their applicability across wide-ranging practice contexts. While every effort was made to integrate all feedback, there were some instances where the authors had to balance tensions between sufficiency, detail, and utility.

An Open-End, a Work in Progress

To ensure a wide range of quality feedback and input, focus group participants were invited to continue providing feedback for several months following the live online webinars. Additionally, other specialists and interested parties who were unable to attend the focus groups were invited to contribute directly to the working documents or to the project team.

While a final version of the Principles and Quality Framework was presented to the OHA Board for endorsement in November 2024 and subsequently provided to the sector and the public via the OHA website in December 2024, the Principles remain a "work in progress." OHA invites further feedback at any time and is committed to an annual review of the Principles, with the expectation of ongoing refinements and iterations in the future.

The OHA Ethical Principles

The processes described above led to the following set of guiding Principles and Service Attributes (Table 7.1). Along with a proposed set of Practice Standards, they now form a Quality Practice Framework ("Quality Framework") for the OH sector in Australia. The Quality Framework[1] is presented later in the chapter.

Each principle is accompanied by a corresponding service attribute, a descriptive quality that reflects how the principle might be embodied in practice. While the Principles articulate shared commitments, the Service Attributes offer a practical lens through which those commitments can be recognised in service design and delivery. As such, they help to translate ethical intent into observable qualities. The attributes are not prescriptive but rather indicative of the kinds of environments, relationships, and practices that ethical OH services strive to cultivate. Here we provide detailed descriptions of each ethical principle.

1. **Show positive regard for all, value difference, enable inclusion, and act to understand and address systemic inequity**

Valuing differences and being inclusive in OH practices can help address structural disadvantages and create better experiences for all participants. Acting to better identify elements of systemic inequality—particularly those shaped by gender, race, ability, and colonial histories—is a critical step in ethical practice. Understanding how these dynamics may be present in our own approaches enables OH services to contribute meaningfully to the health and wellbeing of our communities.

[1] The full OH Quality Framework, including principles, service attributes, descriptions, and standards, is available on the Outdoor Health Australia website (https://outdoorhealth.org.au).

Table 7.1 Outdoor Health Australia ethical practice principles and practice attributes

Ethical practice principles	Service attributes
Show positive regard for all, value diversity, enable inclusion, and act to understand, challenge, and address systemic inequity	Equitable and inclusive
Cultivate mutually healthy relationships alongside and with Indigenous and First Nations Peoples	Culturally respectful
Attend to issues of power and privilege, coercion, and oppression	Attuned and egalitarian
Establish and maintain contextual, systemic, and integrative practices	Integrative
Collaborate on the design, implementation, and review of services	Collaborative and empowering
Ensure participation is voluntary and based on informed consent	Voluntary
Tailor services to individual, group, community, and place-based hopes and needs	Tailored and responsive
Provide "safe" experiences across physical, psychological, social, cultural, and ecological dimensions	Safe
Commit to reflective, reflexive, supervised, and accountable professional practice	Reflective
Seek feedback, evaluate outcomes, draw on research evidence, and strengthen quality	Informed
Support healthy ecosystems for a healthy planet	Ecologically connected

2. **Cultivate mutually healthy relationships alongside and with Indigenous and First Nations Peoples**

On the Australian continent, Aboriginal and Torres Strait Islander peoples have cared for Country, family, and community for millennia. Outdoor practices take place on unceded Aboriginal or Torres Strait Islander land and sea Country. Acknowledging and respecting the cultural custodianship of Country by Aboriginal and Torres Strait Islander peoples is important for respecting longstanding care and wisdom. Practitioners are encouraged to move beyond symbolic recognition and toward relational accountability.

3. **Attend to issues of power and privilege, coercion, and oppression**

Increasing our awareness of our own privileges, power, and social positioning helps practitioners to better recognise and respond to these dynamics in our work with others. This awareness also supports us to avoid unintentionally reinforcing neocolonial or other oppressive practices. Manipulating, forcing, or coercing participants into situations, actions, or experiences is oppressive, colonising, and potentially harmful. Understanding that there are personal and structural dimensions to issues of choice and voluntary participation better enables practices to proceed safely and equitably.

4. **Cultivate contextual, systemic, and integrative practices**

Human relationships are shaped by the contextual dimensions of place, community, culture, and time. These relationships occur across multiple scales from micro to macro—from personal to community to society-wide. Practitioners are encouraged to attend to the lived, embodied realities of participants in relation to these contexts and scales, especially those experiences shaped by gendered, racialised, and classed systems. These intersecting systems influence both individual experiences as well as the ways people relate to each other in practice and in organisations. OH practitioners are invited to consider how all these contextual dimensions and scales—personal, social, cultural, and ecological—interact and influence their work.

5. **Collaborate on the design, implementation, and review of services**

Respecting that participants know most about their own experiences and therefore placing them at the centre of our practice is empowering. Working with participants as collaborators in the process supports their preferred outcomes. OH practices are most effective when participants have choice and are meaningfully involved in decision-making about service intent, design, and review. Ethical OH practices are not only alert to whose voices are included in decision making about practice, but also whose voices are not present, silenced or excluded.

6. **Ensure participation is voluntary and based on informed consent**

Ensuring that participants have a meaningful level of choice about "if" and "how" they participate at the outset and throughout is vital. Meaningful choice involves providing adequate timely information, seeking to understand diverse and sometimes conflicting motivations, and balancing autonomy with interdependence in relational dimensions. Deliberate consideration is given to the provision of multiple entry and exit points throughout the service model to maintain choice. Consent requires the provision of clear, understandable information at the outset, with ongoing opportunities for clarification, and genuine options to exit the service at any time. This ensures that participation remains both informed and voluntary. It is important to distinguish between legal consent and informed consent, and to consider participant autonomy, agency, and motivation throughout the consent process. This is especially relevant in situations where caregivers hold legal authority, which can introduce power imbalances that affect the participant's ability to freely consent. Ethical OH practice sees consent as an ongoing relational process.

7. **Tailor services to individual, group, community, and place-based hopes and needs**

People's needs vary based on their specific bio-, psycho-, social-, cultural-, and ecological factors and must include attention to participants gendered, cultural,

and embodied experiences. Individuals' needs, hopes, and intentions are subjective and time specific; their safety, capacity to engage and be present, interest in learning, and ability for reflection, healing, and growth are specific to their context, relationships, and readiness. Ethical, effective group- and place-based practice includes having the knowledge and capacity to tailor experiences for participating individuals, within the group, place, and space, as well as the ability to adapt to changing individual and group- and place-based needs over time.

8. **Provide experiences that are safe across physical, psychological, social, cultural, and ecological dimensions**

Safety must be understood as relational and co-constructed in an ongoing way, never assumed. It is important that our planning, risk assessment, and mitigation strategies include consideration of risks across multiple bio–psycho–sociocultural and ecological dimensions, and that our practices seek to balance "risk of harm" with "potential for benefits" throughout our planning, implementation, and review processes for participants, practitioners, places, activities, and all stakeholders.

9. **Commit to reflective, reflexive, supervised, and accountable professional practice**

Given the complex decision-making involved in providing safe and effective OH practices, it is critical that practitioners commit to increasing their self-awareness and skills in reflexive practice through ongoing commitment to reflection, supervision, and professional development, within a supportive and critical "community of practice." While OH practitioners combine multiple dimensions in their practices, it is their grounded "self" that is the primary therapeutic instrument, decision-maker, and power broker within OH experiences. As such, ethical OH practice includes examining how our own identities, privileges, and histories shape our practice.

10. **Seek feedback, evaluate outcomes, draw on research evidence, and strengthen quality**

To monitor and manage the benefits and risks of OH practices for participants, practitioners, and natural environments, it is important to draw on research evidence and to monitor, evaluate, and refine practices over time. Feedback and evaluation design should incorporate information related to multiple dimensions of practice. Participant and stakeholder feedback should be central to this process. Ethical OH practices encourage valuing qualitative, narrative, and lived experience alongside quantitative data.

11. **Support healthy ecosystems for a healthy planet**

Sustainable practices are based on ecological interdependence, recognising that ecological and environmental costs and benefits are also human and economic costs and benefits. Ethically sustainable practices reduce ecological,

environmental, human, and economic costs and harms, including hidden long-term harms, and maximise restorative benefits. Ethical OH practice expands care to include more-than-human relationships and ecological justice.

Embedding the Principles in Daily Practice as a Living Framework

The OHA Principles were intentionally designed to guide practice across diverse OH contexts. Rather than functioning as prescriptive rules, the Principles serve as guides that invite ethical reflection, dialogue, and context-specific application. As a "living framework," they will become most useful when we actively engage with them, alongside and in relation to the specific contexts of our work. Each principle is grounded in a shared value and oriented towards specific forms of action, offering direction without requiring uniformity. This approach recognises the diversity of OH practices and seeks to ameliorate, or at least partly address, the relational, systemic, and ecological complexity in which they occur.

Engaging effectively with the Principles relies not only on technical skill but also on practitioners' and organisations' capacity for reflection and reflexivity. Engaging in ethical OH practices relies on individually, collaboratively, and collectively navigating the ethical issues and tensions that arise, such as those between safety and autonomy, inclusion and readiness, or ecological care and therapeutic goals (Borroel et al., 2021; Knowles et al., 2024).

It is acknowledged that the Principles are inherently interdependent. Focus group participants in the collaborative webinars noted how they often overlap and work in concert with one another. For example, cultivating mutually healthy relationships alongside and with Indigenous and First Nations peoples (Principle 2) requires a commitment to diversity and inclusion (Principle 1), critical engagement with power and privilege (Principle 3), and ecological reciprocity (Principle 11). The authors invite you to consider how these interdependent principles might come alive in your own context and how their interplay can help you to navigate the complexities of undertaking safe, effective, and meaningful OH practices.

The OHA Principles are distinct from, yet resonate with, international human rights frameworks and social justice principles; they guide practitioners to consider dignity, harm, safety, collective justice, and accountability across individual, social, cultural, and ecological dimensions. While the authors acknowledge the role of human and ecological rights, we encourage practitioners to go beyond rights-based frameworks and to explore how we can, through our practices, help address the deeper systemic roots of oppression and harm (Reynolds, 2012, 2023).

Building from the work of many others, the Principles support the application of an expanded "ethic of care" in practice. An ethic of care that takes us from individual to collective and from anthropocentric to include cultural and ecological dimensions (Harper & Fernee, 2022; Hasbach, 2013; King et al., 2022; Krøijer & Rubow, 2022; Lokugamage et al., 2020; Silberzahn, 2024; Taranrød et al., 2021). The Principles offer a platform for collective commitment to creating spaces where

care, safety, healing, and justice for people and planet can coexist. As one practitioner noted, "If we can base [our work] in a foundation of care, not only care in terms of individual attitude, but exploring how we collectively, mutually care together, this is what can lead to a more just world" (Research Participant in Knowles, in preparation).

Recognising and Attending to Risks of Harm

Therapeutic practitioners of all kinds are ethically responsible for cocreating spaces of safety, dignity, healing, and justice with the participants in their services (Principles 1 and 8). To achieve this, OH practitioners need to recognise and respond to risks and harms across multiple scales, including personal, relational, organisational, systemic, and planetary, as well as multiple dimensions, biological, psychological, social, cultural, spiritual, and ecological (Pryor et al., 2018b). While this is common to many holistic approaches to health, these scales and dimensions go beyond those typically addressed in related allied health and outdoor leadership sectors. In this section, we introduce the concept of *safe enough* OH practice (Adventure Works Australia, 2025). We highlight the need for practitioners to develop a comprehensive understanding of the relationship between safety, risk, and harm, and to engage in reflective and reflexive practice across individual and organisational contexts.

Safe Enough Practice in Unsafe Contexts

Ethical OH practice intends to be safe across physical, psychological, social, cultural, spiritual, and ecological dimensions (Principle 8). However, when people live in unsafe circumstances or have experienced harm, it is unrealistic to expect a new health or OH service to feel entirely safe—especially if heading outdoors is unfamiliar or feels risky. It is also unreasonable to expect practitioners can create a categorically safe OH context. Reynolds (2023) reinforces this view, noting that many participants live in structurally and systemically unsafe conditions. Practitioners must therefore engage with the complexity of structural and systemic harms that affect both participant experience and the practice itself. OH practitioners who recognise these realities emphasise the need to understand multiple forms of harm and intentionally create meaningfully safe enough contexts from which to practice (Knowles, in preparation). The term safe enough is used to highlight the reality that safety in OH practices is never complete or total.

The concept of *safe enough* practice is well developed in liberatory and justice-oriented approaches (Cortina & Winter, 2021; Reynolds, 2023). Its adoption in OH practice can support practitioners to collaboratively navigate risk and attend to the real and potential harms present across multiple dimensions. In practice this often

involves privileging care and relational connection (Principle 1), collaboratively planning with participants (Principle 5), maintaining flexibility in service delivery (Principle 7), and creating space for participants to express their fears, hopes, intentions, and boundaries (Principles 5, 6, and 9). This perspective is echoed in the words of one practitioner, who reflected, "We are responding to violence without creating more violence. We are trying to reduce harm by creating justice together. This is very political!" (Research Participant in Knowles, in preparation).

Attending to Harm Through Reflective and Reflexive Practice

Ethical OH practice is complex and requires practitioners commit to increasing their self-awareness and skills in reflexive and reflective practice (Principle 9). This includes cultivating knowledge about how we potentially perpetuate or cause harm in our practice.

At the personal and practice scale, harm can arise from subtle coercion, paternalism, gendered discrimination, and colonisation embedded in everyday interactions (Gray et al., 2022; Hunt, 1994; Knowles et al., 2024; Mitten, 2007; Pryor, 2009a, 2009b; Pryor et al., 2018a). Practitioners are encouraged to reflect on how they hold power, whose voices they centre, and whether their practices are inclusive, collaborative, and reciprocal. These invitations (aligned with Principles 1, 3, 6, and 11) support autonomy, informed consent, and decolonising practices by challenging monocultural norms and extractive models of care.

Reflective and reflexive practice is essential across scales of OH operation (Knowles et al., 2024). At organisational and systemic levels, harm may be perpetuated through relying only on pathologising frameworks to respond to trauma, inadequate responses to intergenerational trauma, structural oppression, and the effects of ongoing colonisation (Atkinson, 2002; Reynolds, 2012, 2023; Watego & Watson, 2021; White, 2002). Ethical OH practice calls for reflexive engagement with these systems, recognising the sociopolitical contexts that shape participant experiences (Principles 3 and 4). Additionally, ecological harm—especially in the context of climate-related disasters and environmental degradation—requires practitioners to acknowledge the interdependence of human and ecological health. Principle 11 invites a shift towards restorative relationships with Country, embracing Indigenous knowledge systems and ecological responsibility as central to ethical care.

Ethical Practice in Action

At the outset of this chapter, the authors acknowledged our assumption that most Australian OH practitioners act ethically and engage in safe, effective practice. While this is evidenced anecdotally by the lack of reported harms, serious injuries, or deaths arising from participation in OH programs over the last three decades, these measures are not adequate. These measures, while

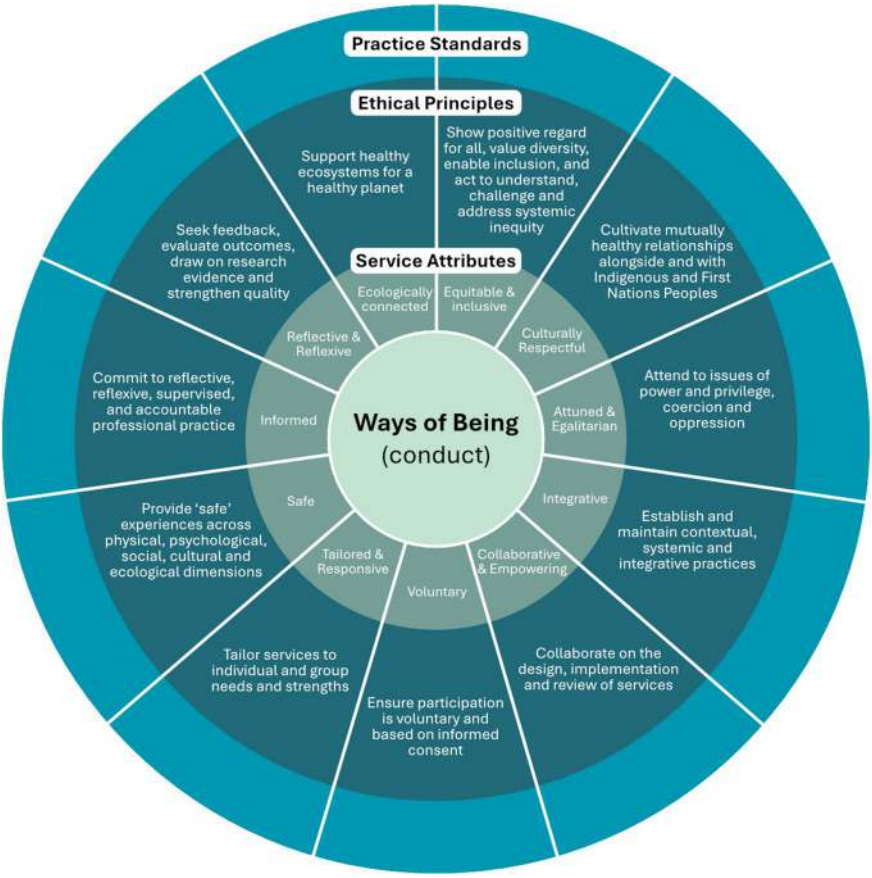


Fig. 7.2 OHA ethical practice framework (OHA, n.d.-b)

reassuring, do not capture the more subtle, cumulative, and often unmeasured forms of harm and systemic oppression that persist in neocolonial Western societies like Australia. Ethical OH practitioners do not take safety for granted or assume that what is safe today will remain safe tomorrow. This chapter has explored how ethical OH practices require ongoing attention to risks of harm across systemic dimensions and scales to avoid becoming complicit in ongoing forms of harm. The existing risks of harm, and the current lack of guidance for ethical OH practices, underscore the need for practical, flexible, applicable principles. It is hoped that the OHA Quality Framework (Fig. 7.2) and the development of additional mechanisms currently underway will support quality assurance within the OH sector in the future. Figure 7.2 provides an overview of *ways of being*, from the personal-micro to the professional-macro, in support of *safe enough* OH practices in diverse contexts provided by people from diverse professional backgrounds.

The Quality Framework (Fig. 7.2) invites practitioners to explore the relationship between their personal–individual ethical *way of being* at the centre of the framework, the professional–organisational Service Attributes (i.e., organisational ways of being), and the Principles (i.e., ways of being in professional practice). The Quality Framework also illustrates how Principles relate to Practice Standards, the outer ring, which seek to provide the level of detail needed to advise OH practitioners and organisations on "how to" provide safe, effective OH practice, whether they are achieving that or not, and to what degree.

OHA has Draft Practice Standards, that have not yet been finalised. Further consultation and refinement need to be made before the Standards are endorsed and ready for use. OHA invites ongoing feedback on the Principles and specific feedback on the draft Practice Standards, and in time will seek resources or volunteer advisors to help with their finalisation.

Identified Limitations of the Project and This Chapter

While the chapter has offered a comprehensive exploration of ethical practice in OH, the authors acknowledge several limitations:

- The conceptual density may pose accessibility challenges for practitioners seeking concise, actionable guidance. In the future, we would like to develop a concise and user-friendly summary of this project for public dissemination.
- We have presented a forward-looking and optimistic view in relation to ethics, but we have not yet provided much critical reflection on the challenges and tensions encountered during the development of the framework, such as how differing perspectives were reconciled or critiques addressed. In the future, documenting the robust discussions and reflections will hopefully be a more central part of the "work" of this collaborative project.
- We have not provided information on the implementation of the framework. We trust that future collaborative work will enable the inclusion of case studies and practical examples of the framework in action.
- While the first author's PhD is based on robust academic rigour and is undertaken under supervision, the thesis is still in preparation.

Identified Next Steps for OHA

- Further consultation with the international community (IAANT) about the merit, use, and possible adaptation of OHA's Principles for international use;
- Consultation and finalisation of the OHA Practice Standards to provide specific, clear, unambiguous, unequivocal, and measurable guidance for individuals and organisations;

- Establishment and resourcing of an OHA Complaints and Concerns Process to enable readiness for investigating complaints and for reviewing and addressing the complaints in appropriate ways;
- Identification of relevant and appropriate existing accreditation schemes within Australia and assessment of whether the existing schemes have use and merit for OH training and practice;
- Investigation and refinement of a professional training framework for OH. This may include the development of training standards for providers of practitioner training, matched to relevant similar national training standards, and international adventure and nature-based therapy practitioner training guidelines (this may or may not involve the development of a stand-alone accreditation scheme);
- Development of a plan for OHA to support quality assurance for OHA members. This may include identification and recommendation of existing quality assurance schemes and regulatory bodies and/or consideration and development of self-regulatory processes.

Conclusions

This chapter finishes with a call to action, an invitation to engage with a growing national and international movement, dedicated to liberatory and transformative forms of health, wellbeing, and healing for both people and the planet.

We live in increasingly complex and volatile times. The effects of ongoing neocolonialism contribute to low or high levels of stress, distress, or trauma in our day-to-day lives. Global political instability, social conflict, armed conflict, and continuing wide-spread ecological degradation impact individual and collective experiences of health. Against this backdrop, OH practices offer more than therapeutic engagement; they can provide and promote a critical response to systemic inequities and foster collective resilience.

Ethical OH practices offer opportunities for individuals, groups, and communities to step outside—physically and metaphorically—into environments that support reflection, connection, healing, and transformation. Nature-based practices support people to clarify their values, cultivate meaning, and envision futures aligned with their deepest hopes and intentions.

The OHA Ethical Practice Principles articulate shared values that underpin diverse practices across diverse contexts. They invite a commitment to integrity, cultural reciprocity, ecological responsibility, and social justice. This call to action invites practitioners, researchers, managers, and policymakers to consider integrating the Principles into their work and lives and to hold the mirror of reflexivity to our own position and actions. By engaging in the daily work of ongoing reflective and critical inquiry, we join a growing international community, committed to embedding principles like these within diverse contexts and collaborating,

cocreating pathways of healing that honour the interconnectedness of life and contribute to more just, compassionate, and ecologically attuned futures.

Acknowledgements Grant funding provided by the State of Victoria (Australia) Department of Jobs, Skills, Industry and Regions supported Outdoor Health Australia (formerly AABAT) in building on previous sector engagement to establish strong approaches to governance and sustainability. This included materials to support best practices within the sector: an Ethical Practice Framework, a Service Development Guide, a Practice and Quality Guide, and an Evidence Guide.

References

Abbott, C. (1990). *The adventure revolution: Using the outdoors in corrections—history and concepts*. In *Proceedings of the 1st National Symposium on Outdoor Wilderness Programs for Offenders* (pp. 3–23).

Adventure Works Australia. (2025). *Healthy practices, healthy people: Foundations of outdoor therapy practitioner training course book* (5th ed.). Adventure Works Pty Ltd.

Amri, M., Filart, J., & Bump, J. B. (2025). The quest for equity in global health is underpinned by neocolonial discourses: A critical discourse analysis. *PLOS Global Public Health*, *5*(6), e0004663. https://doi.org/10.1371/journal.pgph.0004663

Atkinson, J. (2002). *Trauma trails, recreating song lines: The transgenerational effects of trauma in Indigenous Australia*. Spinifex Press.

Australian Association for Bush Adventure Therapy Inc. (2021). *Survey of the field report*.

Australian Association of Social Workers. (2020). *AASW code of ethics 2020*. https://www.aasw.asn.au/about-aasw/ethics-standards/code-of-ethics/

Australian Institute of Health and Welfare. (2025). *Australia's health 2024: In brief, catalogue number AUS 249*. Australian Government.

Australian Psychological Society. (2018). *APS code of ethics*. https://psychology.org.au/getmedia/d873e0db-7490-46de-bb57-c31bb1553025/18aps-code-of-ethics.pdf

Bartlett, L., & Vavrus, F. (2016). *Rethinking case study research: A comparative approach*. Taylor & Francis Group. https://doi.org/10.4324/9781315674889

Beringer, A., & Martin, P. B. (2003). On adventure therapy and the natural worlds: Respecting nature's healing. *Journal of Adventure Education & Outdoor Learning*, *3*(1), 29–39. https://doi.org/10.1080/14729670385200221

Borroel, F., Carpenter, C., Ginwala, T., Hjorth, S., Horn, A., Hsu, S., Chien-Hsi Hsu, J., Huang, J., Javorski, S., Jeffery, H., Knowles, B., Natynczuk, S., Norton, C. L., Peters, L., Pryor, A., Rae, P., Razar-Szabo, N., Richards, K., Rodriguez Sebastian, R., … Yu, L. (2021). What are the necessary ingredients of adventure therapy development and training? *Proceedings of the Cave Think Tank 2018*. https://doi.org/10.25904/1912/4461

Bowen, D. J., & Neill, J. T. (2013). A meta-analysis of adventure therapy outcomes and moderators. *The Open Psychology Journal*, *6*(1), 28–53. https://doi.org/10.2174/1874350120130802001

Carpenter, C. (2008). *Changing spaces: Contextualising outdoor experiential programs for health and wellbeing*. [Doctoral dissertation, Deakin University].

Carpenter, C., & Pryor, A. (2004). A confluence of cultures: Wilderness adventure therapy practice in Australia and New Zealand. In S. Boedorf (Ed.), *The world of adventure therapy.* Proceedings of the Third International Adventure Therapy Conference.

Carver, A., Lorenzon, A., Veitch, J., Macleod, A., & Sugiyama, T. (2020). Is greenery associated with mental health among residents of aged care facilities? A systematic search and narrative review. *Aging Mental Health*, *24*(1), 1–7. https://doi.org/10.1080/13607863.2018.1516193

Chen, C., & Nakagawa, S. (2019). Nature's pathways on human health. In D. Kotte, L. Qing, W. Sop Shin, & A. Michalsen (Eds.), *International handbook of forest therapy* (pp. 12–31). Cambridge Scholars Publishing.

Cooley, S. J., Jones, C. R., Kurtz, A., & Robertson, N. (2020). "Into the Wild": A meta-synthesis of talking therapy in natural outdoor spaces. *Clinical Psychology Review*, *77*, 101841. https://doi.org/10.1016/j.cpr.2020.101841

Cortina, R., & Winter, M. (2021). Paulo Freire's pedagogy of liberation. *Current Issues in Comparative Education*. *23*(2). https://doi.org/10.52214/cice.v23i2.8577.

Crisp, S. (1996). *International models of best practice in wilderness and adventure therapy: Implications for Australia*. Austin and Repatriation Medical Centre. https://eric.ed.gov/?id=ED424052

Crisp, S. J. R. (2004). Envisioning the birth of a profession: A blue-print of evidence based, ethical, best practice. In S. Bandoroff & S. Newes (Eds.), *Coming of age: The evolving field of adventure therapy* (pp. 209–223). Association for Experiential Education.

de Bruin, S. R., Pedersen, I., Eriksen, S., Hassink, J., Vaandrager, L., & Patil, G. G. (2020). Care farming for people with dementia: What can healthcare leaders learn from this innovative care concept? *Journal of Healthcare Leadership*, *12*, 11–18. https://doi.org/10.2147/JHL.S202988

Dobud, W. W. (2021). Experiences of secure transport in outdoor behavioral healthcare: A narrative inquiry. *Qualitative Social Work*, *21*(4), 697–713. https://doi.org/10.1177/14733250211020088

Foucault, M. (1994). *Ethics: Essential works of Michel Foucault, 1954–1984* (2nd ed.). Penguin Random House.

Geuens, N., Willockx, D., & Janssen, J. (2024). Exploring the power of natural outdoor spaces in enhancing early childhood practitioners' wellbeing. *Journal of Outdoor and Environmental Education*, 1–16. https://doi.org/10.1007/s42322-024-00176-2

Gray, T., Allen-Craig, S., Mitten, D., & Charles, R. (2022). Widening the aperture: Using visual methods to broaden our understanding of gender in the outdoor profession. *Annals of Leisure Research*, *25*(3), 314–334. https://doi.org/10.1080/11745398.2021.1899831

Harper, N. J., & Fernee, C. R. (2022). Unpacking relational dignity: In pursuit of an ethic of care for outdoor therapies. *Frontiers in Psychology*, *13*, 766283. https://doi.org/10.3389/fpsyg.2022.766283

Hasbach, P. H. (2013). Moving therapy outdoors: Techniques, challenges, and ethical considerations. *Voices: The Art and Science of Psychotherapy*, *49*, 37–42.

Hunt, J. S. & Association for Experiential Education. (1994). *Ethical issues in experiential education*, Kendall/Hunt Pub. Co.

Ibbott, T. & Associates. (1998). *Evaluation of Project Hahn: Personal development through challenge and adventure*, Tasmanian Department of Sport and Recreation.

Itin, C. M. (Ed.). (1997). Exploring the boundaries of adventure therapy: International perspectives. Proceedings of the First International Adventure Therapy Conference, Perth, Western Australia, 1997. Association for Experiential Education.

Ivers, R., & Astell-Burt, T. (2023). Nature Rx: Nature prescribing in general practice. *Australian Journal of General Practice*, *52*(4), 183–196. https://doi.org/10.31128/AJGP-01-23-6671

King, B. C., Taylor, C. D., Garcia, J. A., Cantrell, K. A., & Park, C. N. (2022). Ethics and ecotherapy: The shared experiences of ethical issues in practice. *Journal of Adventure Education and Outdoor Learning*, *0*(0), 1–20. https://doi.org/10.1080/14729679.2022.2029512

Kingsley, J., & Thomas, S. (2017). Ecosystem approaches to community health and wellbeing: Towards an integrated Australian governance framework in response to global environmental change. *EcoHealth*, *14*(2), 210–213. https://doi.org/10.1007/s10393-016-1193-x

Knowles, B. (2013). Journeys in the bush. *International Journal of Narrative Therapy & Community Work*, *3*, 39–48.

Knowles, B. (2026). *Outdoor health: Exploring safety and ethics in outdoor health practices in Australia* [PhD thesis in preparation]. University of Tasmania.

Knowles, B., Marsh, P., Prehn, J., & Maxwell, H. (2024). Addressing ethical issues in outdoor health practice: A scoping review. *Journal of Outdoor and Environmental Education*, *27*(1), 7–35. https://doi.org/10.1007/s42322-024-00160-w

Koziol, C. A. (2022). Community ecopsychology: Widening connections to catalyze change. *Ecopsychology*, *14*(1), 1–7. https://doi.org/10.1089/eco.2021.0026

Krøijer, S., & Rubow, C. (2022). Introduction: Enchanted ecologies and ethics of care. *Environmental Humanities*, *14*(2), 375–384. https://doi.org/10.1215/22011919-9712456

Lokugamage, A. U., Ahillan, T., & Pathberiya, S. D. C. (2020). Decolonising ideas of healing in medical education. *Journal of Medical Ethics*, *46*(4), 265–272. https://doi.org/10.1136/medethics-2019-105866

Mitten, D. (2007). An analysis of outdoor leaders' ethics guiding decisions. *Journal of Experiential Education*, *29*(3), 373–377. https://doi.org/10.1177/105382590702900309

Nicholls, V. E. (2008). *Busy doing nothing: Researching the phenomenon of "quiet time" in a challenge-based wilderness therapy program*. University of Wollongong.

Norton, C. L., Carpenter, C., & Pryor, A. (2015). *Adventure therapy around the globe: International perspective and diverse approaches*. Common Ground Publishers.

Occupational Therapy Australia. (2024). *Code of ethics*. https://otaus.com.au/resources/ota-code-of-ethics

Outdoor Council of Australia. (2019). *Australian adventure activity standard and associated good practice guides* [Sector resource]. https://australianaas.org.au/

Outdoor Health Australia (OHA). (n.d.-a). *Home*. OHA. https://outdoorhealth.org.au/

Outdoor Health Australia (OHA). (n.d.-b). *Quality framework*. OHA. https://outdoorhealth.org.au/quality-framework/

Prehn, J. (2021). *''We've always done it. Country is our counselling office'': Masculinity, nature-based therapy, and the strengths of Aboriginal men*. University of Tasmania. Thesis. https://doi.org/10.25959/25345765.v1

Prescott, S. L., & Logan, A. C. (2019). Planetary health: From the wellspring of holistic medicine to personal and public health imperative. *Explore*, *15*(2), 98–106. https://doi.org/10.1016/j.explore.2018.09.002

Pryor, A. N. (2006, February 4). Does adventure therapy have wings? [Conference presentation]. 4th International Adventure Therapy Conference, Rotarua, Aotearoa (New Zealand). https://iatc-proceedings.org/index.php/pub/issue/view/6

Pryor, A. (2009a). Does adventure therapy have wings? In D. Mitten & C. Itin (Eds.), *Connecting with the essence: Proceedings of the 4th International Adventure Therapy Conference 2006* (pp. 46–71). Association for Experiential Education.

Pryor, A. (2009b). *Wild adventures in wellbeing: foundations, features and wellbeing impacts of Australian outdoor adventure interventions (OAI)* [Doctoral dissertation, Deakin University]. https://hdl.handle.net/10536/DRO/DU:30027427

Pryor, A. (2018). Following the currents of mighty women past and present.. In T. Gray & D. Mitten (pp. Eds.), *The Palgrave international handbook of women and outdoor learning*. Palgrave Macmillan. https://doi.org/10.1007/978-3-319-53550-0_10

Pryor, A., & Carpenter, C. (2002). *South Pacific Forum for Wilderness Adventure Therapy: Shared conversations*. School of Education, Victoria University.

Pryor, A., Gray, T., Asen, G. O., Knowles, B., Dickmeyer, A., & Smith, A. (2024). JOEE special issue: Outdoor health and nature-based solutions: Research, practice & policy. *Journal of Outdoor and Environmental Education*, *27*(1), 1–6. https://doi.org/10.1007/s42322-024-00170-8

Pryor, A., Pryor, R., & Carpenter, C. (2018a). *A formative evaluation of the Gippsland Wilderness Program March 2018*. Berry Street Childhood Institute. https://www.berrystreet.org.au/shop/products/formative-evaluation-of-the-gippsland-wilderness-program

Pryor, A., Pryor, R., & Carpenter, C. (2018b). *Outdoor adventure interventions: Young people and adversity: A literature review*. Berry Street Childhood Institute. https://www.berrystreet.org.au/shop/products/outdoor-adventure-interventions-young-people-and-adversity-a-literature-review

Pryor, A., Townsend, M., Maller, C., & Field, K. (2006). Health and well-being naturally: "Contact with nature" in health promotion for targeted individuals, communities and populations. Intervention and program evaluation. *Health Promotion Journal of Australia*, *17*(2), 114–123. https://doi.org/10.1071/HE06114

Psychotherapy and Counselling Federation of Australia. (2017). *Code of ethics*. https://www.pacfa.org.au/common/Uploaded%20files/PCFA/Documents/Documents%20and%20Forms/PACFA-Code-of-Ethics-2017.pdf

Reddrop, S. (1997). *Outdoor programs for young offenders in detention: An overview*. National Clearinghouse for Youth Studies.

Reynolds, V. (2012). Bridging the worlds of therapy and activism: Intersections, tensions and affinities. *International Journal of Narrative Therapy & Community Work*, *4*, 57–61.

Reynolds, V. (2023). An ethical stance for justice-doing in community work and therapy. *Journal of Systemic Therapies*, *42*(1), 40–55. https://doi.org/10.1521/jsyt.2023.42.1.40

Schulz, A., & Northridge, M. E. (2004). Social determinants of health: Implications for environmental health promotion. *Health Education & Behavior*, *31*(4), 455–471. https://doi.org/10.1177/1090198104265598

Silberzahn, L. (2024). Care, ecology, and the crisis of eco-social reproduction: Politicizing more-than-human care. *Hypatia*, *39*(4), 711–731. https://doi.org/10.1017/hyp.2024.16

Singer, P. (1994). *Ethics*. Oxford University Press.

Singer, P. (2011). *Practical ethics*. Cambridge University Press.

Slater, T. (1984). *The temporary community: Organized camping for urban society*. Albatross Books.

Steiner-Khamsi, G., & Morais de Sa e Silva, M. (2024). Qualitative comparative policy studies: An introduction from the special section editors. *Journal of Comparative Policy Analysis: Research and Practice*, *26*(5), 541–551. https://doi.org/10.1080/13876988.2024.2383061

Sveen, R. L. (1990). Project Hahn: An evaluation of probationers experience since 1983. In J. Cianchi (Ed.), *First National Symposium on Outdoor/Wilderness Programs for Offenders, Adult Corrective Services, Australian Capital Territory Government*.

Taranrød, L. B., Pedersen, I., Kirkevold, Ø., & Eriksen, S. (2021). Being sheltered from a demanding everyday life: Experiences of the next of kin to people with dementia attending farm-based daycare. *International Journal of Qualitative Studies on Health and Well-Being*, *16*(1), 1959497. https://doi.org/10.1080/17482631.2021.1959497

Watego, C., & Watson, L. J. (2021). *Another day in the colony*. University Queensland Press.

White, M. (2002). Addressing personal failure. *International Journal of Narrative Therapy & Community Work*, *2002*(3), 33–76.

Williams, I. R. (2004). Adventure therapy or therapeutic adventure? In S. Bandoroff & S. Newes (Eds.), *Coming of age: The evolving field of adventure therapy* (pp. 209–223). Association for Experiential Education.

World Health Organization. (2025). *World health statistics 2025: Monitoring health for the SDGs, sustainable development goals*. https://iris.who.int/bitstream/handle/10665/381418/9789240110496-eng.pdf?sequence=1

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Part II
Evidence-Informed Practice

Chapter 8
Country and the Cultural Determinants of Health and Wellbeing for Aboriginal Men

Jacob Prehn: Worimi, Luke Mabb: Wakka Wakka, Jamie Graham-blair: Trawlwoolway and Plengarmairenner, Pakana, Dewayne Everett Smith: Palawa, Anthony King: Wakka Wakka, and Pete Rae: Non-Indigenous

Sociocultural Positioning

We write this chapter from our lived experiences as Aboriginal and non-Aboriginal men connected to different communities and professional settings. Our standpoints as Worimi, Wakka Wakka, and Palawa/Pakana men, alongside the perspective of our non-Indigenous colleague, are not interchangeable. Each is situated, partial, and grounded in our relationships with Country and culture, and for the Aboriginal authors, our collective membership of the Palawa community in Lutruwita (Tasmania).

J. Prehn: Worimi (✉)
School of Social Sciences, University of Tasmania, Tasmania, Australia
e-mail: jacob.prehn@utas.edu.au

L. Mabb: Wakka Wakka
Adventure Works Australia, Tasmania, Australia
e-mail: luke.mabb083@gmail.com

J. Graham-blair: Trawlwoolway and Plengarmairenner, Pakana
CSIRO, University of Tasmania, Tasmania, Australia
e-mail: jamie.graham@utas.edu.au

D. E. Smith: Palawa
Mina Nina, Tasmania, Australia
e-mail: dewayne.e@minanina.com.au

A. King: Wakka Wakka
Ochre Rain, Tasmania, Australia
e-mail: anthony@ochre-rain.com

P. Rae: Non-Indigenous
Adventure Works Australia Ltd., Tasmania, Australia
e-mail: pete@adventureworks.org.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_8

Our positionalities shape the knowledges we bring to this work and the ways we interpret the stories shared with us. Knowledge is never neutral; it is socially constructed and embedded within particular epistemologies (ways of knowing), ontologies (ways of being), and axiologies (ways of doing). Within Western societies, and indeed within universities, settler-colonial logics remain dominate in determining what is recognised as legitimate knowledge, what is taught, and what is excluded. These logics privilege Western epistemes while casting Indigenous knowledges as peripheral, anecdotal, or lacking rigour, despite their depth and longevity. This structural imbalance is not accidental but part of the ongoing project of colonisation, which seeks to contain and delegitimise Indigenous self-determination and worldviews.

By making our social positioning explicit, we resist these logics and affirm that Indigenous knowledges are not supplementary to health research but central to it. We recognise the responsibilities we carry when engaging with Aboriginal men's health, and we commit to an analysis that is accountable to Indigenous cultural frameworks and to the therapeutic value of on-Country programs. Failing to centre these knowledges in health research can not only contribute to reproducing existing disparities but also entrenches assimilationist, deficit-based approaches that frame Indigenous peoples as problems to be fixed, rather than self-determining peoples with their own solutions and pathways to wellbeing. By contrast, centring Indigenous epistemologies, ontologies, and axiologies in health research highlights the cultural determinants of health as vital to Aboriginal men's wellbeing. It opens pathways for approaches that are relational and strengths-based, offering genuine opportunities for collective healing and justice.

Introduction

For Aboriginal (and Torres Strait Islander[1]) peoples, the concept of Country is central to shaping identity, worldview, and ways of being (Moreton-Robinson, 2020). This relationship is powerfully expressed by Noongar Elder Uncle Sealin Garlett in Collard et al. (2016):

> Our spirit and our land, they go together. Our land is our home. Our land is like our mum. They take care of us if we are hungry, they clothe us, they look after us. Our land is very special, there is always a deep connection. When we feel that ground on our feet, or we get that piece of dirt to put on a coffin to say goodbye to our loved ones, it's a powerful emotion. It's a very powerful emotion because it reminds us of a sense and a way of belonging. (p. 1)

[1] This chapter focuses on Aboriginal peoples, as the sample did not include Torres Strait Islander participants. We acknowledge, however, that Country is also a fundamental concept for Torres Strait Islander peoples.

For Indigenous peoples, the notion of Country carries a meaning profoundly different from many contemporary Western understandings of "land" or "the outdoors" (Rae & Nichols, 2015). Country is not just physical space; it embodies a living relationship, an ever-present source of identity, knowledge, culture, and spiritual connection (Kildea et al., 2017). This relationship shapes a holistic worldview, fostering health and wellbeing by connecting people to a network of ancestors, stories, and responsibilities. Importantly, ongoing dispossession and marginalisation from Country contribute negatively to the health and wellbeing of Aboriginal people and communities (Ganesharajah, 2009).

The stark health disparities between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians are well documented (Commonwealth of Australia, 2024). Specifically for Aboriginal men,[2] the intersection of Indigeneity and gender has produced devastating outcomes: the *National Aboriginal and Torres Strait Islander Health Plan 2013–2023* identifies Aboriginal men as experiencing "the worst health outcomes of any group in Australia" (Australian Department of Health and Ageing, 2013, p. 36). This situation is reflected in a life expectancy almost 10 years shorter than that of non-Indigenous males (Australian Institute of Health and Welfare, 2025). Additionally, about one quarter of Aboriginal men report experiencing high or very high rates of psychological distress in the previous 4 weeks (Australian Bureau of Statistics, 2013).

Beyond biomedical approaches to health and wellbeing, the cultural determinants of health offer a crucial pathway for Aboriginal and Torres Strait Islander peoples to self-determine and improve their health in culturally meaningful ways (Kingsley et al., 2018). Given the central role of Country in Aboriginal and Torres Strait Islander worldviews, and the alarming health outcomes faced by First Nations men (Canuto et al., 2023), this chapter seeks to better understand how an on-Country therapeutic program contributed to enhancing the health and wellbeing of Aboriginal men. Through semi structured yarns (interviews) with participants in a men's on-Country program, this chapter investigates how Country supports healing, resilience, and holistic wellbeing.

The Cultural Determinants of Health and Wellbeing and Aboriginal People

The concept of the cultural determinants of health and wellbeing for Aboriginal and Torres Strait Islander peoples has gained prominence over the past decade (Commonwealth of Australia, 2017; Finlay et al., 2021; Verbunt et al., 2021). These determinants encompass Indigenous cultural factors that holistically contribute

[2] Further, this chapter primarily focuses on cisgender men. However, we acknowledge that gender is a social construct and recognise the detrimental impacts of binary gender frameworks on Aboriginal and Torres Strait Islander peoples who do not exclusively identify as men or women.

to the overall health and wellbeing outcomes of First Nations Australians. As discussed by L. Williamson and colleagues (2020), some key cultural determinants include

a. connection to Country;
b. cultural expression;
c. family, kinship, and community ties;
d. Indigenous beliefs and knowledges;
e. Indigenous languages;
f. self-determination and leadership.

These cultural factors play a crucial role in health outcomes by emphasising strengths and being deeply embedded in the unique cultural, social, and historical contexts of Aboriginal and Torres Strait Islander peoples (Prehn, 2025). Recognising and integrating these determinants into health policies and practices is vital for fostering a holistic and culturally sensitive approach to First Nations health care, ultimately promoting positive health outcomes within communities (Kingsley et al., 2018).

In contrast, the social determinants of health refer to the social and economic factors that contribute significantly to disparities in health and wellbeing across populations (Marmot, 2005). However, when applied within the Aboriginal and Torres Strait Islander context, this framework can lead to an overemphasis on deficit-based approaches, thereby reinforcing existing negative narratives (Jones et al., 2018; Marmot, 2011). These social determinants help to explain the inequality experienced by Indigenous peoples compared to their non-Indigenous counterparts, encompassing factors such as having adequate housing (Dockery, 2017), meaningful employment (Gray et al., 2017), sufficient income (Howlett et al., 2018), and experiences of racism (Paradies et al., 2015).

While the social determinants focus on inequalities, the cultural determinants provide a framework for Aboriginal and Torres Strait Islander peoples to express how Indigenous cultures can positively impact health (Finlay et al., 2021). This stands in stark contrast to historical approaches by many non-Indigenous Australians, which sought to assimilate Aboriginal and Torres Strait Islander peoples into a society dominated by Western European cultural norms (Native Welfare Conference, 1961; Ryan, 2012). Beyond the biomedical model of health care, the cultural determinants empower Aboriginal and Torres Strait Islander peoples by enabling greater autonomy and self-determination over their health and wellbeing.

Aboriginal and Torres Strait Islander Men's Health and Wellbeing

The influence of gender as a social determinant warrants specific attention to the health and wellbeing experiences of Aboriginal and Torres Strait Islander men and male youths (Marmot, 2005). The complex intersection of masculinity and

Indigeneity has been explored by scholars, covering topics such as health service use (Canuto et al., 2018), sex, relationships, and stereotypes (Graham et al., 2022), fathering (Canuto et al., 2020; B. Williamson, 2023), and masculinity (McCoy, 2014; Mukandi et al., 2019; Smith et al., 2020). Understanding these nuanced intersections is essential for developing targeted and culturally sensitive health interventions that address the specific needs and challenges faced by Indigenous men and male youths, ultimately contributing to improved health.

At the same time, we also acknowledge that it is critical to move beyond binary conceptions of gender. We acknowledge that nonbinary Aboriginal and Torres Strait Islander peoples themselves should lead deeper exploration of this topic. To engage further with this important work, we recommend the scholarship of Sandy O'Sullivan (2021), Madi Day et al. (2023), and other nonbinary First Nations scholars, such as Todd Fernando, as cited in Prehn et al. (2021). The impact of social determinants of health on the lives of nonbinary Aboriginal and Torres Strait Islander peoples is complex and extends beyond the scope of this chapter. Further research and dialogue are essential to address their unique health experiences and needs comprehensively.

In Australia, the main government policy aimed at reducing Indigenous disadvantage, the Closing the Gap (2020) Strategy, makes almost no specific reference to Aboriginal and Torres Strait Islander men. This is concerning given the significant role of gender in shaping the health and wellbeing of Aboriginal men (Canuto et al., 2018), alongside the troubling health disparities that Indigenous men continue to experience (Canuto et al., 2023). The earlier *National Aboriginal and Torres Strait Islander Male Health Framework Revised Guiding Principles* (Department of Health and Ageing, 2010), offers a foundation for considering how contemporary policy might better recognise and respond to the specific needs of Aboriginal and Torres Strait Islander men. A clear plan for implementation is also needed, one that is codesigned with, and ideally led by, Indigenous men.

Given the pressing health challenges faced by Aboriginal and Torres Strait Islander men, and the importance of strengthening cultural determinants of health and wellbeing, this chapter addresses the following question: "How does an on-Country therapeutic program contribute to improving the health and wellbeing of Aboriginal men?"

Methodology and Method

Methodology

This chapter uses Indigenous standpoint theory to frame our approach to research (Walter & Andersen, 2013). (1) All authors are Aboriginal men, except one valued non-Indigenous ally (Pete Rae). (2) The authors possess a solid understanding of social theory. (3) Some Palawa Kani (Tasmanian Aboriginal language) is used throughout to reflect the Aboriginal land on which the on-Country therapeutic

program was conducted, where the research took place, and where the writing of the chapter occurred. (4) The primary reason for undertaking the project was to improve the health and wellbeing of men in the Tasmanian Aboriginal community by using a method that aligns with an Aboriginal view of the world and has been self-determined by the men themselves.

For background, the Our Way on Country program ran for approximately 6 months over 2017. The program was run in partnership between Karadi Aboriginal Corporation, an Aboriginal Community-Controlled Organisation (ACCO) located in the northern suburbs of Nipaluna (Hobart), Lutruwita (Tasmania), and Adventure Works, a non-Indigenous organisation that specialises in outdoor health care. The project was conceptualised by an Aboriginal man (author Anthony King), from the Aboriginal community in Lutruwita, and funding was received from a former mental health collective known as Partners in Recovery. The primary author was employed as a social worker to codeliver the program alongside the secondary author, who was employed as a cultural facilitator. Other authors made significant contributions to the program's success, reflecting the communal nature of Aboriginal society.

Before recruiting participants for the research, consultations were conducted with Elders and senior men within the Palawa community. These consultations involved gauging the suitability of the proposed research project, which explores the experiences of Aboriginal men participating in an on-Country therapeutic program, and assessing the need for such research. The people consulted strongly endorsed the significance and necessity of investigating the on-Country health and wellbeing program.

Method

Data collection employed semi structured yarns (interviews), personally conducted by the primary author. Embracing the Aboriginal conversational style known as "yarning," these interviews aimed to establish a relaxed and culturally familiar environment (Bessarab & Ng'andu, 2010; Morseu-Diop, 2013). Yarning is an informal conversational approach commonly used by Aboriginal people, infused with humour, storytelling, and relationality (Atkinson et al., 2021). Using semi structured yarns proved effective in understanding the experiences of Aboriginal men participating in an on-Country therapy to enhance their health and wellbeing.

Utilising Glaser and Strauss's (2017) qualitative thematic analysis, the study uses a five-step approach for interpreting data, grounded in Indigenous standpoint theory and informed by the authors' social positioning as Aboriginal men:

a. concurrent journaling throughout the interview process;
b. manual transcription of interviews, with simultaneous notation of ideas and reflections in the journal;
c. data coding with an awareness of existing literature;

d. thematic analysis applied to the coded data to extract overarching themes;
e. a comprehensive review of journal reflections and ideas, revisiting codes to refine and amplify emerging themes.

This methodical five-step thematic analysis yielded five themes explaining the therapeutic benefits experienced by Aboriginal men while on Country, as detailed in the Results section.

Approval for this research was obtained from the University of Tasmania Social Sciences Ethics Committee (ID: H0017260), by the ethical guidelines outlined in the *National Statement on Ethical Conduct in Human Research* (2007, updated 2018) by the National Health and Medical Research Council (2018). Before their involvement, people were required to read the participant information sheet and consent by signing the participant consent form. The interviews took place over several months in 2018, with precautions taken to preserve anonymity. This means that participants are identified using Palawa Kani (Tasmanian Aboriginal language) terms, such as "Nita," which translates to "brother." Instances where direct quotes might jeopardise anonymity, even with pseudonyms, are indicated by "[name withheld]."

The sample comprised 11 Aboriginal men residing in Southern Lutruwita (Tasmania). Every man in the sample engaged in at least one session of the Our Way on Country program, and nearly all were consistent attendees. Participant ages ranged from 19 to 65 years, with an average age of 37 years. All 11 men belong to the Aboriginal community in Lutruwita, with six specifically identifying as Palawa, while the remaining five align with various Aboriginal groups from mainland Australia.

Results

The results from the 11 semistructured yarns with participants from the Our Way on Country program, along with the application of thematic analysis, led to therapeutic benefits being experienced holistically across five areas of participant health and wellbeing (see Fig. 8.1).

Physical Health

The theme of physical health was present in all 11 yarns from the Aboriginal men who participated in the on-Country therapeutic program. Some of the physical health benefits discussed by participants included "eating cultural foods," "going for walks," "exercising your body and getting blood flowing," and "moving across country looking for cultural items." One of the older men shared that his physical health benefited because "I was eating good food, that is one thing I really noticed, I eat a lot more bush tucker. I have noticed a change in my body since then, such as losing a small quantity of weight and becoming stronger."

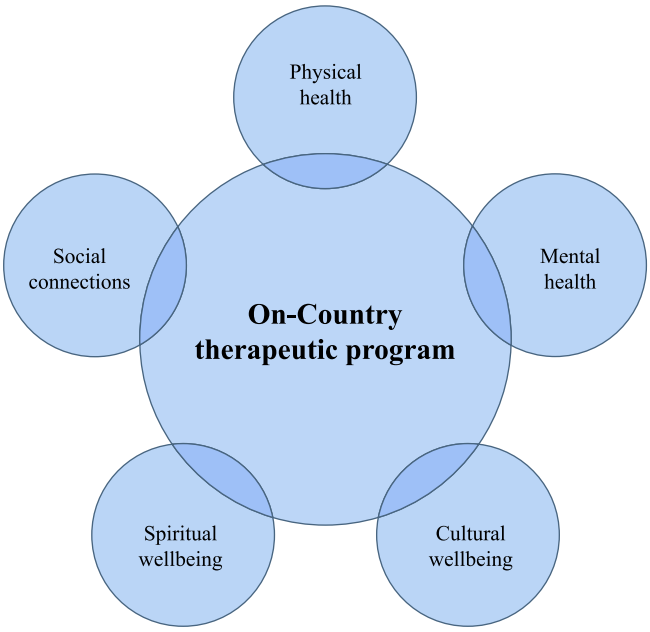


Fig. 8.1 Thematic analysis of benefits attained from on-Country therapeutic program (The authors developed this Figure)

Mental Health

The theme of mental health was present in 10 of the 11 yarns with the Aboriginal men who participated in the on-Country therapeutic program. The men shared that when on Country, their mental health benefited because it "cleared my head," was found to be "a lot more effective than counselling," and contributed to them feeling they could "open up and talk when around the fire." For example, one of the men said, "When I am out in the country, there is no stress, and there are no worries. Because you know that your people have been there and have had everything they have needed for thousands and thousands of years, and there is no reason to worry when you are there."

Cultural Wellbeing

The theme of cultural wellbeing was discussed by nine of the 11 men in the sample who participated in the on-Country health and wellbeing program. When on Country, the ability to "practise our Aboriginal culture" was important, contributing to "getting fresh air," "learning and sharing," "collecting and eating cultural

foods," and "strengthening your identity." One of the men shared that "when you dance, and you dance those animal stories and there is so much more knowledge and understanding that you need to have for Country to do that dance justice," while another one of the men said that "seeing guys make a waddy or clapsticks for the first time and they love it and feel proud, it is pretty powerful."

Spiritual Wellbeing

The theme of spiritual wellbeing was explored by eight of the 11 Aboriginal men in the sample who participated in the on-Country therapeutic program. Having the ability to spend time on Country allowed for "spiritual connection" with the land, eating cultural foods to take on that "animal's spirit," and fulfilling "roles as custodians of the land, animals, and nature." For example, one of the men said, "When I am on Country, I can think, it helps my body to feel more relaxed, and I get a calm spirit from it. It brings strength to my spirit, and that keeps me going for the rest of the day."

Social Connections

The theme of social connections was discussed by all 11 Aboriginal men in the sample who participated in the on-Country therapeutic program. When the men were able to spend time to "come together" on Country, they could "share a laugh," "listen," "connect," and "be stronger together." As an example, Pakara said,

> I think one of the biggest benefits is having someone to talk with who is the same gender and is also Aboriginal. They have had the same kind of experiences, whether they are older or younger, they have normally been through the same things as you.

Discussion

This chapter set out to understand the health and wellbeing benefits of a therapeutic on-Country program designed to enhance the health of Aboriginal men in Lutruwita (Tasmania). As detailed above, the results indicate these benefits were experienced across five areas. These findings are now discussed in relation to the relevant literature, using a macro-, meso-, and micro-level framework.

A key finding from this research is that approaches aimed at addressing the cultural determinants of health, such as on-Country therapeutic programs, are important because they can provide holistic benefits for individual and community

health and wellbeing (Finlay et al., 2021; Jones et al., 2018). For the men in the sample, the benefits of participating in an on-Country therapeutic program were experienced across five areas that they self-determined as important to their overall health. These findings highlight that, in addition to biomedical health care, approaches to health and wellbeing that address the cultural determinants of health are important because they support domains such as cultural and spiritual wellbeing. These domains cannot be appropriately addressed solely through Western methods and biomedical approaches (Verbunt et al., 2021).

The on-Country therapeutic program enhanced the men's cultural wellbeing, with participants reporting that they felt stronger in their Aboriginal identities. Empowering and supporting Aboriginal men in the Tasmanian Aboriginal community to self-determine ways of strengthening their cultural identity is of particular importance given the impacts of colonisation, which includes invasion (Reynolds, 2006; Rimmer & Taylor, 2023), genocide (Mansell, 2016; Taylor, 2013), denial of identity (Gough, 2020), and attempted assimilation into Anglo-Australian society (Everett, 2014; Stone et al., 2017). By addressing the cultural determinants of health within the Palawa community its members, can be supported to strengthened in their Aboriginal identity and develop a greater sense of wellbeing.

Macro-Level (Government and Policies)

At present, the Closing the Gap (2020) Strategy, the main federal government policy aimed at improving the lives of Aboriginal and Torres Strait Islander peoples, makes almost no specific mention of Aboriginal (or Torres Strait Islander) men's health. This is concerning given the substantial and persistent health inequalities experienced by Aboriginal men compared with other population groups (Australian Department of Health and Ageing, 2013). A clear strategy, supported by an implementation plan, is needed to improve Aboriginal men's health. In addition to designing primary health care that meets the specific needs of Aboriginal men (Canuto et al., 2018), the research presented in this chapter highlights the importance of incorporating holistic approaches, including on-Country therapeutic programs, into health policy.

Specifically, in Lutruwita, governments, policymakers, and funders should carefully consider how they can support and enable Aboriginal men to lead similar programs that address the cultural determinants of health. Holistic and self-determined approaches in health are important because they can address dimensions of wellbeing that, are not cannot adequately supported through mainstream health system and non-Indigenous approaches (Fay, 2018; McCoy, 2014). Recognising these cultural determinants at the macro-level also requires attention to cultural safety in health care, as detailed in the Tasmanian Government Department of Health's (2020) *Improving Aboriginal Cultural Respect Across Tasmania's Health System Action Plan 2020–2026*.

Meso-Level (Organisations)

At the meso-level, ACCOs are well positioned to lead on-country health programs and other initiatives that address the cultural determinants of health (Dawson et al., 2020). ACCOs generally have a strong understanding of Aboriginal culture, which means they possess robust knowledge of unique Aboriginal concepts, such as Country, and can appropriately design, implement, deliver, and evaluate on-Country programs (Pearson et al., 2020). Drawing on the strengths and cultural expertise of ACCOs is therefore important in developing health and wellbeing initiatives that address the cultural determinants of health.

We assert that, without Aboriginal leadership, non-Indigenous organisations cannot adequately deliver an on-Country therapeutic program because of its inherently cultural nature. Furthermore, considering the diversity of First Nations across Australia, this leadership should ideally involve members of the local community. This recognises the distinctiveness of local Aboriginal cultures and their relationships with Country, including sacred sites, cultural practices, lore, and other significant elements. Established frameworks relating to Indigenous cultural and intellectual property (ICIP; Janke, 2019) and the protection of Indigenous knowledges (Janke, 2018), as well as Indigenous data sovereignty (Kukutai & Taylor, 2016; Walter et al., 2021), further reinforce the importance of Aboriginal authority overall cultural knowledge and practice. Non-Indigenous organisations seeking to implement therapeutic programs on Country must prioritise Aboriginal leadership. Where Aboriginal-led delivery is not possible, a codesign approach may be appropriate, provided it is supported by the relevant local First Nations community. Failing to do so risks the inappropriate use or appropriation Aboriginal (and Torres Strait Islander) concepts of Country.

Further, there is a persistent misconception that Aboriginal and Torres Strait Islander men (and indeed nonbinary people) are disinterested in their health, leading to reduced rates of health service use. Canuto et al. (2018) identified that a majority of First Nations men are interested in their health and wellbeing but face specific gender-related and cultural to accessing health care. These barriers include (a) a lack of male-specific support and services tailored to men's needs, (b) the importance of feeling culturally safe and a sense of belonging, (c) reluctance or discomfort in discussing their health, and (d) a perceived sense of invincibility. Organisations should seek to understand and address the barriers and enablers influencing Aboriginal and Torres Strait Islander men's access to services, rather than categorising these men as 'hard to reach'.

Micro-Level (Individuals)

At the micro-level, individuals such as healthcare professionals should consider how they can contribute to addressing the cultural determinants of health for Aboriginal

people through their practice. For example, when working in a one-on-one context or delivering a therapeutic program, practitioners should consider how can elements such as connection to Country, cultural expression, and Indigenous knowledges be appropriately incorporated (L. Williamson et al., 2020)? As discussed by one of the men in the sample, spending time on Country was experienced as being "a whole lot more effective than counselling." This highlights the importance of appropriately considering the cultural determinants of Aboriginal men's health in individual practice.

Furthermore, those working with Aboriginal and Torres Strait Islander communities must prioritise cultural safety in their practice (Curtis et al., 2019). A focus on cultural safety, rather than cultural competency alone, is important because it extends beyond knowledge or awareness of Indigenous peoples and cultures. Cultural safety requires that Aboriginal and Torres Strait Islander peoples feel safe and respected in their interactions with practitioners and within the organisations providing care (Laverty et al., 2017). Prioritising cultural safety can help create environments in which people feel respected, understood, and able to participate meaningfully in decisions affecting their health and wellbeing.

Limitations

A limitation of this research project is that, of the 40 Aboriginal men who participated in the Our Way on Country program, only 11 participated in the research. Although the primary author believed that data saturation had been reached, additional discussions might have broadened and deepened the findings. One barrier to participating may have been reluctance among men in the Tasmanian Aboriginal community to engage in research conducted through the University of Tasmania, given the institution's historical involvement in unethical research practices (Lehman, 2020). Although the university has since issued an apology, this occurred after the data collection had been completed. Furthermore, sustained efforts by institutions are necessary for trust to be established, (re)built, and strengthened. This requires more than apologies; it demands ongoing, meaningful engagement with Aboriginal communities, transparency in research processes, and a genuine commitment to centring Indigenous voices and priorities. Without such efforts, distrust may continue to limit participation in research, with implications for the breadth and representativeness of findings.

The importance of Aboriginal-led research, as explored in this chapter, cannot be overstated. Research led by Aboriginal people, or undertaken through genuine partnerships, can help ensure that Indigenous ways of knowing, being, and doing are prioritised throughout the research process (Prehn & Guerzoni, 2024). Aboriginal-led research cultural safety, build community trust, and better aligns research agendas align with the priorities and aspirations of Indigenous peoples. It also helps to disrupt the colonial legacy of extractive research practices that have historically disempowered Indigenous communities (Martin, 2008). Central to

Aboriginal-led research is the principle of Indigenous data sovereignty, which asserts that Indigenous peoples must exercise authority over the collection, ownership, and use of data relating to their communities (Walter et al., 2021). By centring Aboriginal leadership in research design, implementation, and dissemination, the knowledge produced is more likely to be meaningful, respectful, and beneficial to the communities involved (Prehn et al., 2024). Supporting Aboriginal-led research is therefore essential for producing ethically sound, culturally relevant, and transformative scholarship that contributes to Indigenous health, wellbeing, and sovereignty.

Conclusion

This chapter explored the benefits of a 6-month therapeutic on-Country program, designed to improve the health and wellbeing of Aboriginal men in Lutruwita (Tasmania). The findings from the semi structured yarns indicate that the Our Way on Country program contributed to five key dimensions of health and wellbeing: physical health, mental health, cultural wellbeing, spiritual wellbeing, and social connections. These findings emphasise the importance of the cultural determinants of health as a framework for developing holistic therapeutic approaches that are responsive to Aboriginal people and communities. While related to social determinants of health, the cultural determinants offer a strengths-based and empowering lens that avoids framing Aboriginal health primarily through deficit.

References

Atkinson, P., Baird, M., & Adams, K. (2021). Are you really using yarning research? Mapping social and family yarning to strengthen yarning research quality. *AlterNative: An International Journal of Indigenous Peoples*, *17*(2), 191–201.

Australian Bureau of Statistics. (2013). *4727.0.55.001: Australian Aboriginal and Torres Strait Islander Health Survey: First Results*, *Australia*, *2012–13*.

Australian Department of Health and Ageing. (2013). *National Aboriginal and Torres Strait Islander health plan 2013–2023*. Australian Government. https://www.health.gov.au/sites/default/files/documents/2021/02/national-aboriginal-and-torres-strait-islander-health-plan-2013-2023.pdf

Australian Institute of Health and Welfare. (2025). *Deaths in Australia*. https://www.aihw.gov.au/reports/life-expectancy-death/deaths-in-australia/contents/about

Bessarab, D., & Ng'andu, B. (2010). Yarning about yarning as a legitimate method in Indigenous research. *International Journal of Critical Indigenous Studies*, *3*(1), 37–50.

Canuto, K., Harfield, S. G., Canuto, K. J., & Brown, A. (2020). Aboriginal and Torres Strait Islander men and parenting: A scoping review. *Australian Journal of Primary Health*, *26*(1), 1–9.

Canuto, K., Prehn, J., Neate, R., Gee, G., Kennedy, C., Gaweda, C., Black, O., Smith, J., & Brown, A. (2023). Further investment in Aboriginal and Torres Strait Islander men's health research funding is urgently required. *Australian and New Zealand Journal of Public Health*, *47*(2), 100025. https://doi.org/10.1016/j.anzjph.2023.100025

Canuto, K., Wittert, G., Harfield, S., & Brown, A. (2018). "I feel more comfortable speaking to a male": Aboriginal and Torres Strait Islander men's discourse on utilizing primary health care services. *International Journal for Equity in Health*, *17*(1), 185. https://doi.org/10.1186/s12939-018-0902-1

Closing the Gap. (2020). *National agreement on Closing the Gap*. COAG and NIAA. https://www.closingthegap.gov.au/sites/default/files/files/national-agreement-ctg.pdf

Collard, L., Adams, M., Palmer, D., & McMullan, J. (2016). *Aboriginal fathering: Country*. Vimeo. https://vimeo.com/189233521

Commonwealth of Australia. (2017). *My life my lead: Opportunities for strengthening approaches to the social determinants and cultural determinants of Indigenous health*: *Report on the national consultations December 2017*. Australian Government. https://www.health.gov.au/sites/default/files/documents/2020/12/my-life-my-lead-report-on-the-national-consultations-my-life-my-lead-consultation-report.pdf

Commonwealth of Australia. (2024). *Commonwealth Closing the Gap 2023 annual report and Commonwealth Closing the Gap 2024 implementation plan*. Australian Government. https://www.niaa.gov.au/sites/default/files/publications/ctg-annual-report-and-implementation-plan-hq.pdf

Curtis, E., Jones, R., Tipene-Leach, D., Walker, C., Loring, B., Paine, S.-J., & Reid, P. (2019). Why cultural safety rather than cultural competency is required to achieve health equity: A literature review and recommended definition. *International Journal for Equity in Health*, *18*(1), 174. https://doi.org/10.1186/s12939-019-1082-3

Dawson, A., Brown, A., Morey, K., Canuto, K., & Pearson, O. (2020). *Aboriginal community controlled health organisations in practice: Sharing ways of working from the ACCHO sector*. South Australian Health & Medical Research Institute.

Day, M., Carlson, B., Bonson, D., & Farrelly, T. (2023). *Aboriginal and Torres Strait Islander LGBTQIASB+ people and mental health and wellbeing*. Australian Institute of Health and Welfare.

Department of Health. (2020). *Improving Aboriginal cultural respect across Tasmania's health system*. Tasmanian Government. https://www.health.tas.gov.au/sites/default/files/2021-12/Improving_Aboriginal_Cultural_Respect_Across_Tasmania%27s_Health_System_Action_Plan_2021-2026.pdf

Department of Health and Ageing. (2010). *National Male Health Policy supporting document. National Aboriginal and Torres Strait Islander Male Health Framework Revised Guiding Principles*. Australian Government.

Dockery, A. M. (2017). *Culture, housing, remoteness and Aboriginal and Torres Strait Islander child development: Evidence from the longitudinal study of Indigenous children*. Ninti One Limited.

Dudgeon, P., Wright, M., Paradies, Y., Garvey, D., & Walker, I. (2014). Aboriginal social, cultural and historical contexts. In P. Dudgeon, H. Milroy, & R. Walker (Eds.), *Working together Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice* (3–24). Australian Government.

Everett, J. (2014). Savage nation first nations' philosophy and sovereignty. *Southerly*, *74*(2), 27–42.

Fay, J. (2018). Decolonising mental health services one prejudice at a time: Psychological, sociological, ecological, and cultural considerations. *Settler Colonial Studies*, *8*(1), 47.

Finlay, S. M., Canuto, K., Canuto, K., Neal, N., & Lovett, R. W. (2021). Chapter 2 Aboriginal and Torres Strait Islander connection to culture: Building stronger individual and collective wellbeing. *Medical Journal of Australia*, *214*, S12–S16.

Ganesharajah, C. (2009). *Indigenous health and wellbeing: The importance of country. Native Title Research Unit*. Australian Institute for Aboriginal and Torres Strait Islander Studies.

Glaser, B. G., & Strauss, A. L. (2017). *Discovery of grounded theory: Strategies for qualitative research*. Routledge.

Gough, J. (2020). History, representation, globalisation and indigenous cultures: A Tasmanian perspective. In *Indigenous Cultures in an Interconnected World* (pp. 88–107). Routledge.

Graham, S., Martin, K., Beadman, M., Doyle, M., & Bolt, R. (2022). Our relationships, our values, our culture: Aboriginal young men's perspectives about sex, relationships and gender stereotypes in Australia. *Culture, Health & Sexuality*, 1–16. https://doi.org/10.1080/13691058.2022.2039776

Gray, M., Hunter, B., & Biddle, N. (2017). The economic and social benefits of increasing Indigenous employment. *Centre for Aboriginal Economic Policy Research* (1/2014).

Howlett, M., Gray, M., & Hunter, B. (2018). *Unpacking the income of Indigenous and non-Indigenous Australians: Wages, government payments and other income*. Centre for Aboriginal Economic Policy Research (CAEPR).

Janke, T. (2018). From smokebush to spinifex: Towards recognition of Indigenous knowledge in the commercialisation of plants. *International Journal of Regional, Rural and Remote Law and Policy*, *1*, 1–27.

Janke, T. (2019). *True tracks: Indigenous cultural and intellectual property principles for putting self-determination into practice*. Australian National University.

Jones, R., Thurber, K. A., Wright, A., Chapman, J., Donohoe, P., Davis, V., & Lovett, R. (2018). Associations between participation in a ranger program and health and wellbeing outcomes among Aboriginal and Torres Strait Islander people in Central Australia: A proof of concept study. *International Journal of Environmental Research and Public Health*, *15*(7), 1478. https://www.mdpi.com/1660-4601/15/7/1478

Kildea, S., Hickey, S., Nelson, C., Currie, J., Carson, A., Reynolds, M., Wilson, K., Kruske, S., Passey, M., & Roe, Y. (2017). Birthing on Country (in our community): A case study of engaging stakeholders and developing a best-practice Indigenous maternity service in an urban setting. *Australian Health Review*, *42*(2), 230–238.

Kingsley, J., Munro-Harrison, E., Jenkins, A., & Thorpe, A. (2018). "Here we are part of a living culture": Understanding the cultural determinants of health in Aboriginal gathering places in Victoria, Australia. *Health & Place*, *54*, 210–220.

Kukutai, T., & Taylor, J. (2016). *Indigenous data sovereignty: Toward an agenda*. ANU Press.

Laverty, M., McDermott, D. R., & Calma, T. (2017). Embedding cultural safety in Australia's main health care standards. *The Medical Journal of Australia*, *207*(1), 15–16.

Lehman, G. (2020). *Progress toward an apology*. Royal Society of Tasmania. https://rst.org.au/about/apology-to-tasmanian-aboriginal-people-2021/

Mansell, M. (2016). *Treaty and statehood: Aboriginal self-determination*. Federation Press.

Marmot, M. (2005). Social determinants of health inequalities. *The Lancet*, *365*(9464), 1099–1104. https://doi.org/10.1016/S0140-6736(05)71146-6

Marmot, M. (2011). Social determinants and the health of Indigenous Australians. *Medical Journal of Australia*, *194*(10), 512–513.

Martin, K. (2008). *Please knock before you enter: Aboriginal regulation of outsiders and the implications for researchers*. Post Pressed.

McCoy, B. F. (2014). Men, masculinity, and missionaries: Exploring the cultural, health, and spiritual impact of the Australian missionary enterprise on Aboriginal men. In M. G. Brett & J. Havea (Eds.), *Colonial contexts and postcolonial theologies: Storyweaving in the Asia-Pacific* (p. 145–159). Palgrave Macmillan US. https://doi.org/10.1057/9781137475473_10

Moreton-Robinson, A. (2020, November 9). *"Our story is in the land": Why the Indigenous sense of belonging unsettles white Australia*. ABC. https://www.abc.net.au/religion/our-story-is-in-the-land-indigenous-sense-of-belonging/11159992

Morseu-Diop, N. (2013). Indigenous yarning modalities: An insider's perspective on respectful engagement with Torres Strait Islander clients. In B. Bennett, S. Green, S. Gilbert, & D. Bessarab (Eds.), *Our voices: Aboriginal and Torres Strait Islander social work* (114–135). Palgrave Macmillan.

Mukandi, B., Singh, D., Brady, K., Willis, J., Sinha, T., Askew, D., & Bond, C. (2019). "So we tell them": Articulating strong Black masculinities in an urban Indigenous community. *Alternative: Anales International Journal of Indigenous Peoples*, *15*(3), 253–260.

National Health and Medical Research Council. (2018). *National statement on ethical conduct in human research (2007), updated 2018*. Australian Government. https://www.nhmrc.gov.au/about-us/publications/national-statement-ethical-conduct-human-research-2007-updated-2018

Native Welfare Conference. (1961). The policy of assimilation. *Decisions of Commonwealth and State Ministers at the Native Welfare Conference*. https://aiatsis.gov.au/sites/default/files/catalogue_resources/18801.pdf

O'Sullivan, S. (2021). The colonial project of gender (and everything else). *Genealogy*, *5*(3), 67.

Paradies, Y., Ben, J., Denson, N., Elias, A., Priest, N., Pieterse, A., Gupta, A., Kelaher, M., & Gee, G. (2015). Racism as a determinant of health: A systematic review and meta-analysis. *PLoS ONE*, *10*(9), e0138511.

Pearson, O., Schwartzkopff, K., Dawson, A., Hagger, C., Karagi, A., Davy, C., Brown, A., & Braunack-Mayer, A., & Leadership Group guiding the Centre for Research Excellence in Aboriginal Chronic Disease Knowledge Translation and Exchange (CREATE). (2020). Aboriginal community controlled health organisations address health equity through action on the social determinants of health of Aboriginal and Torres Strait Islander peoples in Australia. *BMC Public Health*, *20*(1), 1859.

Prehn, J. (2025). An Indigenous strengths-based theoretical framework. *Australian Social Work*, *78*(2), 145–158.

Prehn, J., & Guerzoni, M. A. (2024). *Using Indigenous standpoint theory with the longitudinal study of Indigenous children. SAGE research methods: Diversifying and decolonizing research*. SAGE Publications.

Prehn, J., Krakouer, J., & Todd, F. (2021). The intersectionality of indigeneity and gender in Australian social work. In B. Bennett (Ed.), *Aboriginal fields of practice* (3–25). Red Globe Press.

Prehn, J., Price, C., Bodkin-Andrews, G., Walter, M., & Lovett, R. (2024). Social research and Indigenous data sovereignty. In T. Venturini, A. Acker, J.-C. Plantin, & T. Walford (Eds.), *The SAGE handbook of data and society* (153–170). SAGE Publications.

Rae, P., & Nichols, A. V. (2015). The Aboriginal outdoor recreation program: Connection with country, culture, family and community. In C. Norton, C. Carpenter, & A. Pryor (Eds.), *Adventure therapy around the globe: International perspectives and diverse approaches* (181–194). Common Ground.

Reynolds, H. (2006). *The other side of the frontier: Aboriginal resistance to the European invasion of Australia*. UNSW Press.

Rimmer, Z., & Taylor, R. (2023). An analysis of the 2021 apologies by the Royal Society of Tasmania and the Tasmanian Museum and Art Gallery to the Tasmanian Aboriginal Community. *Australian Historical Studies*, *54*(1), 77–90.

Ryan, L. (2012). *Tasmanian Aborigines: A history since 1803*. Allen & Unwin.

Smith, J. A., Merlino, A., Christie, B., Adams, M., Bonson, J., Osborne, R., Judd, B., Drummond, M., Aanundsen, D., & Fleay, J. (2020). "Dudes are meant to be tough as nails": The complex nexus between masculinities, culture and health literacy from the perspective of young Aboriginal and Torres Strait Islander males: Implications for policy and practice. *American Journal of Men's Health*, *14*(3), 1557988320936121. https://doi.org/10.1177/1557988320936121

Stone, A., Walter, M., & Peacock, H. (2017). Educational outcomes for Aboriginal school students in Tasmania: Is the achievement gap closing? *Australian and International Journal of Rural Education*, *27*(3), 90–110.

Taylor, R. (2013). Genocide, extinction and Aboriginal self-determination in Tasmanian historiography. *History Compass*, *11*(6), 405–418.

Verbunt, E., Luke, J., Paradies, Y., Bamblett, M., Salamone, C., Jones, A., & Kelaher, M. (2021). Cultural determinants of health for Aboriginal and Torres Strait Islander people: A narrative overview of reviews. *International Journal for Equity in Health*, *20*(1), 181. https://doi.org/10.1186/s12939-021-01514-2

Walter, M., & Andersen, C. (2013). *Indigenous statistics: A quantitative research methodology*. Left Coast Press.

Walter, M., Lovett, R., Maher, B., Williamson, B., Prehn, J., Bodkin-Andrews, G., & Lee, V. (2021). Indigenous data sovereignty in the era of big data and open data. *Australian Journal of Social Issues*, *56*(2), 143–156.

Williamson, B. (2023). *"Emu men": A new way to recognise and celebrate Indigenous fathers*. The Conversation. https://theconversation.com/emu-men-a-new-way-to-recognise-and-celebrate-indigenous-fathers-211741

Williamson, L., Dent, P., & Bowman, N. (2020). *Culture is key: Towards cultural determinants-driven health policy: Final report*. Lowitja Institute.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 9
Considerations for Working in the Outdoors with Women Victim Survivors of Family Violence

Lani Pereira and Rachael Millsom

Sociocultural Positioning

Lani (she/her) is a first-generation Sri Lankan and fifth-generation English cisgender woman in a heterosexual relationship. Lani was a program manager and counsellor for Regenerate at the time of writing this article. She is a specialist family violence practitioner and trainer.

Rachael (she/her) is a White Australian of European heritage in a heterosexual relationship. She is a counsellor and social worker who has worked as a counsellor and facilitator on both the Regenerate and NatureConnect programs described in this chapter.

Both Lani and Rachael are parents of two school-aged children.

A Note About Language

This chapter uses the term "victim survivors" when talking about adults and children impacted by an adult using family violence (or perpetrator). The terms "women" and "mothers" are also used. We do this in recognition of the gendered nature of family violence (Essential Services Commission, 2019). We also retain the term "victim" alongside survivor to acknowledge the ongoing coercive control employed by adults using family violence. The term "participant" refers to the victim survivors who participated in Regenerate and NatureConnect. While we predominantly refer to participants as "women," we wish to acknowledge that there are participants who are an integral part of the programs' development and

L. Pereira · R. Millsom (✉)
Melbourne, VIC, Australia
e-mail: rachael.millsom@gmail.com

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_9

facilitation who do not subscribe to these binary terms and identify as "a gender," "transgender diverse," or "nonbinary," and we ask readers to hold this in mind.

While there was a range of gender and sexual identities among the participants, all were engaged in the group(s) because they had been targeted by males who chose to use violence.

Introduction

Background to Family Violence

The Family Law Act (1975) definition includes "violent, threatening or other behaviour used by a person that coerces or controls a member of the person's family ... or causes the family member to be fearful" (Federal Circuit and Family Court of Australia, n.d., para. 5). Family violence is recognised as a major public health problem affecting individuals, families, and communities (Hegarty et al., 2000). Rates of family violence in Victoria have not decreased; in fact, there was an increase of 6.7% in family violence incidents from 2018 to 2020 (Safe and Equal, n.d.-a). Family violence is experienced by people of all genders; however, it is overwhelmingly perpetrated by men against women and children, and approximately one in four women have experienced intimate partner violence (Diemer, 2015). Evidence highlights that the main drivers of violence against women are gender inequality and male entitlement (Safe and Equal, n.d.-b). Victoria have not decreased; in fact, there was an increase of 6.7% in family violence incidents from 2018 to 2020 (Safe and Equal, n.d.-a). Family violence is experienced by people of all genders; however, it is overwhelmingly perpetrated by men against women and children, and approximately one in four women have experienced intimate partner violence (Diemer, 2015). Evidence highlights that the main drivers of violence against women are gender inequality and male entitlement (Safe and Equal, n.d.-a, n.d.-b). Family violence is experienced by people of all genders; however, it is overwhelmingly perpetrated by men against women and children, and approximately one in four women have experienced intimate partner violence (Diemer, 2015). Evidence highlights that the main drivers of violence against women are gender inequality and male entitlement (Safe and Equal, n.d.-b).

The health and welfare impacts on adults using family violence, as well as on the victim survivors they target, can be lifelong and include children's developmental issues, mental health concerns, trauma, disability, homelessness, financial insecurity, incarceration, suicide, and murder (Australian Institute of Health and Welfare [AIHW], 2019). Despite the long-term impacts of family violence, most services remain focused on crisis and public health responses, which tend to be time limited (Salter et al., 2020), and while crisis responses are necessary, they alone cannot address the complex trauma and intergenerational impacts of family violence. Salter et al. (2020) highlighted the importance of continuity and flexibility in support, which enables women to make meaningful connections with others

and their communities. To support victim survivors, there is a need to acknowledge that the impacts can be lifelong (AIHW, 2019), and programs that support ongoing recovery are necessary.

A child's wellbeing is intrinsically linked to their safe primary carer(s), and victim survivors mostly act in ways that promote the safety and overall wellbeing of their children, including actively creating stability and supporting healing from the impact of the perpetrator's parenting choices (Safe and Together Institute, n.d.). Therefore, a successful partnership with the victim survivor is the most effective way to support them to keep their children safe. By supporting victim survivors of family violence, their children are also supported.

Engaging children in programs is an early intervention that Gartlanda et al. (2019) suggested is key to breaking the intergenerational cycle of disadvantage and addressing cumulative disadvantage. The Regenerate and NatureConnect programs offer a model that supports both survivors and their children over a longer timeframe and outside of crises.

Background to Regenerate and NatureConnect

The Victorian Royal Commission into Family Violence (RCiFV) released its findings in 2016, with 227 recommendations aimed at completely transforming the state's family violence services. The Family Violence Multi-Agency Risk Assessment and Management Framework (MARAM) was developed to address the gaps identified in the RCiFV and "ensures services are effectively identifying, assessing and managing family violence risk" (Victoria State Government, 2023a, para. 1).

Arising from the RCiFV, 26 pilot projects were funded to strengthen the service system through trialling and evaluating a number of therapeutic approaches targeted at adults and children (Centre for Family Research & Evaluation, 2019).

Regenerate was a partnership between the Good Samaritan Inn, a specialist service providing crisis, short-term, and transitional accommodation and support for women, children, and young people who are experiencing family violence and/or homelessness (Good Samaritan Inn, n.d.), and Adventure Works Australia (AWA). AWA provides a suite of bush adventure therapy, outdoor therapy, and outdoor counselling services in Australia (Adventure Works, n.d.). Regenerate was funded for 2 years under this initiative and was offered free to participants.

Program facilitators came from varied cultural backgrounds; however, most identified as Australian and spoke English as their first language. In addition, some facilitators had their own experiences of family violence as children or adults.

The program offered sessions in both urban and remote nature settings, and participants went through an assessment process to ensure they were aware of what to expect and to collaborate with facilitators in planning for their own and their children's needs. They were required to attend a number of 2-hour sessions before participating in a full day, with the option to progress to a multiday trip.

One-on-one counselling was also offered to each adult participant. Outside the Regenerate program, there needed to be sufficient safety mechanisms in place to manage the risk of adults who use violence in order for victim survivors to safely engage, and victim survivors themselves were the best at assessing this.

Despite showing positive outcomes (Rakar-Szabo et al., 2019), Regenerate funding was not continued. As such, this service is no longer offered, and at the time of writing this chapter, no similar service exists in Australia for adult and child victim survivors of family violence. In exploring ways to continue offering therapeutic outdoor programs for this cohort, a partnership with an urban farm was developed, and through that, NatureConnect was born and funded for 6 months in the first half of 2021. NatureConnect continues to operate as a small, volunteer-led peer offering for the community.

Voices in This Chapter

The authors of this chapter were former facilitators of the Regenerate and/or NatureConnect programs. Three modes of providing feedback were offered to all contactable participants and other facilitators involved with Regenerate and NatureConnect: two online meetings, a face-to-face focus group, and via email. Four participants and two staff members (the authors) contributed their reflections to this chapter. The four participants vary in age, cultural background, sexuality, and gender, and they have a shared experience of male partner violence; they also participated in at least one of the Regenerate and NatureConnect programs.

Acknowledging and Responding to the Impact of Violence on Participants

The impact of someone's choice to use family violence looks different for each victim survivor. This may depend on factors including sociocultural influences, the nature of the individual's pattern of violence, and personal characteristics (Commonwealth of Australia, 2022). Victim survivors experience a range of physical impacts, including sometimes permanent disabilities, as well as issues with mental health, difficulty forming relationships and connections, financial hardship, and social isolation (Commonwealth of Australia, 2022). These factors create barriers to participation, and systems lacking an understanding of the complex and lasting impacts of family violence miss opportunities to provide effective services and risk causing further harm (Wathen & Mantler, 2022).

It was common for participants in both programs, as noted by the program facilitators (the authors) to present with anxiety, depression, and posttraumatic stress disorder (PTSD) and to report symptoms of dissociation, flashbacks,

hypervigilance, difficulty sleeping, migraines, blackouts, and nausea. The psychological presence of multiple perpetrators permeated the program. Participants had to cancel their attendance due to these impacts, as well as others, such as family court, children refusing to attend school, homelessness, and mental health issues—all of which were caused or exacerbated by the behaviour of the adult using family violence.

The programs by design had flexibility to support access, accommodate absences for periods of time, and re-engage when capacity allowed. Staff also collaborated with other services, such as housing and specialist family violence services, to respond to the impact of violence, including barriers to participation. This was always led by the victim survivor to offer support across multiple domains, as one program is unlikely to meet all needs (Australia's National Research Organisation for Women's Safety [ANROWS], 2020).

Women are more likely than men to experience financial difficulties following separation (De Vaus et al., 2014). Juliana stated that "financial independence and freedom are important in those moments of interruption of recovery. Financial support is fundamental." Regenerate and NatureConnect were intentional recovery spaces offered free of charge, with all food, transportation, and equipment provided. Helen stated that the "funding of Regenerate meant funds to do things that I would never have been able to do." For some participants, their involvement in Regenerate was the first time they were able to take their children camping.

As the impact of violence looks different for each victim survivor, recovery from family violence is also personalised and individual. It may not be just an absence of symptoms, but rather about wellbeing, which includes building a sense of self and returning to doing things that are important to the individual. Recovery is an ongoing process that enables victim survivors to be safe, healthy, and resilient and to achieve economic security (Commonwealth of Australia, 2022).

NatureConnect and Regenerate both aimed to support survivors in moving towards meeting their health and wellbeing needs. Both program models utilised four mechanisms of recovery: therapeutic frame, nature contact, group support, and adventure in nature (Australian Association of Bush Adventure Therapy [AABAT], n.d.; Rakar-Szabo et al., 2019). These mechanisms are intertwined but are discussed separately below. Although not underpinning the Regenerate and NatureConnect programs as such, this chapter deliberately includes trauma- and violence-informed frameworks due to the authors' experience and practice development since their roles as facilitators of NatureConnect and Regenerate.

Therapeutic Frame

A trauma- and violence-informed framework builds on a trauma-informed framework to consider the overlapping and compounding impacts of systemic and family violence alongside the structural inequities experienced by individuals (Varcoe et al., 2016). This means that the harm caused by a person's choice to use family

violence is contextualised within the drivers of family violence: gender-based oppression rooted in patriarchal and structural inequalities that foster gender inequality, reinforce male authority, and maintain rigid binary stereotypes relating to sex and gender (Our Watch, 2015). Trauma- and violence-informed practice is grounded in human rights, intersectional feminism, self-determination, accountability, and lived experience (Scott & Jenney, 2022).

Participants of Regenerate and NatureConnect agreed on the importance of a feminist lens, from the power that men hold in society to the consideration of the staff facilitating the program. Carla reported that "most of the participants in the group have experienced domestic violence in men/women relationships, as I have, connecting in the absence of men makes the group more relatable, comfortable and gives the security of a safe enough place." Helen agreed, saying, "I felt safe because facilitators are women and nonbinary. Unfortunately, I would not feel as safe if a man was facilitating. I would not feel as safe if men were included."

That being said, a gendered analysis alone limits our understanding of how patriarchy, alongside other structural inequalities, creates compounding intersectional oppression that enables family violence and limits access for victim survivors (Laing et al., 2013). Intersectionality adds to feminism by identifying how privileges such as Whiteness, maleness, nondisability, heterosexuality, and cisgender identity can amplify a person's access to resources like power and participation in society (Crenshaw, 1991).

One in four women is targeted by an adult using family violence. When we layer intersecting identities, such as Aboriginal and Torres Strait Islander women, women from migrant and refugee backgrounds, women with disabilities, and LGBTQIA + people, this rate increases dramatically (Safe and Equal, n.d.-a).

Intersectionality supports systems and society to support all women against family violence and is therefore an important part of the therapeutic frame.

Helen said she felt the groups were "naturally inclusive ... my identity was not an impediment." Structural inequalities, based on identity, bring additional challenges to recovery and were often felt by participants: "Unfortunately, racism and discrimination still often happen, even inside the system or organisation that is supposed to support us" (Juliana).

Within the context of NatureConnect and Regenerate, D. felt that what was missing was "representation and a space to be able to feel safer to affirm my preferences." D. also felt that "programs that do not purposefully consider how to work with noncisgender men conform to the normal mainstream narrative that uses men's experience as the standard for everyone. That was not created for me, and supports violence." Rainbow Health Victoria's Pride in Prevention report (Carman et al., 2020) outlines that the main drivers of family violence experienced by LGBTIQA + communities and individuals include cisnormativity and heteronormativity, both of which are underpinned by gender norms. At the cessation of funding, NatureConnect transitioned to a volunteer peer-supported offering at an urban farm. At this time, NatureConnect, in collaboration with participants, increased access through broadening its understanding of gender to include gender-diverse peers. D. shared that "as agender, I found groups without cisgender

heteronormative men are necessary due to the fact that the current establishment is already saturated with their narratives and overwhelming influence, which usually supports violence." D. felt that these "spaces then give freedom and opportunity to be true to our own story."

Both programs had very low representation of Aboriginal and Torres Strait Islander participants. Any future programs need to examine a possible lack of anticolonial frameworks and collaborate with Aboriginal community-controlled healing programs to cofacilitate a program that recognises the value of lived expertise and community connection (Carlson et al., 2024).

The Regenerate and NatureConnect programs offered counselling conversations in both group and individual settings, supporting reconnection with their self-awareness and self-esteem. Being outside also created a more casual, less confrontational approach to therapeutic work, as Juliana expressed: "Because [being outside] we just chat normally without feeling like being interrogated, like when we doing counselling with the psychologist in the room."

Facilitators used a person-centred, strengths-based approach and reflected this in the intentional outdoor space created. With a focus on being and doing, it was easier to witness strengths in others and subsequently for participants to recognise strengths in themselves. D. said, "The witnessing element the facilitators offered and their ability to notice the underlying strength of participants while being able to reflect on this together was significant and meaningful."

We know that a perpetrator specifically uses coercion and control with the intent to strip away the rights and agency of the people they are targeting with their abuse. Programs therefore needed to offer informed choices whenever possible and welcome therapeutic discussions on resistance to oppression (Varcoe et al., 2016). Juliana also said, "Systemic abuse is not giving people a choice, this replicates family and domestic abuse." Regenerate and NatureConnect offered agency through flexibility and choice in how women engaged with the program; this also meant that each victim survivor's individual circumstances, including the impact of the perpetrator's choice to use family violence, could be factored into codesigning a tailored response. While it was preferable for people not to be in immediate crisis, one victim survivor who was active in the Regenerate program had to move her family multiple times for safety reasons. Yet, she found that the program offered the stability and opportunities she and her children needed at that time. This flexibility meant that she felt she was treated not as a victim, but as a person with rights and the capacity to assess the risk and choose to participate despite her situation.

The MARAM structured professional judgement model asks us to consider the victim survivor and their assessment of the risk at the centre of our work (Victoria State Government, 2023b). If participants felt they could safely attend, be present, and hold space for others, facilitators needed to consider this alongside their professional judgement. Regenerate and NatureConnect partnered with participants at every level to understand how the behaviour of adults using family violence may sabotage participants' parenting and impact their safety and wellbeing. This increased understanding of the support needed to create an emotionally and physically safe enough space for them and their children.

Importance of the Team in Implementing the Therapeutic Frame

A trauma- and violence-informed framework is accountable for the impacts of the work on practitioners, specifically regarding the continuous response to the impact of men's violence on the participants and working within the context of structural oppression and social injustice (Reynolds, 2011).

Victim survivors of family violence built the sector, and they continue to inform it through their involvement as participants, managers, advocates, expert advisors, researchers, leaders, and practitioners (Domestic Violence Victoria, 2020). As outlined above, there were members of the team who identified as victim survivors. In addition, team members were drawn to this work due to their capacity for empathy, which meant facilitators were open to the potential distress that the work could cause. The team remained critically aware of how the work could impact wellbeing and increasingly became better at looking out for each other. This also involved offering each other the same level of attunement as participants, picking up on subtle cues to know when a shift or break might be needed, scheduled debriefs, check-ins, and a commitment to care for one another.

Throughout the program, the team engaged in professional development, which included basic family violence training, trauma-informed practice, psychotherapy training, and access to paid individual external supervision. This supported the team's capability to deliver evidence-based and trauma-informed services to participants (Commonwealth of Australia, 2022, p. 115). While training and supervision were identified as important from the outset, after launching into Regenerate, staff noticed that attention was focused on setting up and rolling out the program at the expense of the team. We regrouped to put in place supports that provide more opportunities to meet as a team, such as planned lunches in the park and group reflective practice facilitated by an external trauma-informed supervisor, and adopted a more collaborative approach to designing the program. We also implemented consistent internal supervision for all staff. The outcome of this meant that staff felt notably connected, managers were more aware of the needs of individual employees, multiple minds contributed to designing the program, and there was more space to consider participants' reflections to evaluate and influence the design. This level of collaboration meant that staff were better supported, and the team had an increased opportunity to learn from each other and from participants' expertise.

A group of skilled facilitators who are well supported are more able to hold the therapeutic frame, and the participants we spoke to also recognised this. Helen said that she felt she was "able to move, it felt like I was shredding my trauma, and it was being healed by nature and by the group facilitators." Helen found the deliberate nature of the facilitation helpful; she gave the example of connecting with nature and then returning to share and report on how the group's session had felt for her.

Women's recovery was challenged in part due to the ongoing violent behaviours that perpetrators intentionally used to sabotage the recovery of both adults and

children. It was important for staff to be aware of these coercive behaviours to offer both emotional and practical support and to know when to collaborate with participants to bring in external support services in sharing risk-relevant information and bolstering safety and stability.

D. "appreciated there was someone to support/hold emotions while engaging in task-based activities" and found the tools for measuring "what is happening such as the Empowerment Rainbow, helpful." The Empowerment Rainbow is an outcomes tool that was used in NatureConnect and is a modified version of the Empowerment Star (see Fig. 9.1) that was used in the Regenerate program evaluation (Rakar-Szabo et al., 2019).

Facilitators offered modelling that included asking for help, working together, towing trailers, setting up camp, and sharing camping skills with participants. D. said that seeing "someone organising camps, food, actually we are the people setting this up." Modelling was not just important to show that you can do it and get outside, but also to relearn how to relate to others. D. said, "After violence I didn't know how to relate. I needed modelling, a facilitated space where I was treated with respect and felt respect in action … [that felt] genuine." It was also important to participants that when they felt new aspects of themselves, such as mastery and control, these parts of themselves were seen by others.

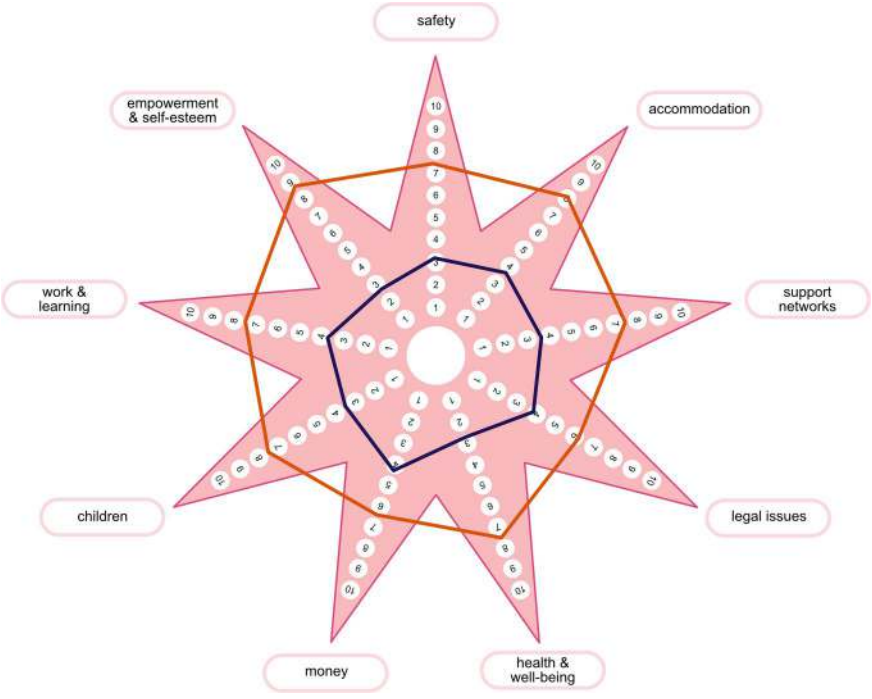


Fig. 9.1 Empowerment star (Rakar-Szabo et al., 2019 [The authors (Rakar-Szabo et al.) Provided their permission to include this Figure]

Facilitators also noticed how children watched their mothers and other women in awe as they pitched tents, hammered in pegs, lit fires, and built camp kitchens. One staff member said, "For children to witness such collaboration, community and strength as well as their Mum relaxed and laughing with others, helped to challenge rigid gender stereotypes and send the message to their children that you are safe here."

The Role of Nature Contact

Nature contact can offer a deeper connection to the world around us. It is suggested that humans have an innate desire to affiliate with natural spaces, known as the biophilia hypothesis (Cooley et al., 2020), which is linked to positive aspects of human development including emotional wellbeing. Other theories that explain the benefits of nature on wellbeing include attention restoration theory (ART), which suggests that the mental fatigue of focusing without distraction is a limited resource that can be recovered and improved through nature connection (Divya & Naachimuthu, 2020), and stress reduction theory, which suggests that time spent in calming natural environments activates the parasympathetic nervous system and can lead to positive changes in emotional states (Owens & Bunce, 2022).

Research has shown that green spaces can lower rates of depression and anxiety (Bratman et al., 2019; Doctors for the Environment Australia, 2021) and that nature can positively impact cognitive functioning, as well as emotional and psychological wellbeing (Bratman et al., 2019; Divya & Naachimuthu, 2020). Participants in the programs recognised this and had their own take. Carla said, "It gave me a chance to get my vit D—I'm low, where I wouldn't necessarily get a chance. Being able to ground myself on a regular basis improved my mental health and overall wellbeing."

Participants spoke of nature as an important part of creating an environment that promotes recovery, something that facilitators also witnessed. Helen said, "Nature is equalising [and has a] restorative benefit." In nature, D. was "connecting to something that is unifying and captivating as well as uncertain." In this way, the outdoor environment and aspects of nature were considered to be part of the therapeutic frame.

Participants reported feeling free to be themselves, stating that nature does not judge; it does not care about your size, gender, skin colour, or education level. It does not tell you that you are worthless or a bad parent. Nature therefore provides not only restorative benefits but also a space where someone can explore who they are. This is especially important for survivors who are rebuilding their identity and reclaiming how they parent. As D. described,

> Nature doesn't have rules like a library has rules, nature has flexibility and can come into conversations. In nature I can be captivated by nature, touch on subjects that are hard and then be captivated by nature again—in touch with senses.

D. also shared that "nature activities feel equalising, we can learn from nature and each other without judgement."

The barriers to being outside included weather and other environmental unpredictability. This impacted some participants more than others depending on health concerns, comfort levels with different weather, and the presence and age of children. Unpredictability is part of being in nature, as is the behaviour pattern of an adult using family violence. Facilitators therefore needed to be critically aware of the care and attention required to support participants through this at a pace determined by them. D. shared,

> Being in nature is an opportunity to be in the unknown and supported in the unknown. Living in or leaving a family violence situation there are lots of unknowns and questions about how life will be out of that. Because of coregulation that can occur between facilitators and participants it is important that therapists [facilitators] can be comfortable in this space.

D. also spoke about having "facilitators who can support people in experiencing the aspects of nature that you can't control, for example the wind, as well as facilitators that understand trauma *and* family violence."

The other barrier to getting outside was mobility and other health concerns, which were prevalent among the participants. As D. said, "Nature is there for everyone but not accessible to everyone." While the program model offered choice, and often could accommodate mobility limitations—for example, by providing chairs—uneven ground and slopes posed a challenge for some, making Regenerate full- and multiday sessions less accessible.

Group Support

Evaluation of Regenerate highlighted the positive feelings that came from a sense of belonging through being in nature with others (Rakar-Szabo et al., 2019). Nature or the outdoors, where groups met, provided a safe enough space to explore, connect, and recover. As Juliana wrote, "When you are surrounded by nature, you feel safe. When you feel safe, you are happy! And happiness leads to so many positive vibes." Zukauskiene et al. (2021) recommended that where family support is not available, other types of social support can meet this need.

Many participants reported that these programs supported them to feel less alone. Without necessarily needing to talk about individual stories, knowing that others in the group had similar experiences allowed for this. Carla said, "As horrible as the experience is to go through [family violence], knowing that others have been through it and survived, allowed me to have hope for my future." Helen said, "Even without talking about it, there is an understanding that others have had a similar experience … it made things feel safe. The social aspect and connection helped my healing and made me feel less alone." D., as someone who was part of the NatureConnect peer space, said that being witnessed "happens to a different element with peers."

For some, social connections extended beyond the programs, as Juliana wrote: "... because we are not feeling alone, some of us became a good friend that support each other even outside the program or [when] the program was sadly ended." Carla also reported that "knowing someone will be here [NatureConnect], gives me motivation to get to nature." Participants also noted learning from each other. D. said,

> You learn a lot from peers, how they are doing things with kids, how they are finding work, trying to adjust goals, day to day of life after violence. Meeting others who have experienced similar things that still have goals, that still care, seeing them changing and taking control of their life.

Both Regenerate and NatureConnect had food and drinks available, including tea and coffee. This met biological needs, and the facilitators understood that for some women, this was their first meal of the day. Having food in our bellies helps us regulate our emotions better, and sharing food is something that people have always come together for across different cultures and times (Hamburg et al., 2014). Offering food also sends the message that we welcome you here, and facilitators observed that starting sessions this way allowed time for participants to adjust to the space and the group before moving into the session.

Adventure in Nature

Adventure therapy, often known as bush adventure therapy (BAT) in the Australian context, is the intentional use of outdoor activities to achieve therapeutic outcomes, often in a group setting, and exists along a continuum from residential to community settings (AABAT, n.d.; Tucker et al., 2022; Vankanegan et al., 2019). Regenerate offered adventure activities in group settings across the spectrum, including 2-hour sessions at local parks, day trips, and multiday trips. NatureConnect offered adventure in group settings at an urban farm. Activities across the programs included walks, games, patting the goats, nature-based reflections and activities, as well as camping, sailing, and kayaking.

Outdoor activities undertaken in a group setting have been found to improve mental health outcomes and social connectedness, as well as increase positive emotions, self-esteem, and sense of identity (Picton et al., 2019). By participating in outdoor activities, participants felt a sense of accomplishment. Helen found moving with it (the trauma) helpful, stating, "When I had counselling sitting in a room it felt burdensome, a thing I had to do, I never felt that here [Regenerate or NatureConnect], I felt lighter, always."

Thematic analysis of the Regenerate program indicated the women's favourite outcomes were the positive feelings and sense of belonging gained through "physical adventures in nature with others" and "opportunities to reflect" (Rakar-Szabo et al., 2019, p. 4). This demonstrates how the four mechanisms of recovery—therapeutic frame, nature contact, group support, and adventure in nature—are intertwined.

For the participants, the adventure was not just about them but also about their families, as Carla said: "Knowing that if I had my children with me, they would be enjoying themselves at the same time as I would be connecting with the group. Watching them happy always makes me happy."

D. shared,

> As an agender person I find myself in systems that work within a binary, heteronormative approach which is very far from my needs. Nature activities when someone has experienced abuse/violence, are equalising I can learn, and people can learn from me hopefully without prejudice.

Challenges and new experiences in the outdoors offered women and their children a unique opportunity to practise self-regulation and build a sense of achievement. Alongside the wellbeing factors of being in nature, challenges contribute to positive impacts on mental health. The "I can do it" feeling after a challenge alongside doing things together has been shown to build self-esteem (Fernee et al., 2019; Norton et al., 2019). These experiences were observed and described by participants of the Regenerate program following adventure days and camps where there were often opportunities to achieve a sense of accomplishment both individually and as a group. These experiences, then, are likely to have positive impacts on mental health as well as on a sense of belonging.

While participation can bring a sense of accomplishment and belonging by engaging with others, it is essential in the assessment process to ensure that the adventure medium chosen matches with what participants need to feel comfortable in the outdoor experience. Using the same spaces each week enabled participants to build familiarity, which supported engagement and allowed both participants and facilitators to assess readiness for day or multiday trips.

Other necessary considerations for comfort included choosing locations with a toilet or stopping at one on the way if that was not possible and being clear about this before participants attended, having sanitary items available, providing picnic tables where possible for lunch, and prioritising time for showers on camps.

Despite the actions of current or ex-partners using coercive control, the programs offered spaces to explore and be, to choose between the easy walk or the hard multiday hike, to witness recovery in action, and to be witnessed by peers. As one woman expressed on the bus ride home from a multiday hike, "It doesn't matter whatever happens, he cannot take this weekend away from me, I did not know I was capable of this."

Looking Forward

Regenerate ran for 2 years, with funding ceasing in mid 2019, and NatureConnect ran for 6 months in 2021 as a funded facilitated program. Both programs demonstrated positive outcomes for participants and their families (Rakar-Szabo et al., 2019), and the authors witnessed change and growth throughout

the time participants were engaged. Coming into the programs, many participants reported feeling isolated. However, during their time engaging with Regenerate and NatureConnect (along with other services), the authors observed participants re-engaging with their local communities, building community within the programs, returning to work and/or study, and developing leadership skills.

These programs contribute to the outdoor health and BAT fields of practice, and in combination with the family violence sector, the trauma-informed framework of outdoor health care would be further strengthened by incorporating family violence-informed frameworks such as trauma- and violence-informed practices.

The NatureConnect program has operated in a limited capacity as a nonfunded, peer-led program, allowing participants to continue meeting as a group in nature to socialise and support each other. While participants value the input from paid facilitators and the funding for food, the benefits of participants continuing to meet at the farm with other women who have had similar experiences remain helpful in their recovery from family violence. As Carla said,

> I don't believe therapy from nature can ever cease and constant exposure to nature regularly is an ongoing necessary cure especially for those with mental health issues like myself. I hope to continue meeting with the group as long as I am able/indefinitely.

Helen shared, "My hopes are that I can use the learnings to develop, create, expand both personally and professionally so that I can live a life of dignity and have a positive impact on others." Participants continue to meet at the farm to offer peer support; however, they expressed hope for funding to enable new participants to attend and to support camps and program facilitation.

While Regenerate and NatureConnect staff were able to talk to gender inequality to create solidarity with each other and the participants, a stronger understanding of trauma- and violence-informed practice frameworks would have strengthened the intentional use of these frameworks in practice and created access for more marginalised groups. We hope to support another program and envisage additional features to strengthen family violence frameworks and minimise barriers to access such as interpreters, peer workers, collaboration with Aboriginal community-controlled programs, and additional team support from the outset.

The RCiFV highlighted that there is limited understanding of the support process for adult and child victim survivors from crisis point to recovery (Victoria State Government, 2023c). Facilitators hope that the outcomes highlighted in this discussion demonstrate how outdoor health programs, which do not have limited timeframes and are based on trauma- and violence-informed frameworks, can contribute to recovery from the harm caused by an individual's choice to use violence. Carla who participates in the NatureConnect program said, "I knew this was a place that I could come and that someone would be here—I might not have come otherwise."

References

Adventure Works. (n.d.). *What we do*. https://adventureworks.org.au/what-we-do/

Australian Institute of Health and Welfare. (2019). *Family, domestic and sexual violence in Australia: Continuing the national story*.

Australia's National Research Organisation for Women's Safety. (2020). *Working across sectors to meet the needs of clients experiencing domestic and family violence*.

Australian Association of Bush Adventure Therapy (AABAT). (n.d.). *About bush adventure therapy*. https://aabat.org.au/

Bratman, G. N., Anderson, C. B., Berman, M. G., Cochran, B., De Vries, S., Flanders, J., Folke, C., Frumkin, H., Gross, J. J., Hartig, T., Khan Jr, P. H., Kuo, M., Lawler, J. J., Levin, P. S., Lindahl, T., Meyer-Lindenberg, A., Mitchell, R., Ouyang, Z., Roe, J., & Daily, G. C. (2019). Nature and mental health: An ecosystem service perspective. *Science Advances*, *5*(7).

Carlson, B., Day, M., & Farrelly, T. (2024). *What works? A qualitative exploration of Aboriginal and Torres Strait Islander healing programs that respond to family violence* (Research report, 02/2024). ANROWS.

Carman, M., Fairchild, J., Parsons, M., Farrugia, C., Power, J., & Bourne, A. (2020). *Pride in prevention: A guide to primary prevention of family violence experienced by LGBTIQ communities*. Rainbow Health Victoria.

Centre for Family Research & Evaluation. (2019). *Learning from Victoria's family violence demonstration projects*. https://cfre.org.au/learning-from-victorias-family-violence-demonstration-projects/

Commonwealth of Australia. (2022). *National plan to end violence against women and children 2022–2032: Ending gender-based violence in one generation*. Department of Social Services.

Cooley, S. J., Jones, C. R., Kurtz, A., & Robertson, N. (2020). "Into the wild": A meta-synthesis of talking therapy in natural outdoor spaces. *Clinical Psychology Review*, *77*, 1–14.

Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, *43*(6), 1241–1299.

De Vaus, D., Gray, M., Qu, L., & Stanton, D. (2014). The economic consequences of divorce in Australia. *International Journal of Law, Policy and the Family*, *28*(1), 26–47.

Diemer, K. (2015). *ABS personal safety survey: Additional analysis on relationship and sex of perpetrator. Documents and working papers, Research on violence against women and children*. The University of Melbourne.

Divya, C., & Naachimuthu, K. P. (2020). Human nature connection and mental health: What do we know so far? *Indian Journal of Health and Well-being*, *11*(1–3), 84–92.

Doctors for the Environment Australia. (2021). *Trees: The forgotten heroes for our health*. WWF.

Domestic Violence Victoria. (2020). *Code of practice: Principles and standards for specialist family violence services for victim-survivors* (2nd ed.).

Essential Services Commission. (2019). *Better practice in responding to family violence: Understand the gendered nature of family violence*. https://www.esc.vic.gov.au/better-practice-responding-family-violence/principle-five-acknowledge-and-address-barriers-access/understand-gendered-nature-family-violence

Federal Circuit and Family Court of Australia. (n.d.) *Family violence: Overview*. https://www.fcfcoa.gov.au/fl/fv/overview#:~:text=Section%204AB%20of%20the%20Family,family%20member%20to%20be%20fearful

Fernee, C. R., Mesel, T., Andersen, A. J., & Gabrielsen, L. E. (2019). Therapy the natural way: A realist exploration of the wilderness therapy treatment process in adolescent mental health care in Norway. *Qualitative Health Research*, *29*(9), 1358–1377.

Gartlanda, D., Gialloa, R., Woolhousea, H., Mensahb, F., & Browns, S. J. (2019). Intergenerational impacts of family violence: Mothers and children in a large prospective pregnancy cohort study. *EClinicalMedicine*, 51–61.

Good Samaritan Inn. (n.d.). *Good Samaritan Inn*. http://www.goodsamaritaninn.org.au/

Hamburg, M. E., Finkenauer, C., & Schuengel, C. (2014). Food for love: The role of food offering in empathic emotion regulation. *Frontiers in Psychology*, *5*, 74259.

Hegarty, K. H., Hindmarsh, E. D., & Gilles, M. T. (2000). Domestic violence in Australia: Definition, prevalence and nature of presentation in clinical practice. *Medical Journal of Australia*, *173*(3), 363–367.

Laing, L., Cavanagh, K., & Humphreys, C. (2013). Social work & domestic violence: Developing critical & reflective practice.

Norton, C. L., Tucker, A., Farnham-Stratton, M., Borroel, F., & Pelletier, A. (2019). Family enrichment adventure therapy: A mixed methods study examining the impact of trauma-informed adventure therapy on children and families affected by abuse. *Journal of Child & Adolescent Trauma*, *12*, 85–95.

Owens, M., & Bunce, H. L. (2022). Nature-based meditation, rumination and mental wellbeing. *International Journal of Environmental Research and Public Health*, *19*(15), 9118.

Our Watch. (2015). *Change the story: A shared framework for the primary prevention of violence against women and their children in Australia*. Australia's National Research Organisation for Women's Safety & VicHealth.

Picton, C., Fernandez, R., Moxham, L., & Patterson, C. (2019). Experiences of outdoor nature-based therapeutic recreation programs for persons with a mental illness: A qualitative systematic review protocol. *JBI Evidence Synthesis*, *17*(12), 2517–2524.

Rakar-Szabo, N., Steele, E. J., Smith, A., & Pryor, A. (2019). *Regenerate evaluation: Executive summary*. Adventure Works Australia.

Reynolds, V. (2011). Resisting burnout with justice-doing. *The International Journal of Narrative Therapy and Community Work*, *4*, 27–45.

Safe and Equal. (n.d.-a). *Understanding family violence: Family violence statistics. Family violence in Victoria is increasing*. https://safeandequal.org.au/understanding-family-violence/statistics/#

Safe and Equal (n.d.-b). *Understanding family violence: What causes family violence*. https://safeandequal.org.au/understanding-family-violence/what-causes-family-violence/

Safe and Together Institute. (n.d.). *Partnering with survivors is central to keeping children safe*. https://safeandtogetherinstitute.com/partnering-with-survivors-at-the-core-of-keeping-children-safe/

Salter, M., Conroy, E., Dragiewicz, M., Burke, J., Ussher, J., Middleton, W., Vilenica, S., Martin Monzon, B., & Noack-Lundberg, K. (2020). *"A deep wound under my heart": Constructions of complex trauma and implications for women's wellbeing and safety from violence*. Australia's National Research Organisation for Women's Safety.

Scott, K. L., & Jenney, A. (2022). Safe not soft: Trauma- and violence-informed practice with perpetrators as a means of increasing safety. *Journal of Aggression, Maltreatment & Trauma*, *32*(7–8), 1088–1107. https://doi.org/10.1080/10926771.2022.2052389

Tucker, A. R., Norton, C. L., DeMille, S., Talbot, B., & Keefe, M. (2022). Wilderness therapy. In J. M. Leffler. & E. A. Frazier (Eds.), *Handbook of evidence-based day treatment programs for children and adolescents* (375–393). Springer International Publishing.

Vankanegan, C., Tucker, A. R., Mcmillion, P., Gass, M., & Spencer, L. (2019). Adventure therapy and its impact on the functioning of youth in a community setting. *Social Work With Groups*, *42*(2), 127–141.

Varcoe, C., Wathen, C., Ford-Gilboe, M., Smye, V., & Browne, A. (2016). *VEGA briefing note on trauma- and violence-informed care*. VEGA Project and PreVAiL Research Network.

Victoria State Government. (2023a, July 27) *Family violence multi-agency risk assessment and management framework*. https://www.vic.gov.au/family-violence-multi-agency-risk-assessment-and-management

Victoria State Government. (2023b). *Family violence multi-agency risk assessment and management framework: Practice guides: Responsibility 2: Identification of family violence risk*. https://www.vic.gov.au/maram-practice-guides-and-resources/responsibility-2

Victoria State Government. (2023c). *Recovery and healing*. Family Violence Reform Implementation Monitor. https://www.fvrim.vic.gov.au/monitoring-victorias-family-violence-reforms-crisis-response-recovery-model-victim-survivors/recovery-healing

Wathen, C. N., & Mantler, T. (2022). Trauma- and violence-informed care: Orienting intimate partner violence interventions to equity. *Current Epidemiology Reports*, *9*, 233–244. https://doi.org/10.1007/s40471-022-00307-7

Zukauskiene, R., Kaniusonyte, G., Bergman, L. R., Bakaityte, A., & Truskauskaite-Kuneviciene, I. (2021). The role of social support in identity processes and posttraumatic growth: A study of victims of intimate partner violence. *Journal of Interpersonal Violence*, *36*(15–16), 7599–7624.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 10
Taking Therapy Outside with "Revive": An Adventure Therapy Program for Survivors of Sexual Harm



Anneke Beardsley and Amy Horn

Sociocultural Positioning

Anneke Beardsley: I am a Pākehā/White woman from New Zealand, with European heritage. In my forties, I am tertiary educated in geography and social work. I have worked as a social worker for 18 years in a variety of settings. I am particularly interested in ecological and holistic perspectives that seek to understand people within their unique environments. I work outdoors as an adventure therapy clinician with participants who have experienced mental illness and trauma. I see the natural world as a cofacilitator, and I believe that a connection to the natural world offers each of us support, hope, health, and healing.

Amy Horn: I am a New Zealand European Pākehā woman in my early forties. I grew up surrounded by the Māori worldview, which influences how I understand health, wellbeing, and connection with nature. My Christian upbringing also influences my views on spirituality, life, healing, and love for people. I trained initially in outdoor instruction followed later by studies in psychology, sociology, and counselling. I am committed to the development of safe, effective nature and adventure-based therapeutic interventions in Aotearoa New Zealand.

> Revive: To … become active or flourish again. (Miriam-Webster Dictionary, n.d)

A. Beardsley (✉) · A. Horn
Adventure Specialties Trust, Auckland, New Zealand
e-mail: anneke@adventurespecialties.co.nz
e-mail: amy.horn.ata@gmail.com

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_10

Introduction

This chapter tells the story of establishing Revive, an adventure therapy program for sexual harm survivors in Aotearoa New Zealand. It provides an overview of the cultural and political context in New Zealand, the process of establishing the program, in-depth details about its structure, and insights into participants' experiences, with a strong emphasis on their connection to the natural world.

> Trauma (until we work through it) keeps us stuck in the past, robbing us of the present moment's riches and limiting who we can be. In many cases it blights a person's sense of self-worth, poisons relationships, and undermines appreciation for life itself. It can impair your capacity to experience gratitude for the beauty and wonder of life. (Maté & Maté, 2022).

This insight highlights the challenges that trauma presents. Adventure therapy programs, with their supportive group dynamics, empowering experiences, and immersive natural settings, are uniquely positioned to address trauma.

Context in New Zealand

The New Zealand Ministry of Justice estimates that about 35% of females and 12% of males had experienced sexual assault in their lifetime (Ministry of Justice, 2022). The New Zealand Accident Compensation Corporation (ACC) provides specialist support for survivors of sexual abuse and assault through its Integrated Services for Sensitive Claims (ISSC). Survivors can access individual therapy, group therapy, and rehabilitation services, such as speech therapy, occupational therapy, and physiotherapy at no cost (ACC, 2025). From 2023 to 2024, 38,956 people accessed support through the ISSC ("ACC Launches New Sensitive Claims Service," 2024). After initial support, ACC clients undergo an assessment in which their diagnosis or symptoms (typically posttraumatic stress disorder [PTSD] or depression) must be considered a result of the sexual harm they experienced in order to receive ongoing services. The support is covered by ACC regardless of whether there is a criminal charge process. Someone who experienced harm as far back as 1974 (when ACC was established) can make a claim for historical events and access the same support (ACC, 2025). In 2022, the Adventure Specialties Trust (AST) received approval, via the contract holder Visser and Associates, from ACC to deliver adventure-based group therapy as part of adult (18 + years) "group therapy" services.

The Birth of Revive

AST is a not-for profit organisation based in Auckland and Christchurch, Aotearoa New Zealand. It was established in 1984 and delivers a wide range of outdoor adventure programs aimed at strengthening the wellbeing of participants. AST has

been running specific adventure therapy programs since 2015. During this time, we have received a range of requests from clients and ACC "lead providers" (qualified psychologists, psychotherapists, counsellors, and social workers who work in an ongoing therapy relationship with ACC Sensitive Claim clients) for adventure-based group therapy. Literature on trauma-responsive approaches emphasises the significant benefits to survivors of experiencing and embodying feelings of joy, hope, pride, empowerment, aliveness, and connection to others (Herman, 2015; Levine, 1994; Maté & Maté, 2022; van der Kolk, 2014). So we brought together gentle adventures outside, with small groups, to create what we understand is Aotearoa New Zealand's first adventure-based group therapy specifically for sexual harm survivors.

Getting approval from the ACC to use this approach was not straightforward; it seems to be a challenge for large systems to approve something that sits outside the safety of mainstream delivery approaches. There is a significant body of research internationally on trauma-informed adventure therapy (Levine, 1994; Norton et al., 2019; Poulsen et al., 2016; Ross, 2003), which we included in our application to ACC. However, one of the main concerns for ACC was that there was very little evidence that an adventure therapy approach is beneficial specifically for survivors of sexual harm. To address this concern, we funded an external research project, conducted by Social Research & Evaluation with ethics committee approval, that evaluated the program, effectively building the evidence base as it progressed. The evaluation utilised both qualitative and quantitative data from psychometric testing, feedback questionnaires, and interviews with participants, staff, and referrers. It revealed significant gains for the clients, including positive shifts in life satisfaction, stronger feelings of social connection, increased awareness of character strengths, greater feelings of hope, and reductions in stress, numbness, and avoidance (Wylie et al., 2024). Since our application to ACC in 2022, there has been a growing body of research and evidence internationally to support adventure therapy as a helpful approach for trauma recovery (e.g., Johnson et al., 2020; Pringle et al., 2023; Tucker et al., 2024).

Who Is Eligible to Attend Revive?

This course is promoted via the AST website and via email to the ACC lead providers, many of whom have collaborated with clients over several years, using diverse modalities to process, address, and heal from trauma. To be appropriate for the program, participants should be in an established therapy relationship with a lead provider, the program should support them towards the therapeutic goals on their ACC "pathway to wellbeing," they are able to utilise strategies of regulation and self-soothing, interested, and able to take part in our activities and therapeutic group conversations.

What Does Revive Look Like?

The Revive program model is delivered via eight weekly, 4-hour small-group sessions, along with one individual 1-hour session with the clinician prior to the group sessions commencing. This session is designed to build rapport, set goals, and understand the needs of each participant, along with a chance for them to ask any questions. Maximum group size is eight participants with two facilitators (one clinician and one outdoor instructor). We run "single-gender" and "all-gender" groups. People who joined the single-gender groups were either cisgender or in some cases did not identify strongly with the term used but felt comfortable with it. The all-gender group was made up of both cisgender, transgender, and gender-diverse people. To date, all participants have been adults aged between 18 and 60.

Over the 8 weeks, the group does eight different local adventures. The activities depend on the needs of the group and the weather, but they can include coastal and bush walking, kayaking, mountain biking, rock climbing, surfing, and rafting. Alongside the activity, there is a therapeutic focus for each day. These themes are developed in response to the hopes and needs of the group; generally, they include topics such as building connections and community, experiencing how nature, movement, and play can support healing, practising, and strengthening self-compassion, and considering active hope.

Once at our location, our day starts with a hot drink and "check-in" with each other and a settling-in with a short mindful or movement invitation. We introduce the place we are in, often sharing its cultural significance for Māori, and include a karakia (prayer) or poem to open our day. After introducing our theme/focus for the day, we head off on our adventurous activity, have lunch along the way, include some form of nature connection activity, and engage in some facilitated discussion, reflection, and debriefing. After finishing the activity, we wrap up with a closing round where each person shares a mihi (acknowledgement) and/or reflection from the session.

Each week, the facilitators follow up the session with a letter to each person, describing the focus and activity of the day, some of the discussion of the day, and a few personal comments related to their individual therapeutic goals.

Our Approach to Adventure Therapy

The term we use for the therapeutic modality we use on Revive is adventure therapy. However, we acknowledge that this terminology means different things to different people around the world. In Aotearoa New Zealand, a variety of theories and strategies are incorporated into practitioners' work and selected for

their appropriateness in terms of the client, the practitioner, and New Zealand culture (Jeffery & Hensey, 2022). AST's approach to adventure therapy includes aspects described by Pryor et al. (2018) related to psychological, sociological, ecological, and physiological elements. Broadly speaking, the psychological aspect occurs through facilitated group discussions on different topics, the sociological aspect arises from the safe and healthy group context, the ecological aspect involves the intentional connection with the natural world, and the physiological aspect is addressed through the adventure-based activities.

This approach fits well in Aotearoa New Zealand, where one of the recognised health models from *te ao Māori* (the Māori world) is *Te Whare Tapa Whā* (The house with four walls) by Mason Durie (2001). The model depicts a house held up by walls, which helps us understand that health is not just one thing but the combined strength of multiple aspects. *Tīnana* (the physical), *wairua* (the spiritual), *whānau* (the social), and *hinengaro* (the mind) work together to make the whare (house) strong. In Aotearoa New Zealand, this model provides language that is widely known and used throughout the country. At AST, we connect strongly with this way of understanding wellbeing. During induction, we teach our staff this model as one of our underpinning ideas behind what we are working towards. Facilitators often use this framework as a way of introducing a facilitated discussion on the program.

It is important to us that adventure therapy is safe and ethical. We take a strengths-based approach (Saleebey, 2006) and are guided by the solution-focused model (Hanton, 2011) in our facilitation. We acknowledge the client as the expert in their own lives and honour the choices they make for themselves in the group process. All clients are free to disengage from our service at any time with no negative implications for the other services available to them: No one else stands to gain from their choice to participate or not participate in Revive.

We consider cultural safety to be of high importance in Aotearoa New Zealand. Cultural safety can be defined as an environment "where there is no assault challenge or denial of their identity, of who they are and what they need. It is about shared respect, shared meaning, shared knowledge and experience of learning together" (Williams, 1999, p. 213). We make every effort throughout the entire delivery of this service to create this cultural safety.

The research team asked about cultural and spiritual safety, and several participants talked about the program feeling safe from a te ao Māori perspective (Māori worldview). Māori participants who were interviewed reported feeling that their culture was respected and appreciated the sharing of the cultural narrative of each place. Starting and ending with karakia was also appreciated, along with the connection with nature and the earth. Māori participants interviewed commented that the instructors incorporated te reo Māori (the Māori language) in a respectful and genuine way,

> I felt very grateful in part to be able to kind of express gratitude in the check-ins each morning for the locations and karakia and sort of thing and I did another karakia. And people were comfortable with it, and they were accepting, which was nice. (Cisgender female, end of program)

In addition, this program focuses on being trauma responsive. We are informed by ongoing research and development of Māori approaches to trauma-informed care (McClintock et al., 2018; Pihama et al., 2017) that consider the effects of historical, cumulative, intergenerational, and situational trauma. Trauma experts generally emphasise the importance of integrating the mind, body, and social connections for both understanding and treating trauma (Levine, 1994; Ogden et al., 2006; van der Kolk, 2014). The adventure therapy approach is a great example of a practice that supports this integration (Johnson et al., 2020; Pringle et al., 2023; Tucker et al., 2024). Being trauma responsive also means that we practise "challenge by choice" (Schoel & Maizell, 2002), where we give as much opportunity for each client to choose their level of engagement and challenge on each activity.

We see Revive fitting well within what is commonly known as the "third phase" of trauma recovery, "reconnection" (Herman, 2015). Herman (2015) described the third phase as rebuilding life in the present and engaging more actively with the world. This stage occurs when people feel ready to be around people again, form new relationships and feel part of communities, to be fully present in the here and now, lead meaningful lives with a sense of purpose, to have a positive relationship with their bodies, feel a sense of vitality and power, and to think about the future with hope.

What Goals Do the Clients Come With?

Before attending, participants (along with the support of their lead providers) complete paperwork outlining what they hope to gain from participating in Revive. Our clinician expands on this in person so that we can tailor the program accordingly. The hopes and goals of participants tend to fall into three categories: reconnecting with self (e.g., reconnecting with the body, improving physical wellbeing, finding a sense of purpose and meaning, improving mood, and increasing self-worth, self-compassion, and self-care); reconnecting with others and community (e.g., improving social connections, opportunities to practise regulation strategies learnt in therapy, and reducing social anxiety); and reconnecting with the natural and spiritual world (e.g., strengthening wairua, reconnecting with whenua (land), and exploring activities and places that bring joy, meaning, and purpose).

Participant's Experiences of Revive

> I've met other women who have struggles, and we've worked together as a group. We've had adventures and found blessings in Nature. We've acknowledged hard stuff and been ok with it. We've found a sense of belonging, manaakitanga, kotahitanga and whanaungatanga. (Cisgender female)

We have seen and heard so many participant experiences that indicate people are breaking free from the powerful effects of trauma. Experiences in which they express surprise at remaining present for a whole day without thinking of the past, activities where they have expressed pride in themselves and their bodies, situations where they have felt connection with others, and even maintained friendships following the course. They have recognised the small but significant moments when they were able to appreciate and soak in the beauty and wonder of life. All the quotes in this section come from statements made by participants to the group and facilitators on program, from the evaluation research project, or from the course feedback forms.

Reconnecting With Self

> By spending time in the natural world and reconnecting with its processes, people are in essence also reconnecting to themselves and others. This is a powerful therapeutic medium that has been shown to enhance physical health, self-concept, and interpersonal relations, as well as bring a sense of relief and happiness. (Gass et al., 2012, p. 95)

It is our experience that this holistic adventure therapy approach provides survivors with unlimited opportunities and possibilities for increasing self-worth and self-compassion, renew their connection with their bodies, and find enthusiasm for developing new interests and ideas that promote health and foster new relationships. Many participants reported that it was the "adventurous activities" that initially caught their eye; that it would be active, getting them out of their homes, with less conversation and more doing, but that the impact they experienced was much broader than just participating in an adventurous activity.

Improved Self-Worth

The many layers of adventure therapy led to feelings of empowerment and confidence for many individuals. Of course, some of the physical activities brought about a sense of achievement and empowerment when participants were out of their comfort zones, but for some participants, it was even an "adventure" to leave their homes, make it on time each week, engage in conversation with other participants, and contribute to discussions that required courage, vulnerability, and honesty. One participant described,

> Revive definitely made me more aware to the fact that of course I'm worthy and I am capable of doing these things and connecting and talking to people, I'm actually fine, anything I put my mind to I can do. (Cisgender female, end of program)

One of our participants was tearful on our first day while telling the group a little about himself. He explained that he "hates" himself and that he cannot see what anyone else sees in him. This was a familiar theme for

him in subsequent weeks in response to others' praise for his successes in the activities or thanks for his support. In the last session, he once again showed great emotion, this time explaining to the group that he had realised over this course just how starkly different his own impressions and ideas about himself were compared to everybody else's—that hearing these words from others and reading the letters from staff enabled him to explore this more fully in therapy.

Another participant told the researcher about her experience on the last day of the program, where the feedback from and relationships with others made a significant difference to her self-belief:

> And then on the last day, they did this thing where you walk around and discuss what are nice things that you've learned about the people in the last 8 weeks and they get them a certificate. . . . and it was beautiful hearing all this from a bunch of strangers and then realising that these goals I've been chasing, I've already succeeded them, I just wasn't seeing it in myself—it was really moving. (Cisgender female, end of program)

Improved Relationship and Connection With Body

One participant's aim in a women's group was around reconnecting with her body, resting, and caring for herself. Typically, she pushed her body hard, overriding any pain to achieve her goal. On the rock-climbing and high-ropes days, she noticed the same tendency but instead chose to honour her body and let us know that she had done enough for the day because she was listening to her body.

Referrers liked the idea of a program that developed in-body trust, to counteract their "disembodied" clients. One lead provider suggested Revive to her client as they felt it would reinforce to her how her body could support her, stretching what she might see as possibilities. The lead provider said,

> I think she was somebody who was feeling like a failure in lots of aspects of her life, except for her physical strength. And I thought it was a really good opportunity for her to flourish in that domain to see that she's capable, because everything else seemed to be falling apart. (Lead provider)

Improved Health and Self-Care

Nourishing oneself and practising self-care have been important outcomes for participants. There is always positive feedback from participants about the food we prepare and eat together outside each day, as well as the impact and significance of caring for themselves:

> [We] had lunch. That was also a highlight because I just was not eating at all. I really enjoyed it. But the food I think was really good as well, because it was healthy. It felt good, outside in the sunshine. I definitely had to deal with a bit of anxiety because of [health condition]. But it just felt nice and calm. And we had food that was going into me that I didn't have to prepare. (Participant)

Reconnecting With Others

Many of the positive outcomes for participants came from being in a group of peers. "Being able to feel safe with other people is probably the single most important aspect of mental health; safe connections are fundamental to meaningful and satisfying lives" (van der Kolk, 2014, p. 79). In addition, Porges (2023) referred to the need for "social nourishment" to feel a sense of belonging. Relationships that foster safety, connection, and trust greatly support healing from trauma. They are not just emotionally important but also a biological necessity for regulating the nervous system and allowing individuals to access the states of calm and safety needed for healing (Porges, 2021). We certainly saw many examples of this.

Relieving Anxiety About Being Around Others

We put significant time and energy into forming groups with healthy dynamics and healthy relationships. It is very common for us to hear, in the initial individual session with participants, about their anxiety regarding being around other people, which is often greater than the anxiety they feel about the activities or other aspects of the program. One participant said he wanted to do Revive "to achieve their activities but also do things in group setting type. Does that make sense? Because especially with guys, because of all my abuse and everything, everything has just gone internal" (Cisgender male).

Another participant told us the basic facts about the significant trauma she had experienced and emphasised that she did not want anyone else in the group to know this. She was very anxious about people asking questions, and we agreed on some strategies to support her, including our active support in the first week. After the program, she said to the researcher,

> Well 10 weeks ago, I couldn't even do my groceries without having a panic attack and leaving them in the store. I couldn't leave the house. I couldn't often be around friends. So it's making me realise that people can't mind read what it is I don't want to share. Coz that was when my fears were at it, is that people are going to ask probing questions and people are going to do this and that. And those scenarios are never going to happen and stuff. And I realised with being in that group, the reality is it is a point 00001% chance that that would ever happen. (Cisgender female, end of program)

With preparation in the preprogram individual session and encouragement on the day, while establishing our group agreement, one participant said to the group,

> I need privacy, I don't want anyone to look at me getting changed. It's just the way I am after what happened to me at boarding school. If I say something inappropriate, it's because you're too close to me, and I apologise in advance, I don't want to offend anyone, but if I accidentally say F off, I need space between us. (Cisgender male, first session)

On the last day of the group, during our celebrations and acknowledgements, this man thanked the group for respecting these boundaries and told them that he was surprised he no longer worried extensively about this in other settings, that he had learnt that if he states his boundaries, most other people will respect them.

Developing Trust

Support from others who are facing similar challenges is one of the key aspects of group therapy. This connection and bond with peers is quickly established through receiving and offering physical and emotional support throughout activities. This bond then serves as a strong platform for group discussions and sharing. We often see that people really take on board the ideas, reflections, and advice from other group members with far more weight than they do from the clinicians, as this quote demonstrates:

> On the rock climbing, I'd said that I only wanted one of the leaders to spot me because I'm heavy. Yeah. One of the girls overheard me and she came up to me and she goes, I heard what you've said, I'm more than confident to spot if you would let me, and that's what first started making me be able to trust others in the group was her. Otherwise, I was all about the leaders only. (Cisgender female)

Feeling Less Alone

Revive seems to have created a space for collective healing. As Hübl (2023) said, "Our individual healing is magnified when we share our vulnerabilities—our emotions, narrative, and experiences—in the presence of others". Participants have told us that they have a sense of relief and acknowledgement that others understand. We have seen some incredibly moving responses from group members when someone shows significant emotion. One participant, while we sat discussing our theme for the day, high up above the city in our rock-climbing spot, began to sob. When she apologised for crying, others in the group said, "no, you are allowed to cry, it's good to cry," and other responses that seemed to express how they would like to be comforted if they were showing emotion themselves. And we sat in our circle looking at the beautiful views for a long time, until she had stopped crying and wanted to continue with the day. She had an amazing day, climbing with great vigour, laughing lots and more animated than we had seen her before.

This statement from one of the lead providers seems to sum up this idea of "social nourishment" and collective healing:

> I'd say for both of them, it was surprise that they could fit somewhere. Surprise that, so they both knew that, yeah, there's all these people, we hear about all these people that have been abused and assaulted and sexually harmed. But to actually be in a group, where everybody knew what everybody had been through, like, wow. You know, it's not just an out-there thing. It's here. And I'm part of them. And actually, it's something we've all got in common. So I think it was sort of like a levelling thing. Because they didn't feel out of it. They didn't feel like there was anything that was different about them, because they knew actually it's the same for everybody.

Celebration of Individual Strengths, Wisdom, and Common Humanity

The heterogeneity of groups, particularly in terms of age and culture, seems to have added significantly to the success of Revive. Each group has included quite a diverse mix of ages ranging from 18 to 60, as well as individuals of Māori and Pākehā (New Zealand European) ethnicity, cisgender individuals, and members of the Rainbow community. At times, this has initially felt uncomfortable for participants who have expressed their impatience or challenges with others. But this has always been beautifully resolved over the course of the program. One participant was concerned about the potential for older participants to trigger or offend, or to feel out of place physically; his approach was to let the older members of the group know that he valued the wisdom and experience they brought to the group. This allowed for many great conversations in the group about differences in experience and thinking, all with respect for each other.

Reconnecting with the Natural World, the Environment, and Spirituality

We have so many examples of participants connecting or reconnecting with the outdoors and, indeed, falling in love with the natural world and all the myriad benefits this brings. Dana (2021) opened her book with the quote "Polyvagal Theory is the science of feeling safe enough to fall in love with life and take the risks of living" (p. 1). This is just one of the theories that informs our work; the natural world plays a big part in moving participants towards safety, connection, and regulation.

The Outdoors Offered Joy, Happiness, and Reconnection to Play

We loved the following quote from one of our participants because she not only describes the delight and joy but she also links this to the sense of safety that her nervous system felt deeply from the support of others,

> We did the sea swim. So, it was boogie boarding in the sea. Well, I'm petrified of waves. I want to go in, I didn't want to go in, I didn't want to go in past my knees. And there I was, riding the waves on the boogie board all of a sudden, because they were patient, and others were coming with me and supporting me and stuff. So we all kind of pushed each other through something that we're insecure about. I felt like a kid again, boogie boarding! (Cisgender female)

One of our participants particularly connected with the idea of "glimmers," something that we shared with each other throughout our sessions. Glimmers are the opposite of triggers, little micro-moments that evoke feelings of joy or calm or safety or peace or wonder and awe (Dana & Porges, 2018). On the last day, he

showed the group a journal that he had started to record the glimmers and had noticed that this was central to greater feelings of happiness. Other participants also mentioned glimmers and that sense of curiosity, connection to the natural world, and a sense of awe and wonder about the beauty of this landscape that we walked, kayaked, biked, and simply enjoyed together.

The Outdoors Offered Peace and Rest

We frequently hear in our morning or end-of-day check-ins how it feels so relieving to be physically AWAY and separate from everyday life and challenges—pointing out that the challenges are "down there" or "over the hill," or "on land" (depending on the location of our activity!).

One of our older participants was open about his struggles with addiction, his anxiety, and his inability to do all the things he wanted to because of significant health conditions. It took considerable conversation, support, and planning to create the conditions in which he felt safe enough to go sea kayaking. Once out on the water in double kayaks, we remained close to shore in a beautiful bay. The group was invited to stop paddling and spend 5 min in silence, connecting with the environment using just one or two of their senses. At the end of the time, we invited the group to share any reflections or thoughts. Usually, this participant would either not respond or would share briefly, then appear visibly impatient and frustrated as he waited for others to speak. On this occasion, a look of complete serenity was on his face, and he said, with emotion, "I love this. It's so peaceful, I never want it to end."

Later, on shore on a beach, we invited the group to think of a quality that they wanted more of in their lives and to find something in this place that symbolises or represents that. This same participant seemed dubious about this task but eventually wandered off. Soon he was back, with great excitement. He told us, "I thought to myself, I want sobriety, and I want more peace in my life, I'm tired of all the anger and trouble. And I sat down for a smoke, looked down at the ground, and found THIS!" He showed us a stone, painted bright yellow, with the word PEACE in black capital letters. He often mentioned this day, including telling the group about going the next weekend to kayak on the river through the city, and joining a planting group, connecting with the natural world in ways that he had not imagined doing again.

The Outdoors Offered Energy and Motivation

Many participants have found significant enjoyment from being outdoors and come back the next week to share that they have been back to that location on their own, or with friends or family, or have purchased second-hand bikes, or are looking for a kayak. They tell us that doing this with the group first has given them motivation and confidence to incorporate nature connection and outdoor activity in their everyday lives.

One participant described the energy and motivation he felt to be outside and in the community:

> So the day of [Revive] and going home after, yeah, it would feel like a more energised day. So those would be the days where I would particularly either continue to go outside and do something, even if it was just the basketball hoop down the road from mine or just a bike ride. I'd try to add that on to those Tuesdays, so it wasn't every week which was fine. One thing I did minorly set was just trying to spend a little bit more time outside each day. And again, I wasn't gonna be too hard on myself if it didn't happen because sometimes it didn't, but even still it was really encouraging from just being outside, being supportive of connections, being supportive of just continued progress. (Cisgender male)

The Outdoors Offered Hope

"Probably the biggest change is I had this feeling of hope that I didn't have before" (Participant, end of program). Many come expressing their need for meaning, purpose, and wholeness.

One of our days has a theme around active hope, often featuring a Riverbank Restoration Day on our local awa (river). This is a chance for people to "give back" and care for the local environment, while simultaneously reflecting on their own sense of purpose or meaning. Here is an excerpt from one of our weekly letters to a participant who connected strongly with the theme this session:

> Your mahi [work] with the clippers; well that in itself was a sight to behold, we hope your arms are not too sore after! And you shared such a wonderful analogy about this; that at first it was hard to know where to start, but as you went, the way became clear and you fell into the rhythm of this, achieving so much. When we start on something new there is often uncertainty and perhaps we're foggy about where we are headed, but then once we start, the journey opens up in front of us. We wonder what reflections/thoughts you have on that journey for you … Do you sometimes get stuck on where you're headed? In what ways can you just start with some small steps with the hope and faith that the path will become clear? And that it's sometimes enough to have only enough confidence to get to the next marker, and then from there the path will be clearer again.

Cultural Spiritual Connections

Often, the spiritual aspect is strong for Māori clients because in te ao Māori (the Māori worldview), nature is part of the whakapapa (genealogy) of the Māori tribes and therefore a significant part of identity and mental health (Mahuika, 2019).

One of our days has a theme of *Taha Wairua*, which loosely translates as "spirituality." We facilitate conversations about what this concept means for people. Many tell us that hearing from each other has helped them to see that they DO have a sense of spirituality, that hearing about others' faith, their connection or relationship to nature and the land they are from, or simply recognising a sense of awe, wonder, and curiosity about the world we live in, has added another layer of meaning and hope for them. "The connection to nature I definitely really

enjoyed too and more spiritual I suppose and that connection to nature I feel that through my whakapapa so yeah, absolutely it was just nice to be able to affirm that" (Cisgender female, end of program).

Where to From Here?

We have continued to receive regular enquiries about this program from potential participants, lead providers, community organisations, and family members. We will continue to respond to the needs of this community by considering all the ideas and models suggested to us. Some of the requests we have received are for weekend programs (for those who work during the week), residential programs (for those who live too far to travel to us), programs for different age groups, mixed gender groups, a group for the Rainbow community, and a "Stage 2" group for those who have attended one of the groups and want to build on those gains. It is also interesting to see that the ISSC service here in Aotearoa New Zealand is widening the opportunities available to include modalities such as equine therapy, and *mirimiri* and *rongoā* (traditional Māori healing practices), and group EMDR (eye movement desensitisation and reprocessing), and we are so excited to play a part in providing another option for survivors in this holistic approach to healing.

Conclusion

It is a privilege to share this story. We are immensely grateful to, humbled by, and inspired by the participants who have already agreed to put their trust and faith in us and give this type of therapy a go. We are grateful to have the backing of the ACC, who agreed to give this approach a go. We hope that reading this story, this example of a program from Aotearoa New Zealand, has provided some information about the theory and practice of a trauma-responsive approach to adventure therapy. Most of all, we hope that the words of our participants will inspire you to consider offering something similar where you are. We would love to hear from anyone, anywhere, who is doing similar work. It really does take the whole outdoor health community to care for our people and our planet.

References

Accident Compensation Corporation. (2025). *Our history*. https://www.acc.co.nz/about-us/who-we-are/our-history/

ACC launches new Sensitive Claims Service. (2024, November 18). *Radio New Zealand*. https://www.rnz.co.nz/news/national/535091/acc-launches-new-sensitive-claims-service

Dana, D. (2021). *Anchored: How to befriend your nervous system using polyvagal theory*. Sounds True.

Dana, D., & Porges, S. W. (2018). *The polyvagal theory in therapy: Engaging the rhythm of regulation*. Norton Professional Books.

Durie, M. (2001). *Mauri ora: The dynamics of Māori Health*. Oxford University Press.

Gass, M. A., Gillis, H., & Russell, K. C. (2012). *Adventure therapy: Theory, research, and practice* (2nd ed.). Routledge.

Hanton, P. (2011). *Skills in solution focused brief counselling & psychotherapy*. SAGE Publications.

Herman, J. (2015). *Trauma and recovery*. Basic Books.

Hübl, T. (2023, July 3). Our world is rooted in collective intimacy. Thomas Hübl Blog. https://thomashuebl.com/our-world-is-rooted-in-collective-intimacy/

Jeffery, H., & Hensey, C. (2022). Exploration of adventure therapy community and practice in Aotearoa New Zealand. *Journal of Outdoor and Environmental Education*, *26*(1), 101–126.

Johnson, E. G., Davis, E. B., Johnson, J., Pressley, J. D., Sawyer, S., & Spinazzola, J. (2020). The effectiveness of trauma-informed wilderness therapy with adolescents: A pilot study. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*(8), 878.

Levine, D. (1994). Breaking through barriers: Wilderness therapy for sexual assault survivors. *Women & Therapy*, 175–184. https://doi.org/10.1300/J015v15n03_14

Mahuika, N. (2019). A brief history of whakapapa: Māori approaches to genealogy. *Genealogy*, *3*(2), 32. https://doi.org/10.3390/genealogy3020032

Maté, G., & Maté, D. (2022). *The myth of normal: Trauma, illness, and healing in a toxic culture*. Avery.

McClintock, K., Haereroa, M., Brown, T., & Baker, M. (2018). *Kia hora te Marino [Trauma informed care for Māori]*. Te Rau Matatini.

Merriam-Webster. (n.d.). Revive. In *Merriam-Webster.com dictionary*. Retrieved November 24, 2024, from https://www.merriam-webster.com/dictionary/revive

Ministry of Justice. (2022, July 11). *2021 New Zealand Crime and Victims Survey (NZCVS)*. New Zealand Government. https://www.justice.govt.nz/about/news-and-media/news/2021-new-zealand-crime-and-victims-survey-nzcvs/

Norton, C. L., Tucker, A., Farnham-Stratton, M., Borroel, F., & Pelletier, A. (2019). Family enrichment adventure therapy: A mixed methods study examining the impact of trauma-informed adventure therapy on children and families affected by abuse. *Journal of Child & Adolescent Trauma*, *12*, 85–95.

Ogden, P., Minton, K., & Pain, C. (2006). *Trauma and the body: A sensorimotor approach to psychotherapy*. W. W. Norton.

Pihama, L., Smith, L. T., Evans-Campbell, T., Kohu-Morgan, H., Cameron, N., Mataki, T., & Southey, K. (2017). Investigating Māori approaches to trauma informed care. *Journal of Indigenous Wellbeing*, *2*(3), 18–31.

Porges, S. (2021). *Polyvagal safety; Attachment, communication, self-regulation*. W. W. Norton.

Porges, S. (2023, May 15-21). *How to cultivate a state of safety* [Conference presentation]. Conscious Life Reset Super Conference 2023, Online.

Poulsen, D. V., Stigsdotter, U., Djernis, D., & Sidenius, U. (2016). "Everything just seems much more right in nature": How veterans with post-traumatic stress disorder experience nature-based activities in a forest therapy garden. *Health Psychology Open*. doi: https://doi.org/10.1177/2055102916637090

Pringle, G., Boddy, J., Slattery, M., & Harris, P. (2023). Adventure therapy for adolescents with complex trauma: A scoping review and analysis. *Journal of Experiential Education*, *46*(4), 433–454.

Pryor, A., Pryor, R., & Carpenter, C. (2018). *A formative evaluation of the Gippsland Wilderness Program March 2018*. Berry Street Childhood Institute.

Ross, S. (2003). The therapeutic effects of an adventure challenge program on the personal empowerment of women survivors of sexual trauma. *Journal of Experiential Education*, *25*(3), 350.

Saleebey, D. (2006). *The strengths perspective in social work practice* (4th ed.). Pearson/Allyn & Bacon.

Schoel, J., & Maizell, R. (2002). *Exploring islands of healing: New perspectives on adventure based counseling*. Project Adventure.

Tucker, A. R., Beale, B., Norton, C. L., Walsh, H., Keefe, M., Holmes, L., & Wermer-Colan, A. (2024). The Ohio Adventure Therapy Coalition: A statewide trauma informed group work initiative for youth involved in CPS. *Journal of Creativity in Mental Health*, 1–15.

van der Kolk, B. (2014). *The body keeps the score: Mind, brain and body in the transformation of trauma*. Viking.

Williams, R. (1999). Cultural safety: What does it mean for our work practice? *Australian and New Zealand Journal of Public Health*, 213–214.

Wylie, S., Morton, N., & Scown, C. (2024). Process and outcome evaluation of Revive, a pilot adventure therapy programme for ACC-funded sensitive claims clients, delivered by Adventure Specialties Trust in 2023. Social Research & Evaluation. https://www.adventurespecialties.co.nz/wp-content/uploads/2024/10/Evaluation-Report-for-Revive-a-pilot-adventure-therapy-progra.pdf

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 11
Occupational Therapy and Nature: Returning to Our Roots

Bronwyn Paynter

Sociocultural Positioning

I am a white, aged 50 +, woman, and the fifth generation of my family to be living and working on the unceded lands of the Kaurna, Peramangk, and Ngarrindjeri people (South Australia). Working as an occupational therapist for over 30 years, my perspectives are shaped by a privileged Western, educated, industrialised, rich, and democratic (WEIRD) context. Personally transformative experiences with forest bathing and permaculture have deepened my connection to nature and my activated value of living lightly on the planet. I am committed to reflective practice, occupational justice, and upstream solutions, while curiously exploring diverse ways of knowing and cross-disciplinary collaboration. I hold my stories lightly, recognising they are shaped by my evolving knowledge. I acknowledge the strength and resilience of Indigenous peoples and the devastating impacts of colonial practices. I actively seek opportunities to cocreate ways of working in, with, for and as nature, addressing biases and fostering justice in the systems and spaces I engage with.

Introduction

Many people experience a strong connection with nature and desire to be outdoors. Nature based occupational therapy practice has the potential to improve wellbeing for our service users and communities, the wellbeing of therapists at a time of high level of burnout and attrition and the wellbeing of the planet.

B. Paynter (✉)
Nature OT, Adelaide, South Australia, Australia
e-mail: bronwyn@natureot.com.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_11

Leading Australian ecopsychologist George Burns (1998) notes that the therapeutic pathways health professionals provide are often different to the paths they follow personally for their own health and wellbeing. Nature-based services can offer a pathway to health and wellbeing for both service users and practitioners, fostering the sentiment of "I can't believe this is work," as expressed by many occupational therapists who have embraced nature-based practices. Additionally, nature-based occupational therapy services that aim to increase human-nature connectedness have the potential to influence care and valuing of nature and pro-nature behaviours, an important outcome in the context of the inter-relationship between climate and human health and the decline in indicators of planetary health (Barragan-Jason et al., 2021).

Occupation: A Key Agent for Change

Occupational therapy focuses on enabling people to engage in the meaningful activities of daily life. Practised across diverse settings, the profession promotes wellbeing through occupation—activities that occupy time and are personally meaningful and bring purpose (Occupational Therapy Australia [OTA], n.d.; Wilcock & Hocking, 2015; World Federation of Occupational Therapists [WFOT], n.d.-a).

Occupational therapists are uniquely skilled in empowering access to meaningful occupations, including outdoor activities. Their expertise in analysing activities, adapting environments, and advocating for opportunities enables people of all abilities to engage in occupations that matter to them. As regulated health professionals, occupational therapists uphold client-centred, ethical, and evidence-informed practices across clinical and nonclinical contexts (Thew et al., 2011).

The relationship between occupation and wellbeing is central to service delivery and is underpinned by the following principles:

1. **Occupational beings:** People have an innate need and capacity to engage in occupation. It is part of our human nature "to engage in, be occupied by, and enjoy a great variety of absorbing, challenging, and highly skilled activities" (Whittaker & Sadlo, 2017, p. 523).
2. **Health through occupation:** Balanced occupational engagement supports physical, emotional, social, and spiritual wellbeing. Occupation provides the opportunity to engage with wellbeing contributors, such as

> Surviving and thriving (taking care of self and others); Belonging, connecting and contributing; Having a sense of self-worth as valued and valuable, capable and competent, responsible and respected; Engaging in valued occupations that provide pleasure, purpose and meaning; Having real choice, and the opportunity for autonomy in enacting those choices; Having hope and a sense of coherence and continuity (Hammell, 2023, p. 12).

3. **Consequences of occupational disruption:** Lack of access to meaningful activities impacts health (Fisher, 2013; Kielhofner, 2009; Wilcock & Hocking, 2015). Participation may be influenced by environmental and contextual factors, personal factors (e.g., injury, illness, disability) or structural factors (e.g., disadvantage, injustice) (Hammell, 2021).
4. **Occupation as change agent:** Occupational therapists use meaningful activities to improve health outcomes (Fisher, 2013; Kielhofner, 2009; Wilcock & Hocking, 2015).

Of particular relevance to nature-based practice is the understanding that occupation is both "in and of" the environment. Activities are shaped by their context, which influences opportunities, abilities, and what, how, and why people do things (Hammell, 2023; Law et al., 1996; Pereira, 2017). For example, gardening on safe private land for aesthetic enjoyment differs significantly from survival gardening in a war zone. (Snow, 2018).

Person, Environment, and Occupation (PEO) Model of Practice

The person–environment–occupation (PEO) model of practice is a foundational framework in occupational therapy that emphasises the dynamic and interdependent relationship between people(s), their environment, and their occupations (Law et al., 1996). The PEO model is used as a structure to describe nature-based occupational therapy for this chapter. Below is a review of the key elements and their application:

1. The **person** is conceptualised holistically, encompassing mind, body, and spiritual qualities, as well as life experiences, skills, self-concept, personality, and cultural background. This includes physical, sensory, cognitive, social, and emotional functioning, along with health and fitness status. These factors influence and are influenced by what people do, enabling or impeding their activities. Person can refer to individuals, families, groups, organisations, or populations (Law et al., 1996).
2. The **environment** includes, with equal importance, cultural, socioeconomic, geopolitical, institutional, attitudinal, physical, technological, and social aspects. It incorporates the natural environment, such as gardens, parks, and blue spaces. The environment can either enable or hinder participation in activities. The environmental press theory (Lawton & Namehow, 1973) highlights how environmental demands or supports impact performance. For example, a person going on a hike would experience very different performance demands on a mountainous steep track in the rain and wind in comparison to a gently sloping sheltered trail through a forest on a comfortably warm, calm day.
3. **Occupations** are the everyday activities that people do as individuals, in families, and with communities to occupy time and bring meaning and purpose to life (WFOT, n.d.-b). These activities are organised around identity, roles,

routines, habits, rituals, and rhythms of daily life. Occupations include both active and passive aspects, encompassing "doing" and "being." The "being" aspect involves rest, reflection, contemplation, ideation, planning, and spiritual awareness. It is also where "sense is made of how to go about doing what needs to be done" (Wilcock & Hocking, 2015, p. 135)—for example, identifying values, priorities, and meaning in the things we do. The doing aspects of occupation foster skill development, social connection, and change to bodily function—for example, strength, balance, fitness. Occupations also provide a sense of belonging in community and pave the way for "becoming" or achieving human potential. Hocking (2020) summarises, "The things we do influence our sense of ourselves as beings (at an existential level), are the means by which we experience a sense of belonging, and pave the way to what we will become" (p. 4).

The PEO model aims to improve the "goodness of fit" between all three aspects (person, environment, and occupation) to support occupational performance (i.e., doing what matters). This involves supporting the person(s) to increase their capacity (P); to adapt the environment (E), including addressing injustice or disadvantage or at an individual level providing equipment or supports; or to adapt the occupation (O) itself to increase engagement. The large body of literature about nature-based interventions for place (environment) and behaviour or people (person) is strongly aligned with this occupational therapy worldview (Shanahan et al., 2019).

The PEO model provides a structured yet flexible framework for occupational therapists to address the complex interplay of factors influencing occupational performance and wellbeing. The model is typically represented as a Venn diagram with overlapping circles representing person(s), environment and occupation. The proportional size of the overlap represents the 'goodness of fit' that supports occupational performance and engagement as depicted in Fig. 11.1.

To illustrate the PEO model as a conceptual tool for reasoning, consider a person recovering from hip surgery who wants to engage in dragon boating as a meaningful and valued outdoor occupation that provides a sense of pleasure and achievement, as well as an opportunity to notice and connect with nature. Participation may be limited due to pain, changed strength, range of movement, mobility, and reduced confidence in their body's capacity to do what it used to do. They may benefit from the following:

- Person factors: ways to increase strength, ability to semisquat and step sideways to access the boat, sitting tolerance, sitting balance, spinal rotation, and sit-to-stand capacity for driving. Through an occupation-centred approach, this might include other meaningful occupations to develop these physical skills and tolerances, such as gardening activities using a low stool to develop squatting, strength, and balance or encouraging moving between different seating and rooms at home during the day to complete valued activities—for example, eating meals, craft work or reading in order to increase sit–stand frequency, and walking and sitting on different and low surfaces that replicate the boat seating.

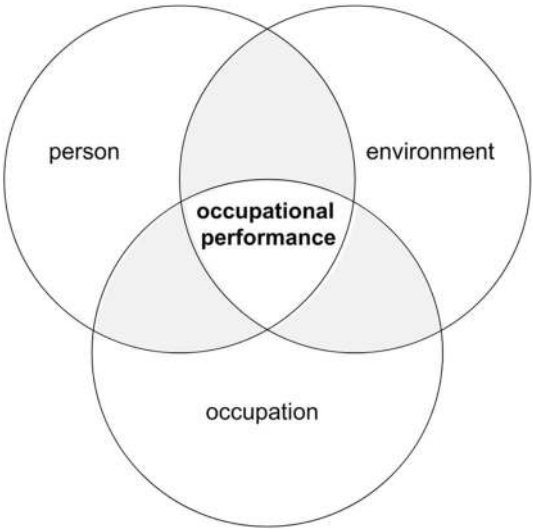


Fig. 11.1 Occupational therapy: the person–environment–occupation model of occupational performance (adapted from Law et al., 1996)

- Environment factors: could include provision of cushioning for the dragon boat seat, nonslip shoes that are easily donned or doffed when wet and a minimally restrictive floatation device to allow full range of movement. In considering ease of accessing the activity, occupational therapy actions might include supporting the person in advocacy to local council about location of car parking, toilets with grabrails, and handrail on pontoon for walking on a floating platform to access the boat.
- Occupation factors: a graded schedule of participation (i.e., not "all or nothing"), support to discuss physical capacity and preferences for participation with group organiser, and identification of decision points to either limit or increase participation, including options for social connection without boating if desired.

This process enables participation in the meaningful occupation, situated in a natural environment, which in return supports wellbeing through benefits related to physical activity, nature connection, emotional regulation, confidence in physical capacity, social connection, and the organising effect of regular scheduled meaningful occupation in the community.

Nature: A Therapeutic Context for Occupation

The natural environment offers inherently therapeutic and health-promoting (salutogenic) features, contributing significantly to occupational experiences.

The health and wellbeing benefits of nature contact and nature connection are well researched and well known at this point and include improved **health outcomes** (e.g., cardiovascular, cancer, respiratory health), improvements in physical function (level of physical activity, sleep, pain), **psychological function** (mood, anxiety, depression, impulsivity, rumination, vitality), **cognitive function** (attention, concentration, problem-solving, memory, creativity), **physiological function** (heart rate, blood pressure, cortisol, immune function), **neurological function** (reduced sympathetic nervous system activation, enhanced parasympathetic nervous system activation), **social wellbeing** (improved sense of connection and ability to interact with others), and spiritual wellbeing (sense of something greater than oneself) (Coventry et al., 2021; Mygind et al., 2019; Reis et al., 2024; Twohig-Bennett & Jones, 2018).

These benefits align with the "person" aspect of the PEO model, emphasising the unique therapeutic potential of nature in occupational therapy. For example, a person experiencing sleep disturbances and concentration difficulties might benefit from nature-based mindfulness or forest bathing, where the nature setting is a significant contributor to the outcome in a way that occupation indoors would be unlikely to have the same effect. These activities can improve sleep and focus and potentially becoming meaningful occupations integrated into daily routines, such as a lunchtime mindfulness walk.

While nature offers numerous benefits, certain environmental factors, such as air pollution, allergens, and climate-related risks (e.g., extreme weather, floods, fires), can negatively impact health. The relationship between planetary health and human health is an area of concern for many nature-based practitioners and health professionals, leading to advocacy and action by the health sector in relation to climate change and sustainable or regenerative ways of designing service delivery (Brymer et al., 2019; WFOT, 2018).

Nature Theories of Change: How Nature Impacts People

The benefits of nature-based interventions are well documented, yet there remains a need for clearer theoretical frameworks to better understand their mechanisms and guide program design. While publications on nature-based therapies have grown exponentially since 2006 (Rodrígues-Redondo et al., 2023), pinpointing exactly how nature contributes to the outcomes described in the literature continues to be a challenge (Harper & Dobud, 2024; Masterton et al., 2020; Scott et al., 2021). Masterton et al. (2020) emphasise the importance of identifying the requirements for effective interventions, stating that "without knowing the necessary components, processes and influences for an intervention to work, it is impossible to understand why the programmes work and how best to replicate them" (p. 2). Despite the challenges this presents for practitioners, by integrating occupational therapy models, such as the PEO, with the evolving nature-based theories of change, practitioners can establish a strong foundation for designing impactful

services. From an occupational therapy perspective, the benefits of nature-based occupations likely stem from the combined effects of the activity itself as well as the therapeutic effects of the natural environment. Occupation and environment are interdependent therapeutic agents of change in nature-based occupational therapy.

Key Theories of Change Related to Nature

Theories of change evolve over time and offer insights into how nature-based interventions may impact individuals. The **biophilia hypothesis** (Wilson, 1984) suggests that humans have an innate connection to nature, essential for survival and evolution as we recognise safety and alert signals from nature. **Attention restoration theory** (ART) (Kaplan & Kaplan, 1989) suggests that natural environments with specific features (being "away" and requiring "soft fascination") enhance recovery from cognitive fatigue, improving attention and executive function. **Stress reduction theory** (SRT) (Ulrich et al., 1991) highlights how unthreatening natural settings can reduce sympathetic nervous system activity, promote parasympathetic responses, and improve emotional states. Nature's impact on the **immune system** is also considered significant as a potential "central pathway" for the effects of nature (Kuo, 2015). The immune system may modulate pathways between environmental factors (e.g., presence of biological and physical substances and the sensory experience of nature), physiological and psychological states experienced in nature, and behaviours and conditions associated with nature including sleep and social connection. The **nature connection theory** (Lumber et al., 2017) explains the wellbeing benefits of feeling a sense of belonging to the natural world, beyond mere contact with it, including identifying pathways to nature connection and emphasising the value of nature beyond its utility to humanity. Connection with nature is a specific construct based on biophilia theory and is different and complementary to contact with nature. **Sensory processing theory** describes how the senses are the "gateway" to the brain, and sensory processing influences how people feel and behave (O'Sullivan & Fitzgibbon, 2018). Nature and outdoors provide a rich sensory environment, and understanding a person's unique sensory needs and the sensory demands and opportunities provided by natural environments enables the design of nature-based experiences to support nervous system regulation, emotional regulation, and sensory health, which has a central impact on health, quality of life, and participation in meaningful activities (Bailliard & Dunn et al., 2022). More recently, Scott et al. (2021) propose the **neurovisceral integration model**, which integrates ART and SRT, suggesting bidirectional processes mediated by the vagus nerve. This model highlights the simultaneous interplay between cognitive restoration and stress reduction in nature. Finally, **forest medicine** (Li, 2023) delves into the multisystem responses of the psycho–neuro–endocrine–immune network triggered by sensory experiences in nature, such as forest bathing, which positively affect the nervous system and overall health.

Western, Holistic, and Indigenous Perspectives on Nature

The published literature described above about nature, health, and wellbeing is important as a basis for evidence-informed practice; however, further key evidence stems from the cultural and personal perspectives of service users and opportunities to learn more about relationship with nature, including Indigenous perspectives. Kronenberg et al. (2011) encourage occupational therapists to remain open and to value "other sources of knowledge than (Western) science" (p. 6). Similarly, Alsop et al. (2006) highlight that

> knowledge guided by reason, linear logic and (Western) science, is only one way or avenue for solving global problems. The other is the way of understanding, the way of intuition, imagination, spirituality, and discovering shared truth. Knowing and understanding belong to different realities. (p. 266)

While the largely Western theories and evidence described previously emphasise causality and mechanisms, Harper et al. (2021) critique this approach, arguing it perpetuates a Eurocentric separation between humans and nature. They propose a holistic theory of integrated relatedness, viewing humans as an inseparable part of nature rather than distinct from it, suggesting that "our presence IN nature is that of an embodied experience AS nature—where both human and more than human are simply parts of a whole" (p. 11).

Indigenous knowledge systems provide profound insights into this interconnectedness of people and the rest of nature. For Indigenous peoples, connections to place and Country are fundamental to spiritual, physical, mental, and social wellbeing (Dudgeon et al., 2014). Nature is regarded as kin, with landscapes holding stories, teachings, and lore. A reciprocal relationship exists—caring for Country ensures that it, in turn, cares for its people (Callaghan, 2022; Sharman, 2023; Yunkaporta, 2019). As Hammell (2021) emphasises, "Indigenous people's wellbeing is embedded … with the wellness of the land to which they belong" (p. 322).

The disconnection from Country caused by colonial practices has inflicted profound harm to Indigenous communities (Dudgeon et al., 2014). For outdoor health practitioners, including occupational therapists, nature-based ways of working provide an opportunity to cocreate and learn from Indigenous partners and knowledge brokers. In the search to understand how and why nature impacts people, greater understanding of Indigenous perspectives may return occupational therapists to the holism that aligns with the original philosophy of occupational therapy.

Nature-Based Occupational Therapy: The Full Scope of Health Services

Nature-based occupational therapy intentionally integrates the therapeutic benefits of nature into the occupational experience, emphasising "doing" as the primary agent of change. Occupational therapy is not a talk-based therapy,

it is centred on engagement in meaningful activities. While outdoor environments are often the focus, nature connection can also occur indoors through elements like plants, natural light, sounds, and nature-related activities, including images and virtual nature. These indoor options are particularly valuable for individuals in clinical healthcare settings or environments with limited outdoor access.

The core principle of nature-based occupational therapy is that meaningful occupations, intentionally connected with the unique benefits of nature, enhance health and wellbeing.

Occupational therapy brings a distinct perspective to nature-based practices by focusing on the centrality of meaningful occupation. Therapeutic change arises not only from the physical or functional aspects of an activity but also from its personal and contextual meaning. For example, dragon boating may support physical strength and endurance, but its therapeutic value also encompasses social engagement, personal fulfilment, and alignment to daily life goals.

Occupational Therapy Scope of Practice

Occupational therapy operates across the full health spectrum, from individual therapy and rehabilitation to public health promotion and system advocacy. The World Federation of Occupational therapists (2018, 2019) emphasises the profession's role in addressing broader determinants of health, including environmental and socioeconomic factors, aligning with principles from the Ottawa Charter for Health Promotion (WHO, 1986).

The recognition of nature as a key determinant of health (World Health Organization [WHO], 2017) further supports the integration of nature-based approaches into occupational therapy at all levels of health promotion. Additionally, these approaches encourage ethical, nonconsumptive interactions with nature, respecting the rights of ecosystems and nonhuman species (Kiepek, 2023).

Downstream, Midstream, and Upstream Nature-Based Occupational Therapy Services

A commonly used framework to explain the hierarchy of factors that influence health is the downstream, midstream, and upstream concept (Australian Institute of Health and Welfare [AIHW], 2024). These descriptors provide the structure for the description of nature-based occupational therapy approaches that follow.

- Upstream actions address the socioeconomic, political, or systemic determinants of health, focusing on the structures that shape living conditions. These include the natural and built environment, climate change, public policy, media,

and commercial practices (Commonwealth of Australia, 2021). These determinants influence factors such as income, employment, education, housing, community safety, health literacy, and access to services.

Improving global population health is a complex challenge, often referred to as a "wicked problem" requiring multifaceted solutions (Walls, 2018). The WHO's (2017) One Health approach highlights the close relationship between the health of animals, people, and the natural environment. There is extensive evidence for the relationship between human and planetary health (Bureau of Meteorology and CSIRO, 2024; World Meteorological Organisation, 2025). Evidence from the University of Derby Nature Connectedness Research Group is that increasing people's connection with nature (e.g., through meaningful nature-based occupations) influences conservation values and behaviours. This suggests that nature-based occupations that contribute to nature connection may have the potential to impact planetary health on a larger scale.

Occupational therapists recognise that access to both meaningful occupations and healthy environments is essential for individual and population health. The Participatory Occupational Justice Framework (Whiteford & Townsend, 2011) provides a foundation for advocating equitable access to nature-based occupations and outdoor environments. This framework emphasises how inequity and injustice impact the opportunity for people to do what matters to them in their daily lives, including in connection with nature. Marginalised populations often face limited access to nature, depriving them of its health benefits (Fieldhouse & Sempik, 2023; Hammell, 2021).

Occupational therapists can take various actions to enhance access to healthy environments and nature-based occupations. Examples of health-promoting occupational therapy actions and services include the following:

1. Advocating for the health of the environment:
    - Political advocacy for climate action as a health and equity issue (C. Sinclair, personal communication, February 28, 2024).
    - Campaigning against the clearing of old-growth forests, emphasising the health benefits of nature (D. Scarfe, personal communication, February 27, 2024).

2. Influencing design of outdoor spaces:
    - Participating in local council consultations to design nature play spaces that support child development and nature connection (Fitzhardinge & Gautrey, n.d.)
    - Designing gardens and outdoor spaces for workplaces, communities, childcare centres, and educational settings to promote physical activity, reflection, learning, food production, and social connection (Winterbottom & Wagenfeld, 2015).

3. Shaping systemic and organisational policies:
    - Advocating for outdoor walking breaks in schools (Robillard, 2022).
    - Training care home staff to facilitate outdoor engagement (Firby & Raine, 2023).

- Promoting outdoor play and access to outdoor spaces in healthcare settings (Firby & Raine, 2023).

➥ Midstream determinants of health include health behaviours and health risk factors such as the well-known SNAPS factors—smoking, nutrition, alcohol consumption, physical activity, and stress—as well as risk-taking, work-related risks, and social risks such as isolation and loneliness. Nature-based health promotion activities at this level emphasise the integration of time and activity outdoors as part of a healthy lifestyle, such as outdoor recreation or exercise, or mindfulness in nature.

Occupational therapy has long supported health promotion as a core aspect of its philosophy, emphasising the role of occupation in health and wellbeing (Reitz, 1992; Wilcock, 1998; Wilcock & Hocking, 2015). Nature-based health promotion services align with this philosophy by addressing the "causes of wellbeing," which include nature contact, connection, and meaningful occupation. These services cater to individuals without a clinical diagnosis, offering proactive approaches to health and wellbeing.

The author's direct service provision in health promotion highlights innovative approaches to nature-based occupational therapy, including the following:

- Remote or virtual forest bathing: delivered via video calls demonstrating sensory connection in one location and encouraging participants to connect with nature in their location in any way they could, including indoors. Participants share their observations, fostering a sense of connection.
- Online nature connection resources: in collaboration with South Australian National Parks and Wildlife, creating a forest-bathing video to connect people with nature when they were restricted from visiting national parks during the COVID-19 Pandemic (Department of Environment and Water, 2020).
- Nature-based workplace and public experiences: developed in collaboration with tourism and land management organisations, these experiences engage workplace teams (e.g., health professionals, essential service providers, childcare workers) and the general public. Events include collaborations with South Australia (SA) Nature Festival, Wellfest, Zoos SA, Adelaide Botanic Gardens, and National Parks & Wildlife. These activities aim to reduce stress and promote overall wellbeing (Wilcock & Hocking, 2015).

One participant shared the profound impact of a forest bathing session:

> I attended my first ever nature based therapy treatment with a 2.5 hour forest bathing session & can verify/provide testimony to its benefits in the simple outcome of having my best night's solid sleep in a very long time (as in KNOCK OUT sleep - without any medication, only nature & the forest bathing treatment. No horrible dreams, no struggles getting to & staying asleep (I can't even remember going to bed) BEST OF ALL WAKING UP AT A NORMAL HOUR IE DAYLIGHT, REFRESHED AND NOT EXHAUSTED - even if just for one day. 💕A huge thank you to [guides] & nature for this gift.

Other midstream health-promoting occupational therapy services include play-based groups in natural settings to support role transition to motherhood, outdoor play-based group services (Hanscom, 2016), walking groups, nature craft groups, and activities in public nature festivals, like the SA Nature Festival (www.naturefestival.org.au).

The wellness tourism sector, particularly focused on mental wellbeing, presents significant opportunities for occupational therapists. This sector has seen substantial growth in the post-COVID era, with increasing demand for nature-based wellness experiences (SA Tourism Commission, 2021). Occupational therapists can contribute by delivering and evaluating evidence-based nature experiences and ensuring accessibility for individuals of all abilities in mainstream nature-based recreation and tourism.

By leveraging these midstream approaches, occupational therapists can play a pivotal role in promoting health and wellbeing through nature-based occupations, addressing both individual and community needs.

➘ Downstream determinants of health relate to individual characteristics such as blood pressure, weight, blood cholesterol, genetics, immune status, and gut microbiome, as well as health and social status including injury, illness, disability, disadvantage, and injustice. Services in this level include therapy, rehabilitation, and treatment services, with occupational therapists supporting people to do what matters for them in their everyday lives. These services include the use of occupation for therapy, with examples of nature-based occupational therapy including outdoor play, sensory nature connection to support emotional regulation, and nature-based skill development for vocational readiness.

The integration of nature within occupational therapy can be traced to the origins of the profession in the mental health asylums of late nineteenth century, where outdoor occupations including gardening were integral to both training and practice (Berndt, 2012; Fieldhouse & Sempik, 2023; Kielhofner, 2009; Wagenfeld, 2013).

Contemporary services have expanded to include a variety of outdoor occupations, including adventure therapy (Burke et al., 2024; Raine, 2018), conservation volunteering (O'Brien et al., 2008), equine, animal, and farm-based experiences (Hill et al., 2023), gardening (Whatley et al., 2015), nature-based mindfulness outdoors, multidisciplinary mental health recovery programs in natural environments (Poulsen et al., 2016), outdoor play (Burke et al., 2023), outdoor recreation and sport programs (Rogers et al., 2014), outdoor programs for neurological rehabilitation (e.g., Vibholm et al., 2023), outdoor walking programs (Kagan, 2021), and vocational skill development (Wagenfeld & Marder, 2023).

Occupational therapists have also developed specific therapy frameworks and approaches related to nature, including the intentionally culturally—responsive Kawa model based on the metaphors of a river which is relevant to occupational therapy across scope of practice (Iwama, 2006), the CONTIGO approach (connection and transformation in the great outdoors), a child-centred, play-based therapy model grounded in the occupational adaptation model (Figueroa, 2020; Schkade & Shultz, 1992), the ecology of change in outdoor therapy (ECO-Therapy) model

(Figueroa et al., 2024), exploring the mechanisms of change in nature-based paediatric therapy, approaches using nature metaphors including the Tree Theme Method® (Gunnarsson et al., 2006, 2022), using the creative depiction of a tree as a narrative tool in a structured strengths-based program for people with anxiety and depression, and the SOiL model, using the symbolism of an ecosystem comprising soil, plants, and weather, where SOiL guides discussion of occupational performance through a spirituality lens (Heard, 2023).

Nature-based services encompass both active, doing-dominant occupations involving physical movement, task and skill development, games, and sports, as well as more passive engagement, or being-dominant occupations, such as nature-based mindfulness, which provides the opportunity for rest, calm, stillness, contemplation, and meaning making (Wilcock & Hocking, 2015). The PEO model helps illustrate these distinctions. For instance,

- **Doing-dominant occupations:** Activities like paddling in a dragon boat, where the physical activity and engagement is the dominant experience, emphasise physical activity, with therapeutic benefits occurring in real time such as improved strength, coordination, and social connection.
- **Being-dominant occupations:** Moments of stillness during dragon boating, such as when the boat is paused, the paddles are rested, and the crew sits in silence watching in awe as pelicans land on the water, black swans swim past, ripples form on the water, and the glow of sunset, are perhaps more being-dominant when the agent of change is the connection with nature, a sense of awe, a spiritual sense of being part of something greater than oneself, reflection and acknowledgement of the achievement of paddling, and a renewed sense of efficacy, agency, and confidence—all in the company and witness of others. These moments are when the effects of the natural environment are the dominant therapeutic factor, providing opportunity for reflection, connection, and meaning making.

The interplay between doing and being is visually represented in Fig. 11.2, where the size of the circles reflects their relative influence on the holistic experience.

Occupational therapists also facilitate outdoor access through environmental or place-based services, such as home and garden modifications, provision of adapted equipment including mobility equipment (e.g., outdoor and beach wheelchairs, powered outdoor wheelchairs), and design of accessible and therapeutic outdoor environments in home, health facility, and community settings (Winterbottom & Wagenfeld, 2015).

The focus on occupational meaning (i.e., why this occupation is important to this person or group of people at this time in their occupational development and experiences) and a pragmatic problem-solving approach to reducing barriers and enhancing capacity for participation are hallmarks of occupational therapy. Skills in occupation and activity analysis and environmental assessment that are “bread and butter” for occupational therapists in home, work, school, and clinical settings are applied to outdoor and nature-based

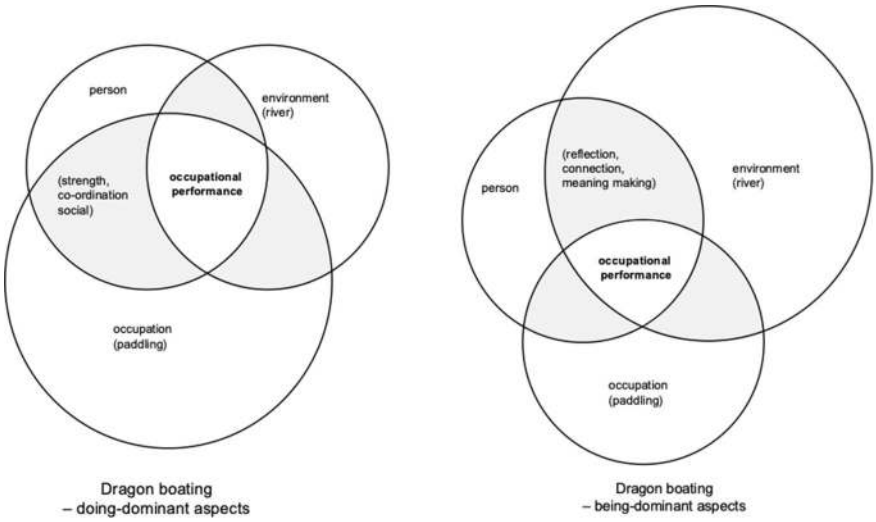


Fig. 11.2 The relative influence of doing/occupation and being/environment in aspects of a dragon boating experience (The author developed this Figure)

activities (McKenzie et al., 2021). Outdoor and nature-based occupational therapy is no different to any other occupational therapy practice where the focus is on activities that are meaningful, relevant, and aligned with a person's interests, skills, capabilities, relationships, and environment and creating just the right challenge for progress (McKenzie et al., 2021).

To reflect the broad scope of nature-based occupational therapy, Fig. 11.3 adapts and extends Bragg and Atkins's (2016) model of green care and health promotion for mental health.

Design of a Nature-Based Occupational Therapy Service: Steps and Considerations

The design or review of a nature-based program or service benefits from a robust program design methodology, such as project management (Knightbridge et al., 2021) or program logic (New South Wales Health, 2023).

The Nature Occupational Therapy Program Design Framework (Fig. 11.4) ensures relevance and professional integrity through alignment with occupational therapy processes, such as elements of the Canadian Practice Process Framework (Letts et al., 2009), the Canadian Occupational Therapy Inter-Relational Practice Process (COTIPP) and nature-based program success factors (Bragg & Atkins, 2016; Masterton et al., 2020; Richardson et al., 2021; Sheffield et al., 2022).

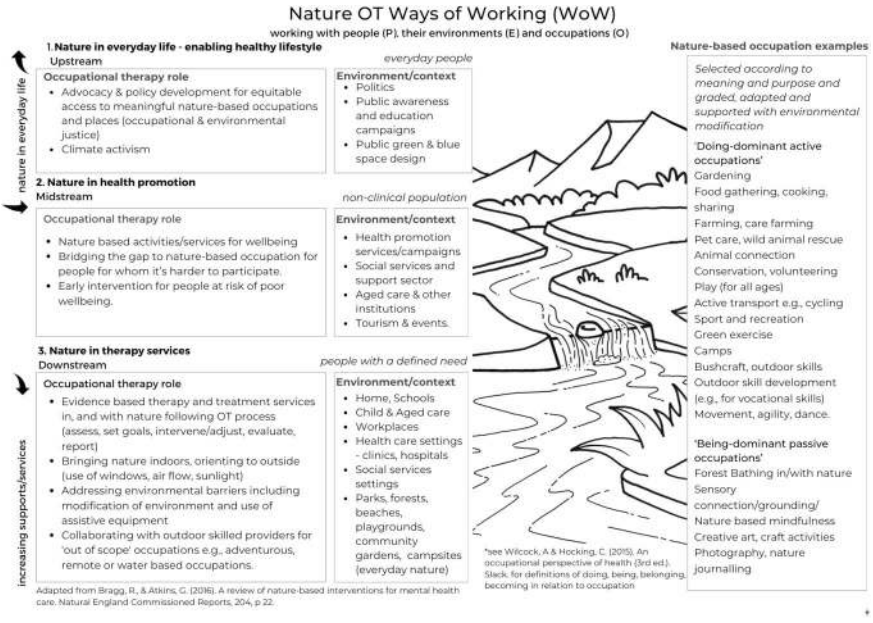


Fig. 11.3 Nature-based occupational therapy ways of working (The author developed this Figure)

Key Components of the Design Framework

Who, What, and Where (Person, Occupation, Environment)

The starting point for program design is typically one of these areas. Practitioners may focus on the needs of service users, the modalities, or occupations to be included (e.g., active doing, mindfulness, sensory strategies), or the environment for the service. Early collaboration with Traditional Owners, funding providers, or partners with complementary skills is encouraged.

Nature interaction can vary from indirect (e.g., views through a window) to intentional (e.g., immersive nature experiences). Nature-based experiences can also be indoors, virtual, or through connecting with clients' memories of nature. Practical considerations include accessibility, permission or licencing to access land, safety, weather contingencies, and seasonal conditions.

Efficacy and Effectiveness

Contemporary best practice in service design requires context specific, collaborative co-creation of services with communities, organisations, or end users where relationship and understanding are core tenets of service design and delivery. A clear theoretical basis and theory of change related to both



Fig. 11.4 Nature occupational therapy program design framework (The author developed this Figure)

occupational therapy, as well as the relevant nature theories of change, are essential in order to craft an effective therapeutic experience. Embedded reflective and reflexive practice is essential to guide real-time responsiveness of the service. Suitable outcome measures and program evaluation criteria

may include specific nature connection outcome measures (Reis et al., 2024). Functional outcome measures for how people feel and function in everyday life are important. Both Burke et al. (2023) and Vibholm et al. (2023) report use of the Canadian Occupational Performance Measure as an outcome measure in nature-based occupational therapy; however, therapists will select the measures appropriate to their clients and funding systems. Aligning with public strategies supporting outdoor activity can provide a strategic advantage in obtaining support for services—for example, Healthy Parks, Healthy People South Australia 2021–2026.

Scope and Safety

Occupational therapists must operate within their scope of practice and ensure compliance with safety and legislative standards, such as risk management and industry guidelines—for example, Australian Adventure Activity Standard (Outdoor Council of Australia, 2019). Therapists may require additional training in specific outdoor skills or collaborate with other providers to ensure safety if extending beyond everyday occupations for service users.

Supporting and preparing clients for outdoor therapy includes understanding their confidence with nature, trauma history, sensory preferences, sun or cold sensitivity, allergies, and ability to follow directions and stay with a group. Nature-based services are not appropriate for all clients. Occupational therapists select supportive experiences suited to individual preferences, which may not always include nature-based occupations.

Care for Nature

A respectful reciprocal partnership with nature underpins ethical service design. Practitioners should minimise environmental impact, avoid harmful practices (e.g., using paints or soaps outdoors), and consider using language that reflects conservation values, such as “partnering with nature” rather than “using nature.”

Conclusion

Occupational therapists have long recognised the health benefits of outdoor and nature-based occupations. The growing body of scientific evidence reinforces the potential benefits and in part at least explains how and why nature contact and connection supports all areas of health and wellbeing. This provides renewed impetus for nature-based practice that represents a return to the profession’s occupational roots, enriched by Indigenous knowledge and a deeper understanding of our identity as part of nature.

Nature-based occupational therapy provides opportunity to span full scope of practice, from advocating for everyday nature participation to delivering goal-directed therapy for specific needs. It is vital to name this work as occupational therapy, emphasising its foundation in meaningful occupation, rather than diluting it under broader terms like "nature therapy."

Connecting people with nature in their everyday lives has the potential for profound impact that is evident when service users describe experiences as "life changing." For practitioners, these connections not only enhance client wellbeing but also inspire sustainable living and environmental stewardship. This holistic approach reflects the core values of occupational therapy, fostering both individual and planetary health.

Acknowledgements To the occupational therapists in Australia, Canada, and the United States who reviewed, provided feedback, and contributed. To Angela Berndt for your kind, generous, and encouraging mentoring that brought me back to the centrality of occupation in our profession. To my husband Russell for your belief and patience. Thank you all.

References

Alsop, A., Duncan, M., Lorenzo, T., & Buchanan, H. (2006). Looking ahead: Future directions in practice education and research. In T. Lorenza, M. Duncan, H. Buchanan, & A. Alsop (Eds.), *Practice and service learning in occupational therapy: Enhancing potential in context* (pp. -263–274). Wiley.

Australian Institute of Health and Welfare. (2024, November 24). *What are determinants of health?* https://www.aihw.gov.au/reports/australias-health/what-are-determinants-of-health

Bailliard, A., Dunn, W., Brown, C., & Engel-Yeger, B. (2022). Meaningful participation and sensory processing. *Frontiers in Psychology*, *13*, https://doi.org/10.3389/fpsyg.2022.1045650

Barragan-Jason, G., de Mazancourt, C., Parmesan, C., Singer, M. C., & Loreau, M. (2021). Human–nature connectedness as a pathway to sustainability: A global meta-analysis. *Conservation Letters*, *15*(1), e12852. https://doi.org/10.1111/conl.12852

Berndt, A. (2012). The history of a growing profession. *Connections*, *18*(1), 20–22.

Bragg, R., & Atkins, G. (2016). A review of nature-based interventions for mental health care. *Natural England Commissioned Reports*, *204*, 18.

Brymer, E., Freeman, E., & Richardson, M. (2019). One health: The well-being impacts of human–nature relationships. *Frontiers in Psychology*, *10*, https://doi.org/10.3389/fpsyg.2019.01611

Bureau of Meteorology (BOM) and CSIRO. (2024). *State of the climate 2024*. Commonwealth of Australia. http://www.bom.gov.au/state-of-the-climate/2024/

Burke, H., Burke, L., Hacker, C., & Lane, S. (2023). Nature-based pediatric occupational therapy: A scoping review. *Physical & Occupational Therapy in Pediatrics*, *44*(1), 96–109109. https://doi.org/10.1080/01942638.2023.2204924

Burke, H. K., Hui, C. E., Burke, L. M., & Lane, S. J. (2024). Preliminary mixed-methods investigation: Impact and acceptability of a combined life skills and adventure therapy program for adolescents. *Australian Occupational Therapy Journal*, 1–14. https://doi.org/10.1111/1440-1630.12933

Burns, G. (1998). *Nature guided therapy: Brief integrative strategies for health and well being*. Taylor & Francis.

Callaghan, P. (2022). *The dreaming path: Indigenous thinking to change your life*. Pantera Press.

Commonwealth of Australia (Department of Health). (2021). *National preventative health strategy 2021-2023.* https://www.health.gov.au/resources/publications/national-preventive-health-strategy-2021-2030?language=en

Coventry, P. A., Brown, J. E., Pervin, J., Brabyn, S., Pateman, R., Breedvelt, J., Golbody, S., Stancliffe, R., McEachen, R., & White, P. L. (2021). Nature-based outdoor activities for mental and physical health: Systematic review and meta-analysis. *SSM-Population Health*, *16*, https://doi.org/10.1016/j.ssmph.2021.100934

Department of Environment and Water. (2020, July 11). *Forest bathing at Deep Creek National Park* [Video]. YouTube. https://www.youtube.com/watch?v=U344VH0pAl0&t=254s

Dudgeon, P., Milroy, H., & Walker, R. (2014). *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice*. Telethon Kids Institute, Kulunga Aboriginal Research Development Unit, Department of the Prime Minister and Cabinet (Australia).

Fieldhouse, J., & Sempik, J. (2023). Nature-based practice. In W. Bryant, J. Fieldhouse, & N. Plastow (Eds.), *Creek's occupational therapy and mental health* (6th ed., pp. 333–355). Elsevier Health Sciences.

Figueroa, L. P. (2020). Nature-based occupational therapy for children with developmental disabilities. *Special Interest Section Quarterly Practice Connections*, *5*(3), 2–5.

Figueroa, L. P., Poskey, G. A., Rose, K. K., & Pickens, N. D. (2024). Mechanisms of change in nature-based pediatric occupational therapy: The ecology of change in outdoor therapy model. *Occupational Therapy in Health Care,1–22*. https://doi.org/10.1080/07380577.2024.2372739

Firby, H., & Raine, R. (2023). Engaging with nature and the outdoors: A scoping review of therapeutic applications in contemporary occupational therapy. *British Journal of Occupational Therapy*, *86*(2), 101–115. https://doi.org/10.1177/03080226221126893

Fisher, A. G. (2013). Occupation-centred, occupation-based, occupation-focused: Same, same or different? *Scandinavian Journal of Occupational Therapy*, *20*(3), 162–173.

Fitzhardinge, C., & Gautrey, S. (n.d.). *How nature play spaces support positive child development. Nature based play*. Cath Fitzhardinge. https://www.cathfitzot.com.au/featured-project

Gunnarsson, A., Jansson, J., & Eklund, M. (2006). The Tree Theme method in psychosocial occupational therapy: A case study. *Scandinavian Journal of Occupational Therapy*, *13*(4), 229–240. https://doi.org/10.1080/11038120600772908

Gunnarsson, A. B., Håkansson, C., Hedin, K., & Wagman, P. (2022). Outcomes of the Tree Theme method versus regular occupational therapy: A longitudinal follow-up. *Australian Occupational Therapy Journal*, *69*(4), 379–390. https://doi.org/10.1111/1440-1630.12796

Hammell, K. W. (2021). Occupation in natural environments: Health equity and environmental justice. *Canadian Journal of Occupational Therapy*, *88*(4), 319–328. https://doi.org/10.1177/00084174211040000

Hammell, K. W. (2023). Focusing on "what matters": The occupation, capability and wellbeing framework for occupational therapy. *Cadernos Brasileiros de Terapia Ocupacional*, *31*, e3509.

Hanscom, A. J. (2016). *Balanced and barefoot: How unrestricted outdoor play makes for strong, confident, and capable children*. New Harbinger Publications.

Harper, N. J., & Dobud, W. (2024). What is outdoor therapy? A new name for an old therapeutic practice. *OBM Integrative and Complementary Medicine*, *9*(4), 1–16.

Harper, N., Fernee, C., & Gabrielsen, L. (2021). Nature's role in outdoor therapies: An umbrella review. *International Journal of Environmental Research and Public Health*, *18*(10). https://doi.org/10.3390/ijerph18105117

Heard, C. P. (2023). Spirituality and Occupation in Living (SOiL) model: Conceptualizing occupational performance through the lens of spirituality. *The Open Journal of Occupational Therapy*, *11*(3), 1–17. https://doi.org/10.15453/2168-6408.2081

Hill, J., Dickson, C., & O'Neil, N. (2023). The scope of occupational therapy and referral for assistance dogs: The responsibility of the profession to provide safe and ethical services. *Connections*, *20*(2), 10–12.

Hocking, C. (2020). Invited commentary: An occupational perspective of population health in a pandemic. *New Zealand Journal of Occupational Therapy*, *67*(2), 4–5.
Iwama, M. (2006). *The Kawa model: Culturally relevant occupational therapy*. Elsevier.
Kagan, L. (2021). Walk for wellness: A mental health OT initiative to foster recovery and optimise well-being. *Connections*, *18*(2), 30–31.
Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. Cambridge University Press.
Kiepek, N. (2023). Occupation in the Anthropocene and ethical relationality. *Canadian Journal of Occupational Therapy*, *91*(1), 44–55. https://doi.org/10.1177/00084174231169390
Kielhofner, G. (2009). *Conceptual foundations of occupational therapy practice*. FA Davis.
Knightbridge, L., Gilbert-Hunt, S., & Hyett, N. (2021). Population and community occupational therapy practice and project management in Australia. In T. Brown, H. Bourke-Taylor, S. Isbel, R. Cordier, & L. Gustafsson (Eds.), *Occupational therapy in Australia: Professional and practice issues* (2nd ed., pp. 383–394). Routledge.
Kronenberg, F., Pollard, N., & Sakellariou, D. (2011). Introduction: Courage to dance politics In F. Kronenberg, N. Pollard, & D. Sakellariou (Eds.), *Occupational therapies without borders* (Vol. 2, pp. 1–16). Churchill Livingstone.
Kuo, M. (2015), How might contact with nature promote human health? Promising mechanisms and a possible central pathway. *Frontiers in Psychology*, 6, https://www.frontiersin.org/articles/10.3389/fpsyg.2015.01093/full
Law, M., Cooper, B., Strong, S., Stewart, D., Rigby, P., & Letts, L. (1996). The person–environment–occupation model: A transactive approach to occupational performance. *Canadian Journal of Occupational Therapy*, *63*(1), 9–23.
Lawton, M. P., & Namehow, L. (1973). Ecology and the aging process. In C. Eisdorfer & M. P. Lawton (Eds.), *Psychology of adult development and aging* (619–674). American Psychological Association.
Letts, L., Vrkljan, B., Leclair, L., Ript, J., & Law, M. (2009). *Canadian practice process framework: Overview and guide*. McMaster University and University of Manitoba.
Li, Q. (2023). New concept of forest medicine. *Forests*, *14*(5), 1024. https://doi.org/10.3390/f14051024
Lumber, R., Richardson, M., & Sheffield, D. (2017). Beyond knowing nature: Contact, emotion, compassion, meaning, and beauty are pathways to nature connection. *PLOS Online*. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0177186
Masterton, W., Carver, H., Parkes, T., & Park, K. (2020). Greenspace interventions for mental health in clinical and non-clinical populations: What works, for whom, and in what circumstances? *Health & Place*, *64*. https://doi.org/10.1016/j.healthplace.2020.102338
McKenzie, L., O'Toole, G., & Gustafsson, L. (2021). Core business: Task, activity and occupation analysis. In T. Brown, H. Bourke-Taylor, S. Isbel, R. Cordier, & L. Gustafsson (Eds.), *Occupational therapy in Australia: Professional and practice issues* (2nd ed., pp. 258–269). Routledge.
Mygind, L., Kjeldsted, E., Hartmeyer, R. D., Mygind, E., Bølling, M., & Bentsen, P. (2019). Immersive nature-experiences as health promotion interventions for healthy, vulnerable, and sick populations? A systematic review and appraisal of controlled studies. *Frontiers in Psychology*, *943*, https://doi.org/10.3389/fpsyg.2019.00943
New South Wales Health. (2023). *Developing and using program logic: A guide*. https://www.health.nsw.gov.au/research/Pages/developing-program-logic.aspx
Occupational Therapy Australia. (n.d.). *About occupational therapy*. Retrieved August 31, 2026, from https://otaus.com.au/occupational-therapy-frequently-asked-questions
O'Brien, L., Townsend, M., & Ebden, M. (2008). *'I like to think when I'm gone I will have left this a better place. Environmental volunteering: Motivations, barriers and benefits* (report to the Scottish Forestry Trust and Forestry Commission). Forest Research.
O'Sullivan, J., & Fitzgibbon, C. (2018). *Sensory modulation: Resource manual*. Amazon Digital Services.

Outdoor Council of Australia. (2019). *Australian adventure activity standard*.
Pereira, R. (2017). Towards inclusive occupational therapy: Introducing the CORE approach for inclusive and occupation-focused practice. *Australian Occupational Therapy Journal*, *64*(6), 429–435.
Poulsen, D., Stigsdotter, U., Djernis, D., & Sidenius, U. (2016). "Everything just seems much more right in nature": How veterans with post-traumatic stress disorder experience nature-based activities in a forest therapy garden. *Health Psychology Open*, *3*, https://doi.org/10.1177/2055102916637090
Raine, R. A. O. (2018). *The meaning and process of engagement in outdoor adventure from an occupational science perspective to inform health promotion and occupational therapy practice* (Doctoral dissertation, University of Plymouth). Pearl Repository. https://doi.org/10.24382/538
Reis, A., Gray, T., Mann, J., Mallinson, J., Katnoria, M., Search, W., & Peel, N. (2024). Measuring nature-based health interventions: A rapid review of instrumentation and outcomes. *Journal of Outdoor and Environmental Education*, *27*, 57–186. https://doi.org/10.1007/s42322-023-00135-3
Reitz, S. M. (1992). A historical review of occupational therapy's role in preventive health and wellness. *The American Journal of Occupational Therapy*, *46*(1), 50–55.
Restall, G. (2023). *CAOT Webinar 3: Canadian occupational therapy inter-relational practice process (COTIPP): An introduction* [Video]. Canadian Association of Occupational Therapists. https://caot.ca/site/prac-res/pr/freewebinars/pop
Richardson, M., Passmore, H., Lumber, R., Thomas, R., & Hunt, A. (2021). Moments not minutes: The nature-wellbeing relationship. *International Journal of Wellbeing*, *11*(1), 8–33. https://doi.org/10.5502/ijw.v11i1.1267
Robillard, A. E. (2022). Fresh air: Exploring perceptions of high school student and teacher participation in daily outdoor walking breaks for health and wellbeing. *Runner*, *53*(1), 34–41.
Rodríguez-Redondo, Y., Denche-Zamorano, A., Muñoz-Bermejo, L., Rojo-Ramos, J., Adsuar, J. C., Castillo-Paredes, A., Vega-Muñoz, A., & Barrios-Fernandez, S. (2023). Bibliometric analysis of nature-based therapy research. *Healthcare*, *11*(9). https://doi.org/10.3390/healthcare11091249
Rogers, C. M., Mallinson, T., & Peppers, D. (2014). High-intensity sports for posttraumatic stress disorder and depression: Feasibility study of ocean therapy with veterans of Operation Enduring Freedom and Operation Iraqi Freedom. *The American Journal of Occupational Therapy*, *68*(4), 395–404. https://doi.org/10.5014/ajot.2014.011221
SA Tourism Commission. (2021). *Wellness tourism fact sheet*. Government of South Australia. https://www.tourism.sa.gov.au/media/ogjn21uk/satc-wellness-tourism-fact-sheet-final.pdf
Schkade, J. K., & Schultz, S. (1992). Occupational adaptation: Toward a holistic approach for contemporary practice. *American Journal of Occupational Therapy*, *46*(9), 829–837.
Scott, E. E., McDonnell, A. S., LoTemplio, S. B., Uchino, B. N., & Strayer, D. L. (2021). Toward a unified model of stress recovery and cognitive restoration in nature. *Parks Stewardship Forum of*, *37*(1).
Shanahan, D. F., Astell–Burt, T., Barber, E. A., Brymer, E., Cox, D. T. C., Dean, J., Depledge, M., Fuller, R. A., Hartig, T., Irvine, K. N., Jones, A., Kikillus, H., Lovell, R., Mitchell, R., & Niemela, J. (2019). Nature-based interventions for improving health and wellbeing: The purpose, the people and the outcomes. *Sports*, *7*(6), https://www.mdpi.com/2075-4663/7/6/141
Sharman, A. (2023). *The future ancestor*. Hay House.
Sheffield, D., Butler, C., & Richardson, M. (2022). 'Improving nature connectedness in adults: A meta-analysis, review and agenda'. *Sustainability^*, *14*(19), 1494. https://doi.org/10.3390/su141912494
Snow, L. (2018). *War gardens: A journey through conflict in search of calm*. Quercus.
Thew, M., Edwards, M., Baptiste, S., & Molineux, M. (Eds.). (2011). *Role emerging occupational therapy: Maximising occupation-focused practice*. John Wiley & Sons.

Twohig-Bennett, C., & Jones, A. (2018). The health benefits of the great outdoors: A systematic review and meta-analysis of greenspace exposure and health outcomes. *Environmental Research*, *166*, 628–637.

Ulrich, R., Simons, R., Losito, B., Fiorito, F., Miles, M., & Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. *Journal of Environmental Psychology*, *11*(3), 201–230. https://doi.org/10.1016/S0272-4944(05)80184-7

Vibholm, A. P., Christensen, J. R., & Pallesen, H. (2023). Occupational therapists and physiotherapists experiences of using nature-based rehabilitation. *Physiotherapy Theory and Practice*, *39*(3),529–539. https://doi.org/10.1080/09593985.2021.2023927

Wagenfeld, A. (2013). Nature: An environment for health. *OT Practice*, *18*(15), 15–19.

Wagenfeld, A., & Marder, S. (2023). *Nature-based allied health practice: Creative and evidence-based strategies*. Jessica Kingsley Publishers.

Walls, H. L. (2018). Wicked problems and a "wicked" solution. *Globalization and Health*, *14*, 1–3.

Whatley, E., Fortune, T., & Williams, A. (2015). Enabling occupational participation and social inclusion for people recovering from mental ill-health through community gardening. *Australian Occupational Therapy Journal*, *62*(6), 428–437. https://doi.org/10.1111/1440-1630.12240

Whiteford, G., & Townsend, E. (2011). Participatory occupational justice framework (POJF 2010): Enabling occupational participation and inclusion In F. Kronenberg, N. Pollard, & D. Sakellariou (Eds.), *Occupational therapies without borders* (Vol. 2, pp. 65–84). Churchill Livingstone.

Whittaker, B., & Sadlo, G. (2017). Reactivating our occupational nature for sustainable occupational therapy. In D. Sakellariou & N. Pollard (Eds.), *Occupational therapies without borders* (2nd ed., pp. 522–232). Elsevier.

Wilcock, A. A. (1998). Occupation for health. *British Journal of Occupational Therapy*, *61*(8), 340–345.

Wilcock, A., & Hocking, C. (2015). *An occupational perspective of health* (3rd ed.). Slack.

Wilson, E. O. (1984). *Biophilia*. Harvard University Press.

Winterbottom, D., & Wagenfeld, A. (2015). *Therapeutic gardens: Design for healing spaces*. Timber Press.

World Federation of Occupational Therapists (WFOT). (n.d.-a). *About Occupational Therapy*. Retrieved June 12, 2025, from https://wfot.org/about/about-occupational-therapy

World Federation of Occupational Therapists. (n.d.-b). *About occupational therapy*. World Federation of Occupational Therapists. Retrieved November 26, 2025, from https://wfot.org/about/about-occupational-therapy

World Federation of Occupational therapists. (2018). *Sustainability matters: Guiding principles for sustainability in occupational therapy practice, education and scholarship*. https://www.wfot.org/resources/wfot-sustainability-guiding-principles

World Federation of Occupational Therapists. (2019). *Position statement*. *Occupational therapy and human rights*. https://wfot.org/resources/occupational-therapy-and-human-rights

World Health Organization. (1986). *Ottawa charter for health promotion, 1986* (No. WHO/EURO: 1986-4044-43803-61677). WHO Regional Office for Europe.

World Health Organization. (2017). *One health*. https://www.who.int/news-room/questions-and-answers/item/one-health

World Meteorological Organization. (2025). *State of the global climate 2024 WMO-No. 1368*.

Yunkaporta, T. (2019). *Sand talk: How Indigenous thinking can save the world*. Text Publishing.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 12
Engaging at the Pace of Trust: Tackling the Youth Mental Health Crisis with an Outdoor Health Approach

Meaghan Vosz and Andy Hamilton

Sociocultural Positioning

Meaghan Vosz (she/her) lives in Lismore, New South Wales, Australia, and is a researcher working with children, young people, families, and communities to amplify their voices and shape the policies, systems, organisations, and services that aim to serve their welfare, wellbeing, and rights. She has lived experience of mental distress and recovery, using mental health services since the age of 17. She is a queer, White, educated woman and community worker.

Andy Hamilton is a psychologist living and working on Bundjalung Country in northern New South Wales, Australia. He acknowledges the privilege that his White, male, tertiary-educated, and employed status affords him in a colonised country with unceded, unrecognised sovereignty of its original inhabitants and deeply entrenched socioeconomic inequality. He is deeply committed to social justice and, as the founder of Human Nature Adventure Therapy, has a vested interest in its success as a vehicle for both supporting positive change in the lives of disadvantaged and marginalised young people and disrupting intergenerational cycles of trauma and suffering.

M. Vosz
Faculty of Health, Southern Cross University, Lismore, NSW, Australia
e-mail: meaghan.vosz@scu.edu.au

A. Hamilton (✉)
Human Nature Adventure Therapy, Ballina, NSW, Australia
e-mail: andy@humannature.org.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_12

Introduction

In this chapter, we share Human Nature Adventure Therapy's (Human Nature) approach to outdoor activity-based therapeutic practices that seek to overcome the many individual, interpersonal, and systemic barriers to support faced by young people experiencing serious mental distress. Human Nature uses nature and adventurous activities as highly effective tools for engaging otherwise disengaged youth in much needed mental health and wellbeing support. Building on the evidence of a growing youth mental health crisis in Australia, we propose that approaches like this provide an effective model for engaging and shifting the life trajectories of young people aged 14–18 who are experiencing significant mental distress. Rather than placing the onus on "disengaged" young people to engage with fixed support models (which overwhelmingly comprise conventional talk therapy in a clinical setting), Human Nature takes a flexible approach that harnesses the allure of the outdoors and appealing activities that support an increased sense of wellbeing, enlisting young people in tailored professional mental health support. We describe the four pillars of Human Nature's evidence-informed practice model, explain why it works for young people, and outline the outcomes it achieves. We then propose recommendations for practitioners, policymakers, and executives to address the barriers that prevent disengaged and vulnerable young people from accessing the mental health support they need to build wellbeing and develop the capacity to thrive.

The Youth Mental Health Crisis in Australia

Just over four million young people aged 12–25 years live in Australia, yet despite significant investment in early intervention and prevention, our National Study of Mental Health and Wellbeing (Australian Bureau of Statistics [ABS], 2023) found that 38.8% of young people experienced a mental disorder in the past 12 months. Experiencing mental health challenges during this transitional age can result in disengagement from education, family, and social life, impacting a young person's economic and social participation across the lifespan (Australian Government et al., 2020; Productivity Commission, 2020). Effective treatment is needed to avoid the lifetime costs of serious mental illness and to set young people on trajectories characterised by lifelong wellbeing, empowerment, and resilience. Those who cannot access or engage in support may experience adverse outcomes such as disengagement from education and employment, problematic alcohol and drug use, ongoing mental distress, and potential consequences from the justice system. Critically, they also miss out on the personal empowerment and life satisfaction associated with positive social relationships, careers, and contributions to community and civic life—and our society misses out on the gifts they might otherwise have to share (Productivity Commission, 2020).

Sustained quality care is needed for young people with more severe, complex, or persistent conditions; however, it is largely absent in Australia (McGorry et al., 2023, p. 246). In an Australian longitudinal study, young people presenting for mental health support experienced functional impairments on presentation to mental health care services in the social, educational, and physical domains of their lives, and for the majority, these persisted throughout treatment (Iorfino et al., 2018). There is a need for improved individual, organisational, and integrated therapeutic responses that sustain young people's engagement in support that works for them (Broersen et al., 2020; Daubney et al., 2021; Iorfino et al., 2018; Klinner et al., 2023; Savaglio et al., 2023).

The average cost of public child and adolescent mental health hospital admissions is estimated to be A$2653 per patient per day (Australian Institute of Health and Welfare [AIHW], 2025a). Medicare-subsidised mental health services are a crucial systemic facilitator of access (AIHW, 2025b). Whilst around one third of Medicare-subsidised mental health services were used by young people aged 12–24 years, crucially, the largest group of people accessing these existing services was those experiencing the least disadvantage (AIHW, 2025a). Supervision of a young person in youth justice detention in New South Wales has been measured at A$2748.96 per day, while community-based supervision costs almost A$300 per day (Parliament of New South Wales, 2023). Years of life lost to mental illness and substance abuse disorders in regional areas far exceed those in urban locations, particularly relating to alcohol and substance use disorders, depressive and anxiety disorders, schizophrenia, bipolar disorder, and autism (AIHW, 2021). These numbers illustrate the social, moral, and economic dimensions of the need for change in our approaches to engaging young people experiencing mental distress.

Priority Cohorts

Social exclusion relates to where and how young people live, their access to financial resources, education, and employment, and their social connections and relationships (Filia et al., 2018). Orygen and Mission Australia explored the difficult experiences faced by 18,800 young people living with mental distress through the lens of social exclusion, a critical determinant of mental distress and illness in Australian young people (Filia et al., 2023). They found that one quarter of young people surveyed experienced social exclusion in multiple domains. Young people in regional and remote areas, First Nations young people, trans- and gender-diverse young people, those living in places with lower socioeconomic opportunities, and young people who speak a language other than English were the most likely to experience social exclusion (Filia et al., 2023). These social exclusion findings echo an earlier systematic review, which found that engaging with services is most challenging for First Nations young people, culturally and linguistically diverse individuals, sexuality and gender-diverse young people, those who are homeless, substance users, and those living in rural and remote areas (Brown et al., 2015). Together, this evidence

suggests that the barriers to engagement for young people needing mental health support are widespread and persistent.

As a result, the young people most at risk of mental illness and least likely to benefit from existing mental health services include Aboriginal and Torres Strait Islander young peoples (Department of Health, 2019), those in regional and rural areas (Klinner et al., 2023), LGBTQIA + young people (Hill et al., 2021; Strauss et al., 2017; Tordoff et al., 2022), those who have experienced child sexual abuse, emotional abuse, or multiform abuse (Scott et al., 2023), refugee and minority ethnicity young people, those with disability, and those experiencing greatest socioeconomic disadvantage (Elmes et al., 2021). Young people in regional and rural communities experience significant socioeconomic inequality, increasingly frequent and severe natural disasters, reduced housing affordability, economic insecurity, and geographic isolation (Elmes et al., 2021; Klinner et al., 2023; Savaglio, 2023). Telehealth and digital health are not adequate substitutes for face-to-face support for young people in rural and regional communities, and many young people prefer to access support in person (Mseke et al., 2023). Discomfort with the formality of clinic-based services is a particular issue for those experiencing homelessness, substance use disorders, and those in regional and rural locations.

The Limits of Early Intervention and Prevention

While the National Mental Health Commission (2021) estimates that investment in e-health prevention of anxiety disorders in young people has a return-on-investment rate of 3.02, their modelling excluded young people who were disengaged from school and First Nations young people. Risk research suggests that these young people may be experiencing a combination of poverty, parental substance abuse or mental illness, child abuse and neglect, disrupted attachment, family conflict and breakdown, extended bullying, and traumatic events (Fox et al., 2015). Recognising this, policy supports targeting mental distress in the middle years, supporting transitions through school and high school, and building the social and emotional wellbeing of young people with existing mental health conditions (Department of Health, 2019).

Despite documented evidence of widespread need among young people living with significant mental distress, Australia's network of more than 150 headspace youth mental health centres is intended to service those with mild to moderate mental health conditions and only through office-based or telephone-based support. The headspace model was introduced for early intervention with a general cohort of young people deemed at risk of mental illness; it was never intended to serve young people living with "more intensive needs" (KPMG et al., 2022, p. 10). While young people with complex needs appeared to benefit from engagement in six or more occasions of service, 36% of headspace services were only single occasions of service; only 19% of services involved young people accessing six sessions or

more (Harris et al., 2015). Indeed, for those young people whose distress was assessed at moderate levels, the majority see no improvement (KPMG et al., 2022).

Outdoor Therapeutic Activity: Why Outreach and Connection in Nature Work?

We have outlined significant shortcomings in Australia's existing youth mental health support landscape such that many of our most vulnerable and at-risk young people fail to receive the support they need. So what might work for them? Services that are more accessible are characterised by free, culturally competent, timely, individualised, engaging, empowering, and confidential services with practitioners who display acceptance, compassion, caring, empathy, and listening (Bartholomeusz & Randell, 2022; Broerson et al., 2020; Damian et al., 2018; Klinner et al., 2023; Manoni-Millar et al., 2023). Timely outreach, combining clinical and nonclinical activities, and strengths-based mentoring give young people a sense of agency and that there is a real opportunity for change. Young people have described these outreach models as empowering because they feel in charge of their own destinies and are more than passive receivers of help (Oldeide et al., 2020)

For the purposes of this chapter, we will not deeply explore the widely researched practices and benefits associated with outdoor therapeutic approaches, as these are clearly articulated elsewhere (see, e.g., Flies et al., 2023; Mattsson et al., 2023; Roberts et al., 2020) including in this book. It is our intention, however, to emphasise that beyond the multiplicity of mental health and wellbeing benefits these approaches afford, they can, and do, foster unique opportunities to engage disengaged young people in crucial professional mental health support that is otherwise eschewed.

Here we briefly summarise the intersections of nature and outdoor therapies to highlight key elements that are incorporated into Human Nature's model. In a German pilot study with 20 young people aged 18–27 years, all participants experienced outdoor or nature-based therapy to be effective; they also highlighted the importance of relational capabilities of practitioners to create safety, foster connection, and make activities meaningful for them (Joschko et al., 2023). Mattsson et al. (2022) also found that reconceptualising family therapy in the outdoors strengthened "intra-familial attuned interaction and emotional connectedness" (p. 1).

More than just being in nature, nature-based activities tailored to young people's needs were found to enhance dimensions of wellbeing, including physical health, cognitive functioning and self-control, psychological wellbeing, self-care, and spiritual development (Roberts et al., 2020). Practitioners or clinicians of outdoor therapies should provide quality evidence-informed practice and be able to design semistructured activities in natural environments tailored to each young person's

needs and capabilities (Flies et al., 2023). Despite research supporting efficacy of outdoor therapies for young people living with serious mental distress, further research is needed to build the evidence base needed to inform and transform mainstream mental health services (Flies et al., 2023; Joschko et al., 2023).

Developing Human Nature's Model and Practices

Human Nature was formed to respond to the needs of young people who are missing out on mainstream services and who may experience significant additional exclusion and adversity in life as a result. In almost ten years of engaging with young people's lived experience expertise, and the practice wisdom of clinicians, a number of key themes have emerged:

- *individualised assertive outreach in the outdoors* is highly effective in overcoming the obstacles to engagement faced by marginalised young people, including transport, persistence, and demonstrating compassion;
- *engagement and empowerment* of young people, utilising patience, persistence, and compassion helps enhance their capacity to manage adversity and build resilience, hope, and wellbeing;
- *face-to-face, high-quality, and sustained therapy* with qualified and capable multidisciplinary practitioners enables the use of safe connection with young people to build protective resources and develop skills that sustain therapeutic gains over the life course;
- *integrated and coordinated holistic support,* involving the young person and the adults in their lives, builds a sense of belonging and hope to address the complexity of their needs.

In The Words of Human Nature Participants

"The sessions are very different to regular counselling, because we can go for a bike ride or walk by the ocean"

"They gave me breathing room and they gave me something to do"

"Being outside in the natural environment instead of a stuffy room was really helpful, and just made me feel a lot less like I was being interrogated"

"They've helped to pick me up and get me outside, going to places that make it easier to talk through my worries. Today I threw a few more worries to the river and feel lighter for it"

Human Nature's model reflects these dimensions through engagement in outdoor, activity-based relational activities that enable them to connect and benefit from evidence-informed clinical care. Services are delivered through three program streams:

- Activ8: one-on-one regular therapeutic sessions with a psychologist, counsellor, social worker, or therapeutic mentor, depending on the young person's needs, usually based around outdoor activities in nature;
- Recre8: immersive 3–5-night camps and up to 10-day therapeutic expeditions with groups of young people supported by mental health professionals and outdoor adventure specialists;
- Elev8: a safe and supported follow-on from our more intensive therapeutic support by creating a community of young people with lived experience that can stay connected to Human Nature through group activities and camps centred on fun, adventure, social connection, nature connection, and wellbeing and life skills.

Case Vignettes

A Young Person's Journey with Human Nature[1]

When Tyson first came to Human Nature, he had withdrawn from his friends and family, stopped attending school, and lost interest in the things that used to bring him joy, like music and skating. In fact, he barely left his room and almost never left the house. He'd endured a childhood marked by domestic violence and sexual abuse, and since the age of 11, he had become reliant on cannabis as a coping mechanism. His worried mum reached out to us, and we began our therapeutic journey.

At the beginning, Tyson was reluctant to engage and shut down during sessions. He'd barely talk, often cancel appointments at the last minute, and wouldn't leave the house. However, we were committed to creating a space where Tyson felt valued and heard. We took the time to understand his unique needs, and by providing reminders, flexible scheduling options, and gradually building his tolerance for leaving home, as well as encouraging participation in activities aligned with his interests, we were able to gain his trust and utilise the appeal of outdoor adventure to motivate him to engage in therapeutic support.

Tyson was doing really well, gradually overcoming the crippling anxiety that had prevented him from getting outdoors through titrated exposure. He was beginning to set goals for himself that included reducing his cannabis use, skating regularly, and having more meals with his family. Then in February 2022, Tyson's life was completely upended by the devastating floods that our region suffered. Tyson and his family lost all their belongings when their home flooded, leaving them suddenly homeless and emotionally shattered.

The mental health impact on Tyson was severe. He was back to smoking significant quantities of cannabis, and his past traumas had been triggered by the destruction of their home—his only safe place. He initially withdrew and

[1] This case vignette is shared with permission from Human Nature participants for this purpose.

refused to engage in therapy any more, but his therapist continued to visit, providing practical assistance, cleaning up the damaged home, and delivering donated items, allowing Tyson to observe that someone was there for him but without pressure.

For more than 3 months, the family lived in the shell of a house stripped of walls and furniture before we were able to support them to move into temporary emergency accommodation. Eventually, when Tyson felt safe enough to start sessions again, he told us that having someone who'd not given up on him had given him a strong sense of trust, and the felt sense he'd had of the benefits of being outdoors inspired him to try again.

The sessions recommenced with drives to scenic lookouts, where Tyson and his therapist would sit and talk or take a short walk. Over time, he became more at ease, opening up about his mental health and the trauma of the floods. By creating a safe space where Tyson could express his vulnerabilities and navigate his emotions, a strong therapeutic relationship enabled Tyson to start making positive changes in his life. He identified that being "outside of four walls" (where his recent traumas had played out) and "having a bird's eye view" were key to his progress at this stage.

We introduced Tyson to a therapeutic mentor on the team and together they worked on practical steps for Tyson's future, including securing a job and building up his confidence and self-esteem. Through philanthropic support, we were able to purchase a bike for him, giving him independence and transport to access more employment opportunities. It also meant he could go on bike rides with his mentor before pulling up in a park to work on his resume and identify suitable places to apply for work—a strategy that greatly increased his motivation to engage in otherwise avoided therapeutic processes and practical tasks.

Over the course of 15 months, Tyson attended over 50 appointments and demonstrated remarkable progress and resilience. A pinnacle achievement was participating in a 3-day canoeing camp, accompanied by our therapeutic team and other young people, through which we supported him in being cannabis free for the first time in more than 24 h in over 4 years—something he said he never could have achieved at home. Despite how challenging it was for him, this gave him the confidence and drive to attend a 5-day therapeutic hiking expedition, which eventually led to his complete sustained cessation of drug use—a remarkable achievement given he remained living in a temporary flood recovery "pod village," where drug use and social dysfunction are pervasive. Tyson deepened his love for nature, exhibited natural leadership qualities, supported fellow participants, shared humour, and exuded infectious energy. In campfire conversations and one-on-one interactions, Tyson displayed remarkable insight into his therapeutic journey, articulating clear steps towards maintaining his progress, further solidifying his growth and healing from the trauma of his childhood.

In a Young Person's Own Words:
At first, Kane coming over every week annoyed me. Sometimes I'd be really stoned or just couldn't be bothered. But he'd get me food and we'd swim in the river and talk. Getting out and about helped. He started talking to me about rehab, which was annoying too, but he also helped me get my ID, phone plan and Centrelink sorted—stuff that you need to do when you're becoming an adult that's way harder without help.

The five-day Human Nature camp before rehab was amazing. We walked on the beach, swam, fished, camped—everything outside. There were people to talk to whenever things got too much, which they did as I was detoxing and heaps of stuff came up. But being outside, talking, seeing kangaroos, and hearing what other young people were going through made it worth it. It was honestly the best thing, and without it I never would have made it to rehab.

Rehab was a 15-h solo bus ride south, but totally worth it. Kangaroos everywhere, daily swims and I didn't smoke weed for three months. Kane would ring me every week while I was in rehab and it felt really good to have that connection still going.

Now I'm back, living with my girlfriend's family and working in landscaping. I've got my L's and I'm working on getting my hours up for my P's.

The Human Nature Model: Four Pillars

Aligned with the principles underpinning Orygen's (2021) youth-enhanced service model, the four pillars of Human Nature's model are illustrated in Fig. 12.1 and detailed below. The model is underpinned by the key principle that the foundational use of nature and adventure in the implementation of the services we provide is integral to its success.

Pillar 1: Engaging Young People

Young people with moderate to severe or chronic mental health issues and complex needs are often unable to seek help, engage, and make progress with office-based therapy (Hilferty et al., 2015; KPMG et al., 2022). Assertive outreach in nature helps overcome young people's barriers to engagement while building their strengths and self-efficacy. The imperative of engagement calls upon us to understand and centre the lived experiences and needs of our participants and to respond dynamically. Shared decision-making is critical for integrated and coordinated care, including mentoring and case management.

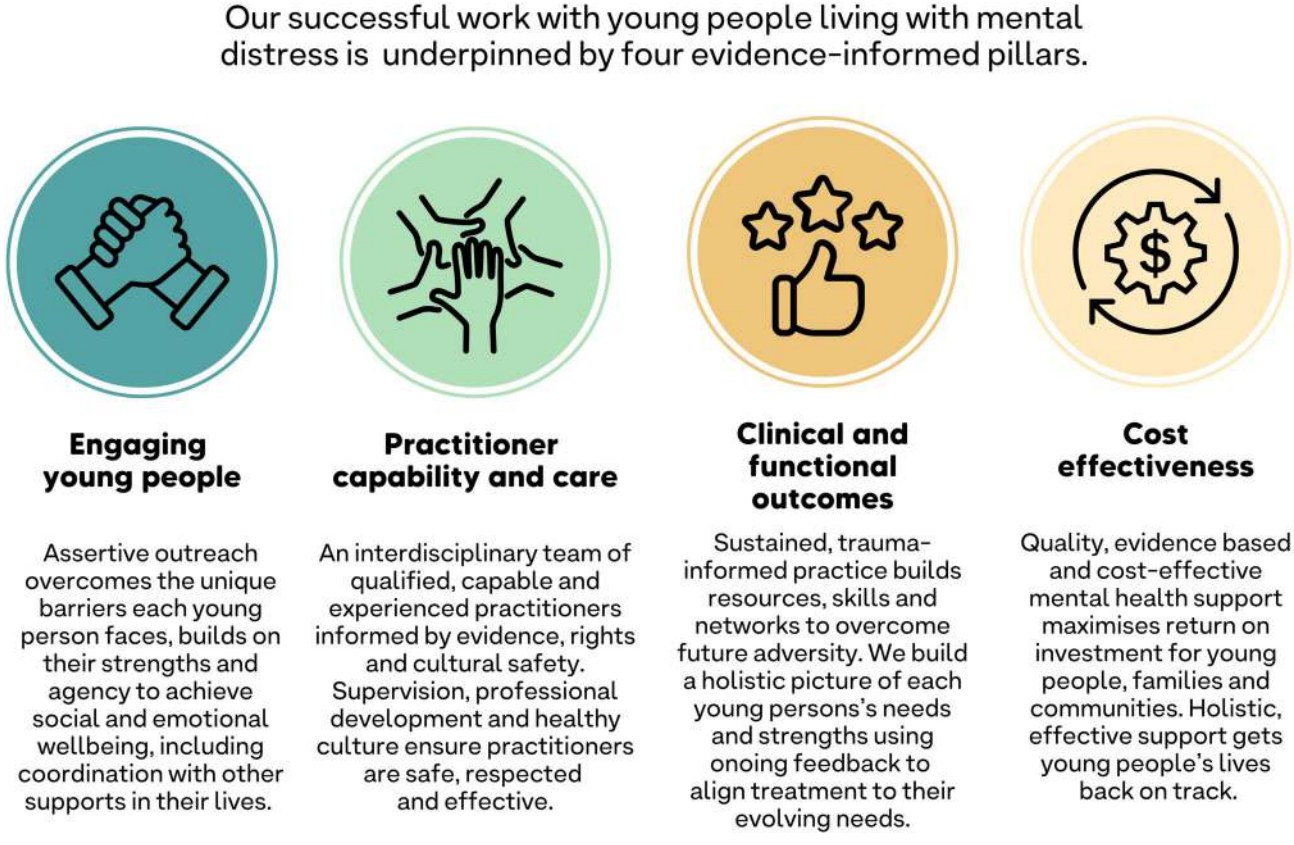


Fig. 12.1 Human Nature model (This model is used with permission from Human Nature)

At the individual level, we use feedback-informed treatment (FIT; Millet et al., 2016) to continuously codesign and adapt each young person's therapeutic journey, providing a clear picture of their ongoing needs, progress, and engagement. Following assessment with a senior clinician, we initially connect with young people where they say they feel safest—at home, with a trusted ally, at school, or in nature, removing the barrier of transport. Therapists provide reminders and individually tailored communication using the communication platforms that suit the young person. They collect young people from home or school and return them to their preferred, risk-assessed, destination. Flexible planning enables therapists to adapt sessions to the needs and moods of young people, and young people participate in developing the plans. Therapists also research local opportunities for nature-based experiences and adapt to changing local conditions. Even small achievable "mini adventures," such as walking or riding to a nearby landmark, can help cultivate a sense of achievement, confidence, and a positive outlook.

At the program level, participants and alumni codesign group programs and expeditions, and are supported and encouraged to take active leadership roles within activities. Organisationally, youth leaders participate collectively, advising on strategic direction, staff recruitment decisions, and young people's needs in emerging areas (such as multiple natural disasters), as well as how Human Nature will respond.

Pillar 2: Clinician Capability and Care

Effective outdoor therapy requires organisations to attract and retain a workforce of capable, highly trained, and experienced clinicians—therapists and mentors committed to doing whatever it takes to engage a young person in the therapeutic process at the pace of trust. Many of the young people we support have previously bounced from one service or program to another, and we are often the first service able to engage them in a trusting, safe, and therapeutic relationship.

A range of capabilities enables our "engagement first" approach. Clinicians integrate fun and engaging activities into sessions that aim to take the pressure off young people who find it difficult to communicate and engage in standard therapeutic processes, enabling feelings of hope and connection. Adventures are based on young people's interests and capabilities, ranging from local walks or explorations of natural regional environments to activities like bike riding, fishing, and stand-up paddleboarding. The young person experiences the benefits of supported physical activity in nature alongside the clinical outcomes achieved through sustained, effective therapy. Sessions usually last from 1 to 3 h, plus transportation time, and can be intensive and demanding for clinicians.

The organisation puts considerable effort into supporting clinicians' safety, risk management, and wellbeing, resulting in a stable transdisciplinary team of culturally diverse social workers, psychologists, clinical psychologists, counsellors, and mentors. Systems need to provide a framework of policies, practices, and protocols

that keeps clinicians safe, respected, empowered, and effective. Unsurprisingly, we weave nature and activity into the usual elements of organisational support—supervision, support, professional development, practice framework, program models, and policies—that provide a scaffold for practitioners. Staff overwhelmingly report that integrating nature into their work is a key contributor to their wellbeing and the sustainability of their work.

Pillar 3: Clinical Outcomes

In the 2023–2024 financial year, Human Nature supported 126 young people. Ninety-five percent of Activ8 Program participants engaged in at least 10 sessions over an average duration of 9 months.[2] Such a level of engagement is particularly remarkable given the "disengaged" nature of our cohort; referrals are generally only accepted if clients have demonstrated limitations in their capacity to engage in other supports.

Human Nature's clinical outcomes are primarily measured using My Mind Star (Triangle Consulting Social Enterprise, 2014), and the two FIT measures—the Outcome Rating Scale (ORS), and the Session Rating Scale (SRS) (Campbell & Hemsley, 2009; Miller et al., 2004). My Mind Star ratings are assessed approximately every 3 months across seven outcome areas. On entry, all young people reported challenges in at least one outcome area and most (93%) in three or more areas of their lives. Ninety-seven percent showed significant improvement in at least one key area and 83% in three or more areas. ORS and SRS measures are routinely collected in every session, and 83% of young people improved across individual, interpersonal, and social domains at exit.

These measurement tools also support deliberate and reflective practice by clinicians and enable young people to be meaningfully involved in their care and engaged in improving the service provided to them. It is important to note that the above outcomes were achieved with a cohort of highly disengaged young people, many of whom were heavily affected by multiple and ongoing disasters and the COVID-19 Pandemic, including impacts on their housing, health, education, participation, and wellbeing.

Human Nature's theory of change identifies specific client outcomes the work is focused on. In the short term, young people build a toolkit of strategies to cope with current and future challenges, leading to improved self-confidence and belief in themselves. Medium term, young people engage in healthy routines that support mental wellbeing and reduce mental distress and suicidal ideation. They report improved wellbeing and relationships with friends and family, as well as a reconnection with school, training, and work. Long term, young people experience

[2] For comparison, 19% of headspace services involved young people accessing six sessions or more. See KPMG et al. (2022).

improved wellbeing and a sense of connectedness and belonging in their families and communities. They act to maintain their wellbeing and seek help to improve their mental health when needed.

Pillar 4: Cost Effectiveness

Human Nature's model provides free, quality, evidence-based, and cost-effective mental health support that aspires to the greatest return on investment for young people. The cost per therapeutic hour delivered in 2022–2023 was A$283.51, which included senior clinician assessment and supervision; mentoring and case management; one-on-one, face-to-face, activity-based outdoor clinical sessions; and FIT to build a holistic picture of their needs, strengths, and progress towards clinical outcomes. Young people also have opportunities to participate in supported group activities and leadership processes, building experiences of connection and belonging that are sustained well beyond their engagement with Human Nature.

In 2022–2023, Human Nature calculated that the average cost per young person supported was around A$40 per day,[3] providing good value for money—particularly as a targeted early intervention when compared to the costs of downstream services (such as hospital admissions and youth justice interventions, as outlined earlier).

Recommendations Towards Addressing the Engagement Conundrum in Youth Mental Health

Considering the gaps in research and practice regarding outdoor therapies for young people with serious mental distress, we propose three recommendations for policy actors, practitioners, and executives.

1. *Involve young people* in organisational governance and direction by harnessing their lived experiences and agency in a genuine partnership. Critical practices include engaging diverse young people in dialogue about future trajectories, supporting young people with lived experiences to participate, resourcing the engagement and interface with young people, and taking them seriously by listening to, recognising, valuing, and giving weight to their unique perspectives.
2. *Demonstrate the cost effectiveness* of models using outdoor therapy. Policy support is needed to fund and support research to explore the practices

[3] This is an average of all participants supported and includes regular one-on-one sessions, group activities, and potential for camps and expeditions. The actual service received by each young person varies and is individually tailored on a needs basis.

associated with nature-based therapy for disengaged young people with considerable mental distress. Practitioners and service providers can partner with academics to conduct qualitative and quantitative research to demonstrate cost benefits and impacts. Pilots may explore the practices associated with outdoor therapies, and research is needed to measure the association between these practices and clinical outcomes.

3. *Scale up and out to reach all young people in regional Australia by 2030.* Scaling must, most critically, expand, reach, and impact without compromising the fidelity of the model.

In the meantime, Human Nature continues to adapt and refine the model and the organisational structures to effectively and efficiently deliver it, and invites practitioners, policy actors, and executives to listen to young people about what works for them and to seriously consider the significance of models such as this for engaging vulnerable young people who are otherwise missing out on much needed support.

Conclusion

The youth mental health crisis is rapidly escalating, and many of those most at risk of dire outcomes are least likely to participate in conventional clinical interventions. Alternative engagement strategies are urgently required, and outdoor therapeutic models like Human Nature's provide a compelling case for successfully engaging "disengaged" young people with highly promising results.

We assert that

- this crisis requires an urgent response, particularly for those most susceptible to poor outcomes who are not otherwise engaging with conventional support mechanisms;
- therapy delivered by competent professionals is effective;
- conventional clinical approaches are failing to engage some of those most needing help in effective therapy;
- outdoor therapies can provide an alternative context for the effective engagement of young people in evidence-based approaches delivered by qualified mental health professionals; and
- there is rapidly growing evidence of the additional health and mental health benefits of spending time in natural outdoor environments and increasingly of tailored outdoor health interventions.

Over the past decade, Human Nature has been refining a model designed specifically for getting the right support to the right young people at the right time—propelled not only by the rewards of supporting the transformation of young lives but also by an unwavering commitment to breaking intergenerational cycles

of trauma and disadvantage and driving real social change towards our vision of "a world where young people triumph over adversity and thrive."

Australia's federal government has set some aspirational priorities by committing to ending violence against women and children within the next 10 years. Its National Suicide Prevention Strategy also emphasises addressing the root causes of distress before crisis occurs. These two national priorities are deeply interconnected: Adverse life circumstances, including exposure to domestic and sexual violence, significantly increase the risk of both suicidal distress and future cycles of harm. To achieve these worthy goals, Australia needs innovative approaches that effectively support the young people most at risk—those navigating trauma, intergenerational disadvantage, and disconnection. For many, existing services fail to meet their unique needs or engage them in the help they need. However, when identified early, engaged effectively, and supported in the right way, these young people can rewrite their futures, breaking free from cycles of harm and instead thriving as valued members of our communities.

Human Nature is committed to continually improving our programs while amplifying and evidencing the effectiveness of our approach. At the same time, we are laying the groundwork to expand our impact by helping to shift the focus of the social sector towards early intervention and prevention. This approach aims to help break cycles of family violence, addiction, crime, mental health struggles, and unemployment—creating brighter, more hopeful futures for our most vulnerable young people.

Acknowledgement We acknowledge and show respect for the Nyangbul people of the Bundjalung Nation—the original people of the land on which Human Nature is based. We respectfully acknowledge the ancient cultural presence in the Australian landscape of First Nations peoples and their ongoing traditional and spiritual custodianship of the bush, rivers, lakes, beaches, marine areas, and mountains that we venture into in our work.

References

Australian Bureau of Statistics. (2023). *National Study of Mental Health and Wellbeing: 2020–2022*. https://www.abs.gov.au/statistics/health/mental-health/national-study-mental-health-and-wellbeing/latest-release

Australian Government, Orygen, & World Economic Forum (2020). *A global framework for youth mental health: Investing in future mental capital for individuals, communities and economies*. World Economic Forum. https://www.orygen.org.au/About/Orygen-Global/Global-framework-for-youth-mental-health

Australian Institute of Health and Welfare. (2021) *Australian burden of disease study: Impact and causes of illness and death in Australia 2018*. Australian Government. https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-summary/summary

Australian Institute of Health and Welfare. (2025a). *Expenditure on mental health-related services, 2022–2023*. Australian Government. https://www.aihw.gov.au/mental-health/topic-areas/expenditure

Australian Institute of Health and Welfare. (2025b). *Medicare-subsidised mental health-specific services, 2023–24*. Australian Government. https://www.aihw.gov.au/mental-health/topic-areas/medicare-subsidised-services

Bartholomeusz, C., & Randell, A. (2022). *Evidence to practice: Integrated care in youth mental health,* headspace. The National Youth Mental Health Foundation.

Broersen, M., Frieswijk, N., Kroon, H., Vermulst, A. A., & Creemers, D. H. M. (2020). Young patients with persistent and complex care needs require an integrated care approach: Baseline findings from the multicenter Youth Flexible ACT Study. *Frontiers in Psychiatry*, *11*, 609120–609120. https://doi.org/10.3389/fpsyt.2020.609120

Brown, A., Rice, S. M., Rickwood, D. J., & Parker, A. G. (2015). Systematic review of barriers and facilitators to accessing and engaging with mental health care among at-risk young people. *Asia-Pacific Psychiatry*, *8*(1), 3–22. https://doi.org/10.1111/appy.12199

Campbell, A., & Hemsley, S. (2009). Outcome rating scale and session rating scale in psychological practice: Clinical utility of ultra-brief measures. *Clinical Psychologist*, *13*(1), 1–9. https://www.tandfonline.com/doi/full/10.1080/13284200802676391

Damian, A. J., Gallo, J. J., & Mendelson, T. (2018). Barriers and facilitators for access to mental health services by traumatized youth. *Children and Youth Services Review*, *85*(1), 273–278. https://doi.org/10.1016/j.childyouth.2018.01.003

Daubney, M. F. X., Raeburn, N., Blackman, K., Jeffries, H., & Healy, K. L. (2021). Outcomes of assertive community treatment for adolescents with complex mental health problems who are difficult to engage. *Journal of Child and Family Studies*, *30*(2), 502–516. https://doi.org/10.1007/s10826-020-01882-3

Department of Health. (2019). *National action plan for the health of children and young people 2020–2030*. Australian Government. https://www.health.gov.au/resources/publications/national-action-plan-for-the-health-of-children-and-young-people-2020-2030?language=en

Elmes, A., Kaleveld, L., Olekalns, A., & Clark, K. (2021). *Mental health deep dive: Strategic context and problem definition report*. Centre for Social Impact, Swinburne University of Technology, University of Western Australia and University of New South Wales. https://doi.org/10.25916/edba-3283

Filia, K. M., Jackson, H. J., Cotton, S. M., Gardner, A., Killackey, E. J., Mueser, K. T., Cook, J. A., & Resnick, S. (2018). What is social inclusion? A thematic analysis of professional opinion. *Psychiatric Rehabilitation Journal*, *41*(3), 183–195. https://doi.org/10.1037/prj0000304

Filia, K., Teo, S. M., Brennan, N., Freeburn, T., Browne, V., Baker, D., Di Nicola, K., Killackey, E., & Gao, C. X. (2023) *Social exclusion and the mental health of young people: Insights from the 2022 Mission Australia Youth Survey*. https://www.missionaustralia.com.au/publications/youth-survey/3340-social-exclusion-and-the-mental-health-of-young-people-insights-from-the-2022-mission-australia-youth-survey-1/download

Flies, E. J., Pryor, A., Henderson-Wilson, C., Turner, M., Roydhouse, J., Patrick, R., O'Shea., M., Norris, K., Martin, A., Marsh, P., Bartlett, L., Rahimi Azghadi, M., & Neil, A. (2023). Bridging the evidence gap: A review and research protocol for outdoor mental health therapies for young Australians. *Journal of Outdoor and Environmental Education, 1*. https://doi.org/10.1007/s42322-023-00143-3

Fox, S., Southwell, A., Stafford, N., Goodhue, R., Jackson, D., & Smith, C. (2015). *Better systems, better chances: A review of research and practice for prevention and early intervention*. Australian Research Alliance for Children and Youth (ARACY). https://www.aracy.org.au/resources/better-systems-better-chances/

Harris, M. G., Hobbs, M. J., Burgess, P. M., Pirkis, J. E., Diminic, S., Siskind, D. J., Andrews, G., & Whiteford, H. A. (2015). Frequency and quality of mental health treatment for affective and anxiety disorders among Australian adults. *Medical Journal of Australia*, *202*(4), 185–189. https://doi.org/10.5694/mja14.00297

Hilferty, F., Cassells, R., Muir, K., Duncan, A., Christensen, D., Mitrou, F., Gao, G., Mavisakalyan, A., Hafekost, K., Tarverdi, Y., Nguyen, H., Wingrove, C., & Katz, I. (2015).

Is headspace making a difference to young people's lives? Final report of the independent evaluation of the headspace program (SPRC Report 08/2015). Social Policy Research Centre, UNSW. https://www.unsw.edu.au/content/dam/pdfs/ada/sprc/research-reports/2021-06-research/2021-06-Evaluation-of-headspaceprogram-published.pdf

Hill, A. O., Lyons, A., Jones, J., McGowan, I., Carman, M., Parsons, M., Power, J., & Bourne, A. (2021) *Writing themselves in 4: The health and wellbeing of LGBTQA+ young people in Australia* (National report, monograph series number 124). Australian Research Centre in Sex, Health and Society, La Trobe University. https://www.latrobe.edu.au/arcshs/work/writing-themselves-in-4

Iorfino, F., Hermens, D. F., Cross, S., Zmicerevska, N., Nichles, A., Badcock, C.-A., Groot, J., Scott, E. M., & Hickie, I. B. (2018). Delineating the trajectories of social and occupational functioning of young people attending early intervention mental health services in Australia: A longitudinal study. *BMJ Open*, *8*(3), e020678–e020678.

Joschko, L., Pálsdóttir, A. M., Grahn, P., & Hinse, M. (2023). Nature-based therapy in individuals with mental health disorders, with a focus on mental well-being and connectedness to nature: A pilot study. *International Journal of Environmental Research and Public Health*, *20*(3), 2167. https://doi.org/10.3390/ijerph20032167

Klinner, C., Glozier, N., Yeung, M., Conn, K., & Milton, A. (2023). A qualitative exploration of young people's mental health needs in rural and regional Australia: Engagement, empowerment and integration. *BMC Psychiatry*, *23*(1), 1–745. https://doi.org/10.1186/s12888-023-05209-6

KPMG, Social Policy Research Centre, & batyr (2022). *Evaluation of the National headspace Program: Final report*. Australian Government Department of Health. https://www.health.gov.au/resources/publications/evaluation-of-the-national-headspace-program?language=en

Manoni-Millar, S., Distasio, J., Latimer, E., Somers, J., Stergiopoulos, V., Kerman, N., Roy, L., & Aubry, T. (2023). Examining risk factors and protective resources as predictors of recovery among youth with mental illness and lived experience of homelessness. *Youth & Society*, *55*(5), 924–946. https://doi.org/10.1177/0044118x221140929

Mattsson, M., Fernee, C. R., Pärnänen, K., & Lyytinen, P. (2022). Restoring connectedness in and to nature: Three Nordic examples of recontextualizing family therapy to the outdoors. *Frontiers in Psychology*, *13*, Article 768614. https://doi.org/10.3389/fpsyg.2022.768614

McGorry, P. D., Coghill, D., & Berk, M. (2023). Mental health of young Australians: Dealing with a public health crisis. *Medical Journal of Australia*, *219*(6), 246–249. https://doi.org/10.5694/mja2.52047

Miller, S. D., Duncan, B. L., & Hubble, M. A. (2004). Feedback-informed treatment in clinical practice: Using the ORS and SRS to improve effectiveness. In M. A. Hubble, B. L. Duncan, & S. D. Miller (Eds.), *The heart and soul of change: Delivering what works in therapy* (2nd ed., pp. 421–453). American Psychological Association.

Mseke, E. P., Jessup, B., & Barnett, T. (2023). A systematic review of the preferences of rural and remote youth for mental health service access: Telehealth versus face-to-face consultation. *The Australian Journal of Rural Health*, *31*(3), 346–360. https://doi.org/10.1111/ajr.12961

National Mental Health Commission. (2021). *The economic case for investing in mental health prevention: Summary*. Australian Government. https://www.mentalhealthcommission.gov.au/publications/economic-case-investing-mental-health-prevention-summary

Oldeide, O., Holsen, I., & Fosse, E. (2020). Youth perspective on outreach service: A safety net for at-risk youth in a municipality. *Children and Youth Services Review*, *116*, Article 105234. https://doi.org/10.1016/j.childyouth.2020.105234

Orygen. (2021). *Youth enhanced service model: Core components and underpinning principles*. https://www.orygen.org.au/About/Service-Development/Youth-Enhanced-Services-National-Programs/Primary-Health-Network-resources/Youth-Enhanced-Service-Model-Core-Components-and-U/Orygen_YES_Model_Core_Components_Underpinning_Prin.aspx?ext=

Parliament of New South Wales. (2023) *Legislative Council questions and answers paper, 16 August 2023*. https://www.parliament.nsw.gov.au/lc/papers/Pages/Legislative-Council-Questions-and-Answers-tracking.aspx

Productivity Commission. (2020). *Mental health: Productivity Commission inquiry report*. Australian Government. https://www.pc.gov.au/inquiries/completed/mental-health/report

Roberts, A., Hinds, J., & Camic, P. M. (2020). Nature activities and wellbeing in children and young people: A systematic literature review. *Journal of Adventure Education and Outdoor Learning*, *20*(4), 298–318. https://doi.org/10.1080/14729679.2019.1660195

Savaglio, M., Yap, M. B. H., Smith, T., Vincent, A., & Skouteris, H. (2023). "I literally had no support": Barriers and facilitators to supporting the psychosocial wellbeing of young people with mental illness in Tasmania, Australia. *Child and Adolescent Psychiatry and Mental Health*, *17*(1), 1–14. https://doi.org/10.1186/s13034-023-00621-y

Scott, J. G., Malacova, E., Mathews, B., Haslam, D. M., Pacella, R., Higgins, D. J., Meinck, F., Dunne, M. P., Finkelhor, D., Erskine, H. E., Lawrence, D. M., & Thomas, H. J. (2023). The association between child maltreatment and mental disorders in the Australian Child Maltreatment Study. *Medical Journal of Australia*, *218*(S6), S26–S33. https://doi.org/10.5694/mja2.51870

Strauss, P., Cook, A., Winter, S., Watson, V., Wright Toussaint, D., & Lin, A. (2017). *Trans pathways: The mental health experiences and care pathways of trans young people. Summary of results*. Telethon Kids Institute. https://www.telethonkids.org.au/projects/past/trans-pathways/

Tordoff, D. M., Wanta, J. W., Collin, A., Stepney, C., Inwards-Breland, D. J., & Ahrens, K. (2022). Mental health outcomes in transgender and nonbinary youths receiving gender-affirming care. *JAMA Network Open*, *5*, e220978. https://doi.org/10.1001/jamanetworkopen.2022.0978

Triangle Consulting Social Enterprise. (2014). *Briefing. The Outcomes Star™: Unpacking the evidence*. https://www.outcomesstar.org.uk/wp-content/uploads/Briefing-Outcomes-Star-Unpacking-the-Evidence.pdf

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 13
Equine-Facilitated Practice: A Systemic and Reflective Road to Safe Practice

Kylie Peters

Sociocultural Positioning

Writing this chapter on Taungurung Country, I acknowledge and pay my respects to the Traditional Custodians and their Elders past, present, and emerging, both on Country and in the communities where I work and have been privileged to work. As the director of Groundwork Therapy, an equine-facilitated service and training provider, an equine-facilitated therapist and trainer, and a registered psychologist and family therapist, I have been privileged to develop, train, and teach an equine-facilitated practice *Groundwork Therapy* across Australia for the last 20 years.

Groundwork Therapy is inclusive and respectful, supporting the rights and wellbeing of all people. As a trainer of practitioners, I centre the importance of greater self-awareness and accountability as a commitment to "lifting the safety bar" in this field, for both horses and humans. I advocate that practitioners always have a responsibility to "do better." I believe horses are profound and powerful coteachers in equine facilitated practice.

Introduction

> Imagine 600 kg of living, breathing, white horse turns around and looks directly at you. It is as if he can see straight through you, straight into your innermost core. A feeling that is in equal measures terrifying and extraordinary, some would say the essence of vulnerability. This white horse, whose head is the size of your torso, starts licking and chewing and slowly making his way over to you until his forehead is resting on yours. Forehead to forehead, heart to heart, a silent connection says: I see you. (Author personal journal, Arizona, 2004).

K. Peters (✉)
Groundwork Therapy, Mansfield, Australia
e-mail: kylie@groundworktherapy.com.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_13

In a round pen in Arizona, an incredible horse named Beau shifted me, the author, to my core. It was such a fundamental meeting that I walked out of that round pen feeling different. I felt both of my feet on the ground and a deeper awareness of my internal sense of self. For the first time, I could really see myself and see all the parts that had been hidden. Seeing myself through what Beau allowed me to see in him, this powerful brave and huge-hearted horse. I could see my own power, bravery, and heart. I started to acknowledge my gifts. For me, nothing can compare to that moment when a horse connects with a human. When a horse "sees you" and *chooses you*, everything else drops away. Nothing matters except for right here, right now. This 600 kg living, breathing, sentient, unconditional, and responsible being has connected with you by choice. It is a body feeling that is impossible to replicate in any other non-horse situation and nearly impossible to describe in cognitive terms. It's a feeling of profound safety, connection, and mutual relationship.

To be providing "equine therapy," a practitioner needs clinical training in a therapeutic modality and formal registration; to provide "therapeutic equine-facilitated practice," a practitioner needs, as a minimum, training in facilitating equine practice. Both registered therapists and nontherapists need training about the needs, welfare. and role of horses and accountability in keeping horses safe within all forms of equine-facilitated practice. This delineation is important for clients and participants to know what they are receiving and for the field to hold itself to account for services provided.

For me, facilitating the "I see you" moment between a horse and human is where new awareness is uncovered. I have come to believe that for us to truly be able to see inside ourselves or others, *we first must feel safe* enough to do so. The "groundwork" model of equine-facilitated practice and training has a well-developed set of safety scaffolding embedded into each layer of the framework to ensure practitioners; first, feel safe enough to facilitate a "safe enough" therapeutic equine experience, and second, make meaningful connection possible. As Nilson (2004) said, "Put horses and humans together. Miracles will happen. Lives can be altered. I know it happened to me" (p. 42).

Are Horses Magic?

From vignettes, case studies, and popular literature, it can appear that horses are "magic" and that humans simply land in a magical space of connection with horses. In these accounts, there is no *before* and no *after*, only the moment itself (Kohanov, 2003; Rector, 1992; Rosenberg, 2006).

Popularised images of "equine therapy" involving long-maned free-ranging horses at sunset, with humans appearing peaceful and content, lying on massage tables in paddocks or sitting in chairs, looking *healed*, do not adequately portray the rigor underpinning safe equine-facilitated practices. What about the horse? Has the horse had adequate safety training for those circumstances? What about the

incidents where, in the pursuit of this kind of connection, a human or horse is *harmed.* What is the training of the practitioner? Are they practicing within their professional scope? Was consent given or even asked for? Both horses and humans can be put into places and situations that are confronting or potentially damaging, without knowing how to safely exit and close the situation. If horses are magical, what is the role of practitioners in relation to safety and accountability in practice?

This chapter does not seek to question the qualities or power of horses and how much they gift to humans. Instead, I argue that the very basis for the extraordinary power of equine-facilitated practice lies in facilitating a horse-human experience of safe connection. By increasing awareness of the practice underpinnings and framework of safe enough practice, practitioners are better positioned to create safe enough equine-facilitated experiences.

The Practitioner Concept Map

The concept of giving horses and humans "a better deal" by improving safe practices is essentially about creating and holding a space where both species feel safe enough and free enough to make their own choices within predetermined parameters. It is important that freedoms for both species exist within the firm boundaries and parameters of what is considered safe and contained, helping to ensure the mental and emotional wellbeing of humans and horses.

To date, the body of research and literature on equine-facilitated practice lacks practice-informed content on topics such as consent, how to establish ground rules, discussions about conflict resolution, reflective practice, setting boundaries, getting to know ourselves, preparedness and readiness, scaffolding safety, and the "grit and the grime" of practice (Garbusow, 2024; Tomlinson, 2023). This lack of literature in these areas is significant, given that it is these moments and practices that can help make the horse–human connection so powerful and profound.

Through "groundwork therapy," the author has developed the Practitioner Concept Map (PCM) (Peters, 2023a) as a reflective practice tool for increasing the experience of safety within therapeutic equine-facilitated practice spaces. The PCM builds upon Rector's (2005) "invitational approach" to include a pre-invitation and post-invitation scaffolding for humans. The author, together with Scott and Lindee McNaughton[1] developed the scaffolding for horses, which is equally important. These frameworks support building an experience of safety in ourselves as practitioners, in our horses as coteachers or cofacilitators, and in our participants within our sessions. They offer a structure for process, sequencing, readiness, preparedness, ability to "pivot," consent, widening our lens, accountability, and boundary setting for safety.

[1] https://www.scottlindeemcnaughton.com.au.

After completing equine-facilitator training with Barbara Rector in Arizona, she subsequently gave permission to teach her model in Australia, and to extend it with my own practice over time. A note on terminology: my training and subsequent registration as a psychologist in Australia meant that my terminology changed from 'therapeutic equine-facilitated practice' to 'equine-facilitated therapy' when my therapy training was complete.

My training as a psychologist and family therapist has given me the opportunity to marry a systemic lens with reflective practices, where ethical practice is paramount. As one of the first to be offering equine-facilitated therapy in Australia, I have had the privilege of having a front-row seat within Australian equine-facilitated practice, helping to evolve and grow the sector through intentional practices over the last 20 years.

What Horses Bring to Equine-Facilitated Practice

Horses are extraordinary animals; they provide us with direct and powerful feedback and have an uncanny ability to mirror our emotions back to us. In learning and therapy contexts, horses can help to optimise learning and therapeutic benefits. Before horses can authentically trust us, it is beneficial for us to learn to trust ourselves, own our emotions, respect boundaries, and take responsibility for ourselves. Being in the same therapeutic space as a horse can invite us to be honest with ourselves, learn to trust ourselves, and take responsibility for our own thoughts, feelings, experiences, and perceptions. We can learn to create healthy, respectful boundaries for ourselves and recognise them in others.

Horses seem to possess several of the characteristics that Rogers (cited in Mearns & Thorne, 1989) described as being important to the therapeutic relationship: unconditional positive regard and warmth. Direct and immediate feedback can be provided in reaction to human action (Rothe et al., 2005). To work with a horse therapeutically, we need to learn that every action has a reaction and consequence, even the smallest one. Through horses, we can learn how to communicate with respect and empathy in nonjudgemental, nonconfrontational ways, which then becomes transferable to the human world. For Christian (2005), equine-assisted therapy can reach clients in a way that traditional talk therapy cannot.

What We Can Learn From Horses

Learning about horses and horse behaviour can help us be better humans. Watching a herd of horses, we can witness the power of collective group consciousness. While one horse grazes, another may be scanning the horizon looking for predators to determine if the herd needs to seek safety. Unlike humans, horses tend not to separate how they feel from how they act. Like

humans, horses are herd animals in which social relationships are very important. Observing horses interacting with one another can offer opportunities to draw comparisons between horse social networks and human social networks and provide metaphors for humans to take home with them. Comparisons can be made about relationships, leadership, power, effective communication, and conflict management.

Horses can teach humans the benefits of listening and acute observation, and the power of staying in the present moment—something that humans find difficult. Within equine-facilitated practice, horses can teach and model for humans how to build relationships.

Equine-facilitated practice can also teach humans about action–consequence cycles; every horse action has an obvious counteraction. Horses respond to environmental cues and body language with body language of their own. By watching the actions, reactions, and behaviours of horses, humans can look at subtleties and begin to understand that things happen for reasons and that nothing happens for no reason; it is more a matter of learning to "see" the reasons.

Research is catching up to what we have intuitively known for centuries—that horses can be good for humans. Rothe et al. (2005) stated that beneficial results of a child–horse relationships include care translation, socialisation and conversation, self-esteem promotion, companionship, and affection stimulation (p. 373). Rector (1992, cited in Vidrine et al., 2002) described the integration of equine-facilitated experience within an inpatient psychiatric and substance abuse treatment program. She observed the power in horses teaching humans to send congruent messages with spoken and body language (p. 590). Studies have shown scientific backing for the linkage or connection between humans and horses and why the connection can orchestrate profound coherence results in heart rate variability between humans and horses (Baldwin et al., 2018, 2021, 2023; Gehrke et al., 2011).

Insights Gained From Respected Horse Men and Women

Winston Churchill (cited in Mistral, 2007) is purported to have said, "There is something about the outside of a horse that is good for the inside of man" (p. 44). Hunt (1995) wrote, "You're not working on the horse, you're working on yourself" (p. 87).

A pioneer of horsemanship, Tom Dorrance (1987), said that when humans are working with a horse and "trying to figure out something … maybe they will figure out what they are missing" (p. 16). Irwin (2008) said, "When people start to learn from and think like horses, magic happens … it's magic because what horses need to hear from us is what many of us need to hear from ourselves" (p. 3), and by spending time with horses, humans can figure out what this is. Rector (2005) stated, "Horses are compassionate teachers of basic life skills" (p. 15).

Anecdotally, human contact with horses can positively impact humans' emotions, cognitions, behaviours, and attitudes, and time spent with horses allows

humans to better understand their own emotions within the context of their environments. Horses can act as a mirror for humans and potentially a window to their deep inner experiences (Hallberg, 2008; Rector, 2005; Rothe et al., 2005; Vidrine et al., 2002).

Within therapeutic equine-facilitated experiences, humans need to view the world from the horse's perspective to navigate the horse safely through the activities. Being prey animals, horses are constantly searching their environments for threats. Practice experience demonstrates that horses read human emotions as information for safety. For horses, "positive" or "negative" emotions are not as important as understanding congruency and consistency. Horses appear to want a match between how the human feels, how they behave, and what they say, with a noncongruent human considered a threat for a horse. Emotions are considered organised responses that prepare an animal to deal with existing situations in the environment, such as events that pose a threat to them or their herd (Carlson, 2004). When working with horses therapeutically, humans have the opportunity to acknowledge their own emotions and gain comprehension about their perceptions. If a human can learn to use emotions as information as horses do, they are less likely to attach a particular emotion to the feeling, meaning a reduction of stress, distress, and panic in response to strong feelings.

Horses provide strong biofeedback mechanisms for humans. Contact with horses can reduce anxiety symptoms and the effects of stress and increase nervous system regulation. On a physiological level, horses operate much slower than humans, with their resting heart rate ranging between 30 and 40 bpm compared to a typical human's resting heart rate of 60 to 80 bpm. The average resting breath rate for a horse is 8 to 12 breaths per minute, whereas for a human, it is 16 to 20 breaths per minute. By spending time with horses—for example, grooming them—humans can meet horses at their natural physiological rate, which is half as fast as that of a human.

Working with horses therapeutically is very physical and body based, as they communicate with body language rather than verbal language. This has the effect of helping to increase humans' awareness and control of their bodies and raise awareness of what their bodies are purposefully or accidentally saying or asking the horse to do. Horses require attention in the moment from humans, which can contribute to a calming effect for them (Lentini & Knox, 2009).

Horses operate from a primary mechanism of flight or fight, with fight or flight instincts governing their behaviour (Lentini & Knox, 2009). This reality is very congruent with how humans operate in their environment and can be viewed as consistent with a human stress appraisal model (Lazarus & Folkman, 1984). Symptoms of anxiety can be characterised by bodily symptoms of physical tension, hyperarousal, and apprehension about the future (Barlow & Durand, 2005), with the source of anxiety often originating within the person rather than in their environment. As a prey animal, a horse is constantly on high alert, scanning its environment for potential threats. Some humans can relate to this; through the observation of a horse and the dynamics of working with a fight or flight animal, they are able to become more aware of their own fight or flight responses and how

to cope with their own nervous system responses. Furthermore, when a human observes a horse self-regulate within a stressful environment, the experience provides a set of modelling behaviours for the human to potentially emulate, thus enabling them to better self-regulate in similar stressful situations.

Horses can also teach healthy boundary-setting behaviours. Rosenberg (2006) wrote, "Horses require humans to respect their boundaries and to behave truthfully around them, they won't respond to anything less" (p. 3). By recognising boundaries within a horse—that is, what is safe and what is not—humans can more readily identify acceptable and unacceptable behaviours, as well as the need for boundaries within themselves.

The Importance of Systemic Ideas

Family therapy is a field of practice that views the individual within the context of the systems in which they live (Bowen, 1978) and the interactions and relationships that occur within these contexts (Allison et al., 2013) which shape us as people. The systemic lens (Lowe, 2004) is appropriate and complementary to equine-facilitated practices, primarily because there are many moving parts that interact with and impact each pattern and response. The practitioner's role includes being accountable for themselves, their participants, and the horses in their care, meaning they have responsibility for every part of the system in action.

No human can escape being part of a family system (Gunzberg, 1991). This section examines some important concepts from systems theory and practice to help us better understand the systemic relationships within therapeutic equine-facilitated experiences and how we can think differently about what is happening differently.

It is inherent in human nature to live in groups; individuals do not develop in isolation but change because of interactions between themselves and their environment. The continual bidirectional nature of dynamic interactions between the self and the environment is believed to underpin all human development. This is analogous to a lifelong pas de deux (Lawrence & Dodd, 2003), where the developing person (internal) and the developing environment (external) are continually acting upon each other, both constraining and adjusting within the framework of a dynamic system (Lawrence & Dodd, 2003). Moreover, the individual pieces gain their meaning through a process of dynamic interaction. As interacting systems, the personal and environmental aspects are constantly acting upon each other, constraining and adjusting in the process of constructing developmental change within a dynamic family system (Lawrence & Dodd, 2003).

Systems concepts provide a useful language for conceptualising the interactive processes within horse–human connections. If a family is seen as more than a collection of individuals, and instead as a whole that is larger than (and different from) the sum of its parts, then individual behaviour is more clearly understood within the context of the whole (Goldenberg & Goldenberg, 2002).

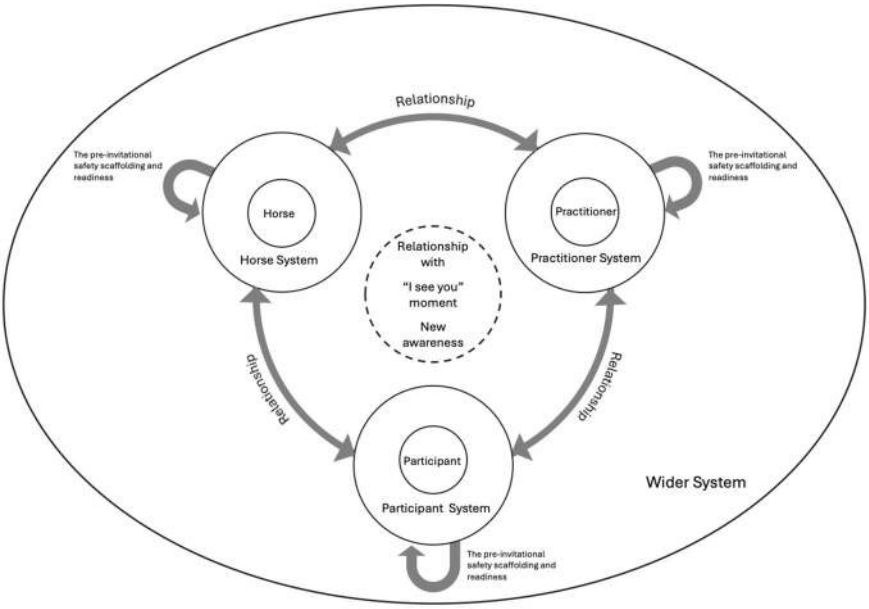


Fig. 13.1 Widening the lens: The horse–human connection (Peters, 2023b) (The author developed this Figure)

When considering equine-facilitated experiences, including therapy, "widening the lens" to include systems thinking is essential for safer practice. At any one time in a horse–human connection, it can be seen that at least five parts of the system are interacting with each other. Figure 13.1 demonstrates the relationship between the practitioner, the client(s), the horse(s), and the context (individual and meta system), as well as the dynamic relationships between.

Rait (2000) discussed the different levels that need to be developed within a system for healthy functioning. The figure extends this idea to describe a balancing act for the practitioner, moving *between* horse and human while also *moving with* the dynamics of each part. Figure 13.1 provides a visual description of all the parts that are included in the horse–human system within therapeutic equine-facilitated connections. When we widen the lens on this balancing act, an ecosystem of relationships can be seen to be taking place.

The Challenge of Safety

> When I looked inside myself, the tears flooding out of me were because for the first time in my life I felt worthy of this incredible horse, of myself. A lifetime of feeling unworthy was washed away. Looking up to see the tears of my workshop peer group who had been with me every step of the way, witnessing each other's stories and the facilitator knowing that

> Beau's story was aligned with mine and that this was the first time he was ever seen too. The processing time and space after that experience was also vital to contextualise and make sense of what happened. (Author personal journal, Arizona, 2004).

My life-changing moment in the Arizona round pen could not have occurred without a framework of readiness, preparedness, responsibility, and intention setting—in other words, without the construction of a solid "safety container." This is the part of equine-facilitated therapy that remains so often unspoken and unseen. The reason the "I see you" moment could reach such depths was, in fact, due to the practice framework in which it was embedded and the practitioner's clear understanding of how, why, and what they were facilitating in the session. That moment took a significant amount of time to reach, with safety woven into every part of the workshop from the client's arrival to the moment in time in the round pen. It was embedded in every part of the framework around the horse's experience, too. The encounter was core-shaking *because* it was safe—not "tick box" safe, but safe enough to be sensed somatically. This is crucial because we need to *feel* safe to learn (Knowles, 2022; Kolb, 1984; Perry, 2014; Perry & Ablon, 2019; Porges, 2022).

I did not just "land" in the middle of that profound moment of connection. I question whether it would have been as profound without the scaffolding of safety embedded in every part of the session for both the human and horse experience. The concept of presession readiness—the beginning, middle, and end of the session, as well as the postsession process—is imperative.

For systemic therapists, transference, countertransference, and projection offer compass points for thinking in a different way about both individual family members and family experiences, as well as our own (Flaskas, 2005), just as in the therapy room with a family, the therapist becomes part of the system. Maturana (cited in Allison et al., 2013), a cognitive biologist, proposed that perceptions of the world depend on the person making the observations. To this end, the practitioner is "in" the system with everything they bring to it.

Understanding Safety and "Safe Enough" Practice

Reynolds (2012, 2014) described safety as nonbinary; it is not a matter of black and white, safe or unsafe. Reynolds explained that we are not looking for perfect safety but for the construction of intentional safety. This means constantly developing, evolving, and interactively increasing safety awareness and enacting safety action plans as the session progresses (before, during, and after). The safety plan is frequently re-contracted, as every moving part "pivots" and is embedded into the scaffolding before, during, and towards the end of sessions, even after sessions.

"Structuring safety is not something therapists do to get ready for the real work; it *is* the real work" (Reynolds, 2012, p. 28). Reynolds emphasised the idea that spaces experienced as safe are not random but require intentional practices, where safety is structured in a proactive way and "safety is enacted" (Reynolds, 2014, p. 8).

Ben Knowles of Adventure Works Australia (AWA) described "safe enough" practices with an integrative neuro-informed framework for safe and effective outdoor therapy (Knowles, 2022). The AWA safety framework details the following seven "safety bases" from which to play, explore, and grow:

1. I feel safe with this leader, this group, this place
2. I feel safe enough in my body to be present in time and place
3. I feel safe enough to say "NO"
4. I feel safe enough to try something new
5. I feel safe enough to reflect, digest, and sleep
6. I feel safe enough to share stories, ideas and plans, and
7. If I get overwhelmed, I know where to turn for safety. The framework is characterised by learning with moderate, predictable challenges, with options and choices, novel embodied experiences, and safe welcoming relationships, encompassing both the physical and emotional space. (AWA, 2025, p. 12)

This model offers a potential blueprint for working with humans and horses therapeutically while supporting safe enough horse–human connections.

The question "How do we know when it is safe enough to keep going?" suggests that we revisit safety at every pivot point of the session, as it relates to ourselves, the horse, the client, and the context. Safety is not a "set and forget"; instead, working towards creating safe enough experiences and a safe base is active, intentional, and explicit. For clients or participants to feel safe, there must not only be safety, but they must also be able to perceive safety (Briere & Scott, 2006). The practitioner, therefore, becomes the attendee and gatekeeper for a session's safety.

A good systemic therapist understands and recognises patterns of interactions and behaviours and how to disrupt or reinforce these patterns. They apply curiosity, not judgement, and pay attention to process, not only to what a person says but also how they say it, who they say it to, and what they want to happen from saying that. In equine-facilitated practice, safe enough is about more than the manoeuvre; it is about the quality and process of how the manoeuvre is enacted.

Reflective Practice

Reflecting is our human way of making meaning in life (Mezirow & Taylor, 2009). Reflective practice is about increasing our self-awareness, which is a key component of learning (Carroll, 2010; Carroll & Hewson, 2016; Moon, 1999, 2004). For Furlon and Wight (Furlong & Wight, 2011), reflective practice is a "lifelong process" (p. 38) and an essential part of our professional development through which we can look back on what went well, what did not go well, and amend our processes and intentions for future practice. Reflective practice is the bridge

between information and wisdom and is the process by which we make sense of and notice the impact of things on our internal landscape and our practice.

Carroll (2010) described the self-reflection process as "Gosh! It's actually about me!" (p. 26) and went on to explain that self-reflection involves reflecting on my own patterns and themes and the way I engage in life and relationships. This position looks at how personal insight and awareness of myself can result in changing my meaning-making perspectives. Rasheed (2015) defined self-awareness as "getting to know about oneself as a person and the important things in life which influences us in different ways" (p. 212). Self-awareness includes the ability to objectively examine one's motivations, beliefs, and behaviours for the purpose of better understanding their impact on others (Hallberg, 2018; Jack & Miller, 2008).

> Although self-awareness is a critical skill for anyone working in the health care professions, when working with horses the need to be aware of one's own feelings, emotions, behaviours and beliefs is intensified. Due to the instinctual nature of horses, they are prone to respond and react to changes in human physiology, especially when related to incongruencies of feelings and behaviours. (Hallberg, 2018, p. 65)

It is vital for the practitioner to have a good understanding of their own reflective practice process, as it is important to be aware of whether a horse is responding to us or our clients during pivotal moments. It is not enough to say, "a horse is magic," "a horse knows," and "trust the process." These statements can be used to sidestep responsibility for safety and intentional practice frameworks. It is important for practitioners to understand and explain what they are doing to assess what is or is not working in a session, ensuring that they are actively meeting and responding to safety needs. To explore this, we examine the "what, how, and why" of horse–human connections that produce the often astounding results we have come to associate with equine-facilitated practice.

Understanding the Moving Parts Within Equine-Facilitated Practice

This chapter has already outlined "what" the horse–human connection is, and potential benefits, as agreed across all equine-facilitated practice models. The Horses & Humans Research Foundation[2] documents 947 publications demonstrating that the horse and human connection is profoundly powerful for humans. Where practice in Australia differs, and is difficult to reconcile, is "how" equine-facilitated practice is explained, and "why" it is experienced differently.

[2] https://www.horsesandhumans.org.

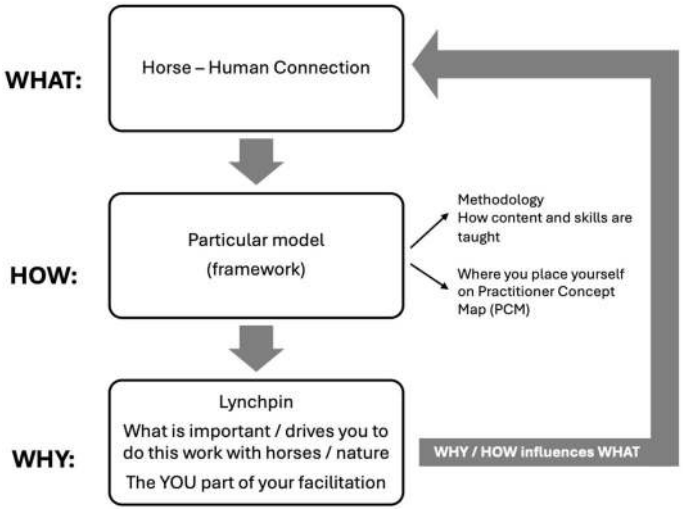


Fig. 13.2 The what, how, and why of equine-facilitated practice (Peters, 2024b) (The author developed this figure)

Figure 13.2 provides an overview of the diversity within the equine-facilitated practice field in Australia, including methodology, training, and where the practitioner situates themselves on the PCM. Practitioners' personal motivations and drivers influence the difference in delivery and models within this field.

The Horse as Cofacilitator

For equine-facilitated practice sessions to be safe enough for the horse, the practitioner needs to have a thorough understanding of how they view the horse and how the model they practise views the role of the horse. Is the horse a support tool, a cofacilitator, a sentient being, a magical wizard, a horse, a healer, a friend, a mirror, or something else? How does an equine practitioner choose to account for and ensure human safety alongside and near a 500 kg potentially unpredictable horse? And how does a practitioner also ensure the safety of the horse cofacilitator? Every training model and, in turn, every practitioner views the role of the horse from a unique perspective. We may consider the importance of the practitioner being aware of and focusing on their own values, beliefs, and safety, but if a horse could talk—what would they say? What would a good, seasoned "therapy horse" say if they could talk about therapeutic work and its impact on them? And are we doing enough as practitioners?

Models of Equine-Facilitated Practice

Barbara Rector is the pioneer of equine-facilitated therapy (Hallberg, 2008). She is the grandmother of this therapeutic work globally and introduced the term "facilitated." Rector views horses as "sentient beings," who could cofacilitate experiences for humans and who can help humans move through life with increased awareness sensitivity and clarity (Hallberg, 2008, p.47).

Hallberg (2008) developed the term "equine-facilitated mental health/education services" and defined it as "an umbrella term used to describe both educational and therapeutic services in which humans work in partnership with horses to grow, learn and change" (Hallberg, 2008, p. xxxiii). Rector (2018) coined the term "wellness work, with horses teaching humans" (p. 14).

Hallberg (2008) spent significant time categorising and publishing the different models of equine-facilitated and equine-assisted ways of working. The breadth of equine modalities and the emergence of equine interventions around the world is vast; in Australia equine-facilitated practices are yet unregulated. Hallberg's (2008) review highlighted that the models and approaches are quite different in some significant areas, noting that the terminology used can also be problematic, with varying meanings of terms like "assisted" and "facilitated." It is acknowledged that there is not a uniform model for working with horses or therapy, and thus, it can become complicated to know who is doing what and to understand the similarities and differences within the field.

There has been an amalgamation of models and practice frameworks based on individual professionals' skill sets. The practitioner's background, training, skills, and approach will greatly influence the facilitation lens within models, approaches, and sessions. To provide equine-facilitated therapy or equine therapy, the practitioner must be a registered therapist of some kind. Currently, there is no mandate or accountability for practitioners providing therapeutic equine-facilitated practice. For registered therapists, the question arises, are they a therapist first and an equine practitioner second, or vice versa? Although not mandated, current common practice dictates that all equine-facilitated practitioners have undertaken equine training of some kind that includes consideration of ethical practice and risk assessment and management to ensure the safety of humans and horses within the practice; it is not enough for a practitioner to just like horses or want to help people.

In the Groundwork Therapy Learning Road Map in Fig. 13.3, safety is prioritised through an emphasis on practitioner awareness before, during, and after facilitation, underscored by systemic practice. This roadmap is a recursive, ongoing, and repetitive process that is nonlinear. Each part can be experienced within the microcosm of a moment during an hour-long session, extending out to the macrocosm of an entire program, and beyond. Figure 13.3 illustrates the significant importance of stepping in and stepping out. Alongside demonstrating all that is happening before, during and after a session, it illustrates all the in between learnings, growth and development that surround the session.

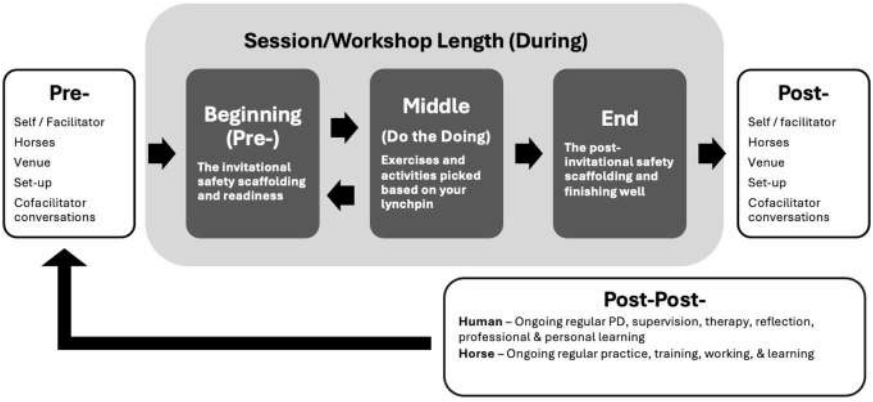


Fig. 13.3 The groundwork therapy learning road map (Peters, 2024a) (The author developed this figure)

Preparing to Provide Safe Enough Practice

It is important for equine-facilitated practitioners to ask themselves and each other reflective and reflexive questions in preparation and readiness for providing experiences for participants of horse–human connections. The questions in Fig. 13.4 are also part of a recursive, ongoing process as we move through Fig. 13.3. Each time we re-trace the road and re-ask the questions, we have potential to gain new awareness and growth about our practices.

Possibly the most important question to ask ourselves to best understand our own PPF is why we are doing this work. How we conceptualise our motivations and articulate the intentions behind our practice help us understand what is actually happening when we put horses and humans together.

The Practitioner Concept Map

To help understand the great diversity within the field of equine-facilitated practice (Hallberg, 2018), including how the horse is viewed, how the human is viewed, and how the frameworks and models are viewed, I developed the PCM (see Fig. 13.5). The PCM provides an overview of ideas that underpin training frameworks and a set of questions for all practitioners to consider. It is hoped that practitioners practising in any approach or model within the wide sphere of horse–human connections will find this PCM a useful and applicable tool in creating a safer container and connection for humans and horses.

The PCM has been developed as a reflective practice tool for practitioners; it is offered to help practitioners take a deep dive into their practice frameworks and

Reflexive Practice Questions
• Am I aware of areas of privilege, power, my blind spots, or areas that may be lacking in awareness? And the impact on the way that I facilitate? • Am I aware of the impact of my beliefs, values, ethics, education, attitudes and experiences on the way that I facilitate? • Am I aware of the impact of my family of origin, culture and intergenerational narratives have on the way that I facilitate? • Am I aware of my learning edges? Am I aware of the impact and my behaviour when something or someone brushes up against them? • Am I aware of the intersecting dimensions that are affecting how I facilitate in this context and at this time?
Situational Awareness Questions
• What is my go-to in the moment if we get stuck or unsafe? • Am I able to attend and attune to what is happening in front of me and inside of me and recognise how much it may or may not be affecting my practice? • Can I call a 'time-out'? • Can I say 'no'? • Can I set healthy boundaries? (in the name of safety?) • What is my stepping in/stepping out process? • How do I help myself feel safe enough to do my best work?
Intentional Practice Questions
• As a Practitioner am I aware of my scope of practice in an honest and realistic way? Am I aware of what I know and what I don't know? Am I able to regularly check in with myself to continue to increase my awareness about what is happening for me? • As a practitioner how do I perceive what I am doing in session? (For example; Are we facilitating it? Are we assisting it? Are we supporting it (actively/passively) Are we driving it? Are we forcing it? Are we inviting it?) • How do I perceive my role and responsibilities? • What is being centred/privileged as the facilitator – the horse, the participant, the relationship, the connection, facilitators needs, the structure of the framework we are using? • Do I understand the impact on the session, the horse, the participant, when one thing is privileged over another? What impact will this have on the session safety? • Are my practice intentions in line with ethical frameworks?
Reflective Practice Questions
• What is my learning take home and how will that inform my future practice? • Do I undertake regular supervision to support and reflect on my practice?
Reflexive Practice Questions (Horse)
• Am I aware of how I understand and view the role of the horse in this work and the impact that has on the way I facilitate? • How do I help my horse feel safe enough to do their best work? • Have I met my horses' requirements for safety/needs/health and welfare? • Am I working within my horses' scope of practice? • Do I know what my horse knows and know what they don't know? • Can I and will I call a time out on behalf of my horse • Am I willing to ask/to see/to take action when my horse says 'no' and 'yes'?

Fig. 13.4 Questions to consider for the practitioner (Peters, 2025) (The author developed this Table)

How do I understand and view the role of the Horse?						
Horse is support tool	How do I view the horse?					Horse is sentient being
	Completely Agree	Somewhat Agree	Not Sure	Somewhat Agree	Completely Agree	
Horse is horse	How do I view the horse?					Horse knows/healer/magic
	Completely Agree	Somewhat Agree	Not Sure	Somewhat Agree	Completely Agree	
None at all	How much do I believe the horse co-facilitates? ←----------1----------2----------3----------4----------5----------→					Completely drives the process
None (apart from being a horse) no formal training	How much training do I believe the horse requires? ←----------1----------2----------3----------4----------5----------→					Daily groundwork or formal training
How do I understand and view the role of the Practitioner?						
As expert – session directed	How do I view the Practitioners Role?					As collaborator – session collaborated
	Completely Agree	Somewhat Agree	Not Sure	Somewhat Agree	Completely Agree	
Minimal Agency	How do I view the client/participant role?					As collaborator – in charge of their own process
	Completely Agree	Somewhat Agree	Not Sure	Somewhat Agree	Completely Agree	
No	As a facilitator, Am I required to undertake own self growth and reflective practice/ongoing professional development?					Yes
	Completely Agree	Somewhat Agree	Not Sure	Somewhat Agree	Completely Agree	
Client	What am I centring/privileging in session?					Horse
	Completely Agree	Somewhat Agree	Not Sure	Somewhat Agree	Completely Agree	
Safety	What am I centring/privileging in session?					Models structure
	Completely Agree	Somewhat Agree	Not Sure	Somewhat Agree	Completely Agree	

Fig. 13.5 The practitioner concept map (Peters, 2023a) (The author developed this Table)

help them gain a better understanding of "why" they are doing what they are doing and "what" is happening during sessions. Practitioners are invited to locate themselves on the various continuums and reflect on why they place themselves there.

I believe that "when we know better, we can do better," and the PCM tool helps practitioners do that. The premise of the PCM is that if we can better understand the underpinnings of this work and where we locate ourselves and our practice amid these moving parts (on these different dimensions), we will be better equipped to create safer spaces for our clients, horses, and ourselves.

Why Is the Practitioner Concept Map Important?

Through years of practitioner training and reflective practice, I have found and observed the PCM to be a useful reflective tool; it encourages participants to strengthen safety through a deeper reflection and self-awareness of what is happening in sessions. It helps to build a scaffolding of understanding that practitioners can apply within their existing practice frameworks.

I have seen the PCM support clarification and understanding of the way we view the role of horse, client, ourselves as practitioner, safety, the practice framework I am working with, and ultimately what I think is happening in the session between the horse and human. The PCM also highlights areas I might be "not sure" about and allows me to look for pathways to find more information that I require as a learning tool. Furthermore, the PCM is a useful tool to have practice conversations with other like-minded practitioners. It can increase awareness and provide a platform to ask questions like "How can I make what I am doing safer and more collaborative" and "How can I make my sessions (better? safer?) for the humans and horses in the space?"

In relation to providing safe enough practice, if we ask, "How do we know when we are safe enough to keep going?" and the answer is "When we are ready," then the next question is "How do we know when we are ready?" By asking this series of questions, and thinking about safety in this way, we are increasing self-awareness and preparedness to practise safely and are thus able to better scaffold and support every part of the system within our PPF. If we can make this a regular practice, our practitioner's lens will be primed to strengthen safety in our practice.

In Australia, equine-facilitated practices are currently unregulated; there are no formal systems to ensure safe practice. This means that some people may enter the field without the necessary training to ensure safety for humans (e.g., lacking therapy or psychotherapy qualifications) or safety for horses (e.g., lacking knowledge and adequate skills). More resources are needed to create pathways for professional standards based on practice mastery, training hours, and the ability to build safe relationships. A key challenge is how to improve standards in a field where individual skills in horsemanship and therapy vary widely.

It is also important that, as the field becomes more professional, the field does not lose experienced practitioners without qualifications who are exceptionally safe and effective. This will be a balancing act that requires some recognition of prior training, experience, and demonstrated safety.

While the ethical principles and practice standards of Outdoor Health Australia offer a clear broad framework for practice (OHA, n.d.), practice standards for equine-facilitated practice need further development. In the absence of national equine-facilitated standards, the Practitioner Concept Map provides a tool and process for supporting safe, accountable practice able to be applied across diverse practice models and approaches.

Limitations

This chapter is based on comprehensive training, many years of practical experience, reflection, and ongoing development. The foundations and lineages of the practice are referenced through original sources and seminal texts. A full review of current research was beyond the scope of this chapter. It is acknowledged that the framework presented here would benefit from further exploration of evidence-based research, including studies that consider the horse's perspective.

Conclusions

To finish, I ask myself, "Why do I do this work, and why do I advocate for lifting the bar on safety in the field?" To answer this question, I return to the Arizona round pen and my pivotal moment with Beau. Beau had a story of trauma before being rescued. Had he not been under the care of Shelley Rosenberg (2006), within a safe horse framework, he may never have felt safe enough to "be seen." I believe that if both Beau and I had not felt *safe enough* to be seen, that profound moment may never have happened. And that is why I do this work; that moment with Beau is my "why." Facilitating a space for humans and horses to feel safe enough to "see" and "be seen" is at the heart of my practice. Therefore, I extend these important questions to fellow practitioners, therapists, trainers, teachers, and other humans working with people: Why do you do this work, and what is most important to you about your "why"?

Through this chapter, we have walked down the systemic and reflective practice road together. The chapter has demonstrated the importance of increasing practitioners' awareness and understanding of their practice framework to both increase safer and increase "knowing"; when we know better, we can do better.

As an identified therapeutic modality within the wider outdoor health sector, equine-facilitated practitioners need to centre safety, be self-aware and personally accountable for their practice, so that both horses and humans in their care get

a better deal. To conclude, I echo Hallberg's (2018) call to advocacy: it is the responsibility of each of us to establish safe and ethical growth and development for both horses and humans in this work. As Irwin stated in Hallberg's seminal text, "If we hope to develop the kind of integrity that leads to meaningful and lasting change, then whatever we hope to do for the horse, we must first create within ourselves" (Irwin, 2008, cited in Hallberg, 2018, p. xxii). To this call, I would add that whatever we create for ourselves, we must be able to offer back to horses; reciprocity will build a safe and ethical framework for equine-facilitated practice.

My best hope is that this chapter will contribute to the equine-facilitated practice field in meaningful ways and increase our awareness of how we work with horses, with people, and with ourselves as practitioners. In this way, all practitioners can contribute to a paradigm shift in which the experience of safety is paramount. It is on all of us as practitioners to step up and raise the bar of safety in this field. Demonstrating a core value of reflective practice, I conclude by asking: What is one thing that stood out for you from this chapter? Why do you think that resonated for you? And how will that impact your future practice?

Acknowledgements For Bolt, who always kept me safe and made me brave. My huge appreciation to Dr. Kerry Proctor for her expertise and systemic lens in editing this chapter. The practice framework at the heart of this chapter, along with concepts and ideas from the Practitioner Concept Map, has been codesigned with significant others. I would especially like to acknowledge the years of conversations, collaborations, and ideas developed with Scott and Lindee McNaughton, who have been integral to the framework and heart of "giving horses a better deal" and to the development of the safety container for this. I also want to thank the Adventure Works team, particularly Anita Pryor and Ben Knowles for the framing of safe enough practice, and Clare Raffety for helping refine the Figures for this chapter. Thank you also to my teachers Beau, Barbara Rector (and her Invitational Approach Framework), and Shelley Rosenberg. Thank you also to the ever-evolving Groundwork Therapy graduate herd, in particular Alice Allen who has been integral to the writing of this chapter. Finally, thank you to my incredible horses, who continue to walk alongside me and support this work, teaching me every day.

Author Declaration There is no financial interest to report. I certify that this submission is the original work and is not under review at any other publication.

In this chapter, I use the terms therapist/practitioner and client/participant interchangeably. The reference "horse–human connection" serves as an umbrella term for everyone working with horses and humans together, encompassing models, terminology, and professional scope.

Figures 13.1, 13.2, 13.3, 13.4 and 13.5 are copyrighted by Groundwork Therapy. I give permission and welcome the use of them, and I request that it be acknowledged as my work accordingly.

References

Adventure Works Australia. (2025). *Healthy practices healthy people: "Foundations of outdoor & adventure therapy" practitioner training course book* (5th ed.).

Allison, S., Perlesz, A., Pote, H., Stratton, P., & Cottrel, D. (2013). Extended dialogue about significant developments: Manualising systemic family therapy: The Leeds Manual. *Australian and New Zealand Journal of Family Therapy*, *23*(3), 153–158.

Baldwin, A. L., Rector, B. K., & Alden, A. C. (2018). Effects of a form of equine-facilitated learning on heart rate variability, immune function, and self-esteem in older adults. *People and Animals: The International Journal of Research and Practice*, *1*(1), 5.

Baldwin, A. L., Rector, B. K., & Alden, A. C. (2021). Physiological and behavioural benefits for people and horses during guided interactions at an assisted living residence. *Behavioral Sciences*, *11*(10), 129.

Baldwin, A. L., Walters, L., Rector, B. K., & Alden, A. C. (2023). Effects of equine interaction on mutual autonomic nervous system responses and interoception in a learning program for older adults. *People and Animals: The International Journal of Research and Practice*, *6*(1), 3.

Barlow, D. H., & Durand, V. M. (2005). *Abnormal psychology: An integrative approach*. Thomson & Wadworth.

Bowen, M. (1978). *Family therapy in clinical practice*. Jason Aronson.

Briere, J., & Scott, C. (2006). *Principles of trauma therapy: A guide to symptoms, evaluation, and treatment*. SAGE Publications.

Carlson, N. R. (2004). *Physiology of behaviour* (8th ed.). Pearson Education.

Carroll, M. (2010). Levels of reflection: On learning reflection. *Psychotherapy in Australia*, *16*(2), 24–31.

Carroll, M., & Hewson, D. (2016). *Reflective practice in supervision*. MoshPit Publishing.

Christian, J. (2005). All creatures great and small: Utilizing equine-assisted therapy to treat eating disorders. *Journal of Psychology and Christianity*, *24*(1), 65–67.

Dorrance, T. (1987). *True unity, willing communication between horse and human*. Give-it-a-go Enterprises.

Flaskas, C. (2005). Psychoanalytic ideas and systemic family therapy: Revisiting the questions "why bother? *Australian and New Zealand Journal of Family Therapy*, *26*(3), 125–134.

Furlong, M., & Wight, J. (2011). Promoting "critical awareness" and critiquing "cultural competence": Towards disrupting received professional knowledges. *Australian Social Work*, *64*(1), 38–54.

Garbusow, M., & Romanczuk-Seiferth, N. (2024, October 29). *Equine-assisted self reflection*. OSF Registries. https://doi.org/10.17605/OSF.IO/FB24K

Gehrke, E. K., Baldwin, A., & Schiltz, P. M. (2011). Heart rate variability in horses engaged in equine assisted activities. *Journal of Veterinary Science*, *31*, 78–84.

Goldenberg, H., & Goldenberg, I. (2002). *Counseling today's families*. Thomson Learning.

Gunzberg, J. C. (1991). The family as a system. In *The family counselling casebook* (pp. 45–58). McGraw-Hill.

Hallberg, L. (2008). *Walking the way of the horse: Exploring the power of the horse-human relationship*. iUniverse.

Hallberg, L. (2018). *The clinical practice of equine-assisted therapy: Including horses in human healthcare*. Routledge.

Hunt, R. (1995). *Think harmony with horses: An in depth study of horse/man relationship*. Give-it-a-go Enterprises.

Irwin, C. (2008). *Horses don't lie: What horses teach us about our natural capacity for awareness, confidence, courage and trust*. Da Capo Press.

Jack, K., & Miller, E. (2008). Exploring self-awareness in mental health practice. *Mental Health Practice*, *12*(3), 31–35.

Knowles, B. (2022, August 9). *Creating safety: Outdoor and nature-based therapies for an increasingly stress-full world* [Webinar].

Kohanov, L. (2003). *Riding between the worlds: Expanding our potential through the way of the horse*. Publishers Group West.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice-Hall.

Lawrence, J. A., & Dodds, A. E. (2003). Goal directed activities and life-span development. In K. Dirkin & J. Valinser (Eds.), *Handbook of developmental psychology* (pp. 517–533). SAGE Publications.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal & coping*. Springer Publishing.
Lentini, J. A., & Knox, M. S. (2009). A qualitative and quantitative review of equine facilitated psychotherapy (EFP) with children and adolescents. *International Journal of Psychosocial Rehabilitation*, *13*(1), 17–30.
Lowe, R. (2004). *Family therapy: A constructive framework*. SAGE Publications.
Mearns, D., & Thorne, B. (1989). *Person-centred counselling in action*. Sage Publications.
Mezirow, J., & Taylor, E. W. (2009). *Transformative learning in practice: Insights from community workplace, and higher education*. Jossey-Bass.
Mistral, K. (2007, August). Heart to heart: A quantitative approach to measuring the emotional bond between horses and humans. *Horse Connections*, 44–47.
Moon, J. (1999). *Reflection in learning and professional development*. Kogan Page.
Moon, J. (2004). *A handbook of reflective and experiential learning*. Routledge Falmer.
Nilson, R. (2004). Equine facilitated psychotherapy. *Perspectives in Psychiatric Care*, *40*(2), 42.
Outdoor Health Australia. (OHA, n.d.). *Home*. OHA. https://outdoorhealth.org.au/
Perry, B. D. (2014). The neurosequential model of therapeutics in young children. In K. Brandt, B. D. Perry, S. Seligman, & E. Tronick (Eds.), *Infant and early childhood mental health* (pp. 21–47). American Psychiatric Press.
Perry, B. D., & Ablon, J. S. (2019). Viewing collaborative problem solving through a neurodevelopmental lens. In A. R. Pollastri, J. S. Ablon, & B. D. Perry (Eds.), *Collaborative problem solving* (pp. 15–31). Springer. https://doi.org/10.1007/978-3-030-12630-8_2
Peters, K. (2023a). *The practitioner concept map: Unpublished groundwork therapy training resource*. Groundwork Therapy. https://www.groundworktherapy.com.au/
Peters, K. (2023b). *Widening the lens: The horse-human connection*. Unpublished Groundwork Therapy Training Resource. Groundwork Therapy. https://www.groundworktherapy.com.au/
Peters, K. (2024a). *The groundwork therapy learning road map*. Unpublished Groundwork Therapy Training Resource. Groundwork Therapy. https://www.groundworktherapy.com.au/
Peters, K. (2024b). *The what, how, and why of equine-facilitated practice*. Unpublished Groundwork Therapy Training Resource. Groundwork Therapy. https://www.groundworktherapy.com.au/
Peters, K. (2025). *Questions to consider for the practitioner*. Unpublished Groundwork Therapy Training Resource. Groundwork Therapy. https://www.groundworktherapy.com.au/
Porges, S. W. (2022). Polyvagal theory: A science of safety. *Frontiers in Integrative Neuroscience*, *16*, 1–15.
Rait, D. (2000). The therapeutic alliance in couples and family therapy. *Psychotherapy in Practice*, *56*(2), 211–224.
Rasheed, S. P. (2015). Self-awareness as a therapeutic tool for nurse/client relationship. *International Journal of Caring Sciences*, *8*(1), 211–216.
Rector, B. K. (1992). Connecting body language with feelings. *NARHA News*, *5*(3), 8.
Rector, B. K. (2005). *Adventures in awareness: Learning with the help of horses*. Authorhouse.
Rector, B. K. (2018). *The invitational approach: Adventures in awareness*.
Reynolds, V. (2012). An ethical stance for justice doing in community work and therapy. *Journal of Systemic Therapies*, *31*(4), 18–33.
Reynolds, V. (2014). Centering ethics in therapeutic supervision: Fostering cultures of critique and structuring safety. *The International Journal of Narrative Therapy and Community Work*, *1*, 1–13.
Rosenberg, S. R. (2006). *My horses, my healers*. Authorhouse.
Rothe, E. Q., Vega, B. J., Torres, R. M., Soler, S. M. C., & Pazos, R. M. M. (2005). From kids and horses: Equine facilitated psychotherapy for children. *International Journal of Clinical and Health Psychology*, *5*(2), 373–383.
Tomlinson, M. (2023). "Clean communication": Felt-sense methodologies and the reflexive researcher in equine-assisted personal development. *The Sociological Review*, *72*(1), 155–174.
Vidrine, M., Owen-Smith, P., & Faulkner, P. (2002). Equine facilitated group psychotherapy: Applications for therapeutic vaulting. *Issues in Mental Health Nursing*, *23*, 587–603.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 14
"It's Good for the Soul": Positive Impacts of the Master Gardener Volunteer Program with Vulnerable Communities

Katina Dimoulias, Danielle Tracey, and Tonia Gray

Sociocultural Positioning

Katina Dimoulias is of Italian-Greek heritage who experienced her childhood in a rural environment on Gangulu Country in a town named after the Aboriginal word for "white cockatoo." She is a trained environmental designer with a PhD in the area of environment and behaviour studies, whose research and teaching endeavour to recognise diversity, human–nature relationships, Indigenous perspectives, sustainability, and social justice in the creation and experience of natural and built environments.

Danielle Tracey is a white woman who was born and raised in Western Sydney, Australia. She is tertiary educated with a PhD in psychology and is a registered educational and developmental psychologist. Her extensive work as a psychologist with young people who have learning difficulties, their families, and educational settings influences her work as a researcher and university lecturer.

K. Dimoulias (✉)
School of Education, Bankstown City Campus, Western Sydney University, Bankstown, Australia
e-mail: k.dimoulias@westernsydney.edu.au

D. Tracey
Centre for Educational Research School of Education, Bankstown City Campus, Western Sydney University, Bankstown, Australia
e-mail: d.tracey@westernsydney.edu.au

T. Gray
Centre for Educational Research School of Education, and The World Leisure Centre Excellence (WLCE), Penrith Campus Western Sydney University, Penrith, Australia
e-mail: t.gray@westernsydney.edu.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_14

Tonia Gray is a non-Aboriginal woman born on the unceded Country of the Yuin Nation. As a seventh-generation Australian of English and German descent, she is committed to making amends for the environmental destruction her forebears inflicted on the local lands in 1820's while collecting red cedar for furniture and boat building where she continues to live. Tonia is a mother, daughter, and nature lover who has stewardship of a 25-acre property called "Dadirri," where she attempts to live as sustainably as possible. With a PhD in education and a master's degree in community health, her transdisciplinary research explores the intersection of outdoor experiential education, human–nature relationships, gender, and health and wellbeing.

Community Gardening With Vulnerable Communities

Across the globe, there is increasing advocacy for community gardens and active community gardening engagement as a grassroots strategy to address a wide range of issues from food security to social cohesion. The growing interest in and provision of community gardens has resulted in a rising body of research and evidence base linking community gardening to positive health and wellbeing, as well as social and environmental outcomes (Truong et al., 2018; Ward et al., 2022). Much of the research conducted on the relationship between community gardening and health and wellbeing has examined impacts predominantly in the general population, such as reductions in stress (e.g., Koay & Dillion, 2020), improvements in mental health (e.g., Koay & Dillion, 2020; Soga et al., 2017), and social cohesion (e.g., Firth, 2011; Koay & Dillion, 2020). However, over the last 10 years, a body of evidence focusing on community gardening and its beneficial impacts for vulnerable communities has gradually increased (e.g., Gray et al., 2024; Malberg Dyg et al., 2020; Tracey et al., 2023).

Vulnerable peoples and populations can be defined using the World Health Organization's classifications, which include terms like disadvantaged and marginalised groups. We recognise that some communities are more affected by health inequalities, including those who are homeless (Oppenheimer et al., 2016; Rollins et al., 2012), youth refugees (Vossoughi et al., 2018), social housing residents (Baker et al., 2016; Truong et al., 2022), and Indigenous populations (Anderson et al., 2016). At the outset, the authors recognise the work of Clark and Preto (2018), who caution social science researchers to thoroughly consider the impact of their discourse on "vulnerability", particularly regarding the wellbeing of those deemed to need protection. Acknowledging the complexities of the term vulnerable, we note that many communities and individuals labelled this way often resist the terminology due to its associated stigma and the potential to perpetuate structural vulnerability. Focusing on the social science discipline, Brown (2011) presents three fundamental critiques of the term vulnerability in research. First, she argues that it can be paternalistic and oppressive; second, it can unintentionally extend social control; and third, labelling groups as vulnerable can further harm by reinforcing marginalisation, exclusion, and stigmatisation.

Tracey et al.'s (2023) recent systematic review identified that the most frequently reported outcomes for vulnerable communities following participation in community gardening were social connection, health, education, nutrition, cost benefits, cultural awareness and/or connection, connection to nature, food safety, area development and safety, and employment. There are two main trends in the community gardening research with respect to vulnerable communities. First, there is a relative focus on benefits of social connections, education, and nutrition for vulnerable communities in comparison to research considering the general population (Tracey et al., 2023). Second, the literature in this space predominantly focuses on community gardening as an informal, ad hoc collective activity in communities rather than as part of formal, targeted interventions or educational initiatives (Chan et al., 2015; McIlvaine-Newsad et al., 2020; Ramburn et al., 2023; Tracey et al., 2023), with most evaluative studies not reporting a defined curriculum (Tracey et al., 2023). These observations may influence both the process and product of community gardening initiatives with vulnerable communities.

While practitioners' and researchers' understandings of the benefits of community gardening are growing, there remains a need to advance knowledge about the program attributes and processes that are most influential, and the realised benefits, for vulnerable communities. Our work in investigating community gardening with vulnerable communities through partnering with the Botanic Gardens of Sydney's Master Gardener Volunteer Program (MGVP) provides an opportunity to contribute to furthering this agenda. In this chapter, we discuss findings from research that examined a formal, targeted educational community gardening initiative implemented in vulnerable communities and its impact on specific dimensions of wellbeing and participation, as reported by program participants and stakeholders. We identify key program characteristics that are considered instrumental in facilitating the achievement of beneficial outcomes for community members participating in the program and the initiative qualities that were most enriching. We argue that a formal education-based gardening program that is underpinned by community development principles can support and empower both individuals and communities to address a range of challenges impacting their quality of life.

Importance of a Community Development Approach

The process and product of community gardening align closely with the concepts of community and engagement, with the community development approach fundamental to the ethos of community gardening. Community development is a grassroots and strengths-based participatory approach that recognises and harnesses knowledge, wisdom, and life experiences of community members, positioning them as experts in their own lives and communities. This chapter adopts Matarrita-Cascante and Brennan's (2012) conceptualisation of community development with the following definition:

> Community development is a process that entails organisation, facilitation, and action, which allows people to establish ways to create the community they want to live in. It is a process that provides vision, planning, direction, and coordinated action towards desired goals associated with the promotion of efforts aimed at improving the conditions in which local resources operate. As a result, community developers harness local economic, human, and physical resources to secure daily requirements and respond to changing needs and conditions. (p. 297)

There are several forms of community development that position community members, efforts, and outcomes differently. According to Matarrita-Cascante and Brennan (2012), the key approaches to community development that emerged from their conceptualisation include imposed, directed, and self-help forms. The authors explain that the "self-help form" considers the community a place where people associate with each other while building meaningful relationships, and this is critical for the community's subsistence. The strengths of this form of community development are, first and foremost, that it results in high levels of learning outcomes for individuals through capacity building, and this results from substantial participatory engagement by community members (Matarrita-Cascante & Brennan, 2012). Furthermore, Matarrita-Cascante and Brennan (2012) suggest that "an example of a self-help form of community development can be the establishment of community gardens, which allow residents to interact and at the same time produce goods needed in the community" (p. 297). This posits that community gardening is a vehicle for community development.

Community gardens are an ideal avenue for successful and sustained community capacity building, empowerment, and engagement. Clarke et al. (2019) argue that community gardens are conducive to participatory community development approaches as they offer a critical opportunity to mobilise community participation and build individual and community capacity. Studies on community gardens demonstrate their ability as a community development instrument to foster capacity building at the community level (Okvat & Zauta, 2011; Passidomo, 2016; Spilková, 2017; Tracey et al., 2021; Truong et al., 2022). While community gardens present valuable opportunities for development of community, it is necessary for these gardening activities to be scaffolded to equip community members to develop skills and capacities. Matarrita-Cascante and Brennan (2012) argue that the development of capacities results in increased self-reliance and greater control over change in the community. We argue that scaffolding capacity building through a targeted program is beneficial for achieving these changes in individuals' life outcomes, and this is critical in communities that are disenfranchised, disempowered, and experiencing inequalities. The literature in this area predominantly examines community gardening as an informal, ad hoc collective activity within communities rather than as part of formal, targeted interventions or educational initiatives (Chan et al., 2015; McIlvaine-Newsad et al., 2020; Ramburn et al., 2023; Tracey et al., 2023). Additionally, most evaluative studies do not report a defined curriculum (Tracey et al., 2023). To this end, there is limited research focusing on community gardens as part of a purposeful community development model that aims to develop capacity through formal and informal educational scaffolding.

This chapter illustrates the positive impacts of a structured community gardening program underpinned by the principles of a community development approach that adopts an educative model to strengthen the learning, capacity, and longer term impact of community gardening activities.

Research Context

The premise of the research on which this chapter is based was to evaluate the impact of a community development gardening initiative conducted by the Botanic Gardens of Sydney (formerly the Royal Botanic Gardens and Domain Trust) in Australia (for a full report, see Tracey et al., 2021). The initiative is referred to as the MGVP. The overarching research project adopted a single-intervention mixed-methods design (Creswell, 2018). It gathered both quantitative and qualitative data; however, this chapter reports only on the rich qualitative insights from program participants and stakeholders of the research project. The qualitative inquiry aligned with three research objectives:

1. How do participants and stakeholders describe their experience of the MGVP?
2. What changes do participants (known as master gardeners) report over their time participating in the MGVP?
3. What aspects of the program are reported as most enjoyable and instrumental to changes for participants?

Master Gardener Volunteer Program

Botanic Gardens of Sydney Community Greening has been delivering workshops and supporting community gardens in social housing, community centres, and a range of vulnerable communities since 2000. Community engagement is the core practice of Community Greening, with the objective to build the personal capacity and agency of diverse and marginalised communities, in response to community members' requests for structured educational opportunities. The MGVP is founded on the pillars of community and engagement. Initially envisioned by a Community Greening leader (Philip Pettitt) and inspired by the Brooklyn Urban Gardener Course model operating in Brooklyn, New York, the inception of the MGVP by Botanic Gardens of Sydney in Australia comprised three short courses piloted in 2016 and funded in 2017 by the Office of Environment and Heritage. The initial pilot course grew from Phil Pettitt's partnership with Paddie Lane from TAFE (technical and further education) Outreach, which combined their independent introductory educational workshops and short courses delivered to a range of communities with various complex needs. The pilot program pivoted on the extensive experience and relationships generated by Phil

Pettitt with gardening participants from social housing and Paddie Lane who integrated an outreach-based pedagogy with experience-based learning programs underpinned by a learner-centred, holistic approach. The program received further funding from the Department of Social Services Resilient Communities Fund in 2018 to continue and grow the MGVP over an additional 3-year period.

The Botanic Gardens of Sydney had two key aims, among others, guiding the MGVP. First was to connect with local community members who were facing challenges of inclusion, for example, culturally diverse backgrounds, with appropriate pathways to training and/or employment. The second aim was to improve physical and mental health through active involvement and reduce stress through social interaction.

The primary goals of the MGVP include building capacity, focusing on achieving community outcomes, and supporting sustainable engagement activities such as the continued practice of skills and participation in further training and mentoring programs. Unlike typical mainstream TAFE courses, the MGVP centres on supporting vulnerable participants to feel safe in a flexible learning space. Importantly, MGVP is guided by the concepts *people*, *plants*, and *places*; participants are encouraged to codesign the learning experience so that it is rooted in the needs of the site inhabited, or that is being gardened, and the community. The efficacy of the course is attributed to a whole-of-person learning approach, recognising the diverse intellect, feelings, and senses of participants and creating positive nature-based learning experiences that acknowledge the anxiety and fears associated with learning. This learning approach was informed by Kolb's (1984) philosophy: "learning is the process whereby knowledge is created through the transformation of experience" (p. 38). An integral element of the course design is its distinct shared learning events experienced with people located in their shared *place*. The course utilises practical gardening skills and experiences to build authentic relationships inclusive of all cultures, ages, and educational experiences.

The delivery of the MGVP was underpinned by a structured educational schedule, which in itself presents a unique and novel approach. Researching this bespoke program offers new perspectives given that the majority of existing research focuses on informal and ad hoc delivery and engagement. The course was typically run over 2 days per week or monthly depending on community needs or geographical location. It involved a 6-day course delivered for approximately 5 h per day. Importantly, it was delivered in partnership with TAFE, a government-run system in Australia that provides postsecondary education in vocational areas, where participants complete a recognised certificate (or modules towards a certificate) as part of the program. The sessions included practical sessions, in community gardens; sessions were equally divided into theoretical and practical community development and horticultural subjects, with additional quarterly workshops. The course, underpinned by the people, plants, places concepts, covered topics around horticulture and community building. Horticulture topics covered in the content included city soils or basic composting, growing food, water-wise gardening, native plants, and streetscape gardening. Community-building topics consisted of community development, building a community of gardeners, regular meeting

dates, signage, skills sharing, conflict avoidance, effective communication skills, developing the concept of emotion, and social inclusion or justice.

The program structure of the MGVP prioritises working collaboratively and establishing partnerships with local social support welfare services, which fosters partnership relationships with communities. The collaborative involvement of local support services in building a bridge between program facilitators and community members strengthens community engagement at all levels of the process from informing program participants to empowerment. This partnership was also reported by stakeholders as being valuable to continuity in community gardening activities after the program had ended, for example:

> We were encouraging those people to step up, that they did have the knowledge. So it was more about how to mentor people and share knowledge and skills and [unearth] knowledge out of other people in the group that you know have skills and knowledge. (Stakeholder)

Methods

Participants in the Research

The Botanic Gardens of Sydney delivered the MGVP in vulnerable communities experiencing challenges such as food insecurity, exclusion, poor sense of community connection, and limited employment. The research involved 17 MGVP sites delivered in communities in New South Wales, Australia, with sites consisting of a mix of Sydney metropolitan suburbs, coastal towns, and rural or regional towns.

Thirty-six community members who engaged in the program participated in 10 focus groups to share their experiences and perceptions of the MGVP. In the research, of the 36 Participants, 32 were community members who had completed the MGVP across 13 community sites, and four people were stakeholders (including a community cohesion officer, TAFE teacher, TAFE support teacher, and family support worker who worked in partnership with the Botanic Gardens of Sydney team). The participating Master Gardeners in the program ($n = 192$) were predominantly female (79.1%), born in Australia or New Zealand (66.9%), with a Year 10 certificate as their highest qualification (40.9%). Of the participants commencing the program and included in the broader study, 36.4% of Master Gardeners reported having one or more disabilities and 20.2% reported having carer responsibilities. The Botanic Gardens of Sydney aims to implement the MGVP in sites where social housing is located and where links can be made with community members who are facing challenges related to inclusion and physical and mental health issues. Therefore, Master Gardeners participating in the program are likely to be experiencing challenges.

Insights from the Ground

A distinctive quality of the research conducted was the opportunity afforded to community members involved in the MGVP to share their insights into the program based on their experiences over time. This provided an opportunity to gain a deep understanding of participants' personal and unique experiences and the perceived impacts (on them and the community) of the program and the key program elements that were believed to facilitate changes.

Perspectives were gathered through focus group interviews with participants and stakeholders. A critical benefit of a focus group discussion is the socially oriented nature of the environment that is created within which qualitative insights can be collected (Krueger & Casey, 2000) and the sense of belonging to a group that is experienced by group members (Peters, 1993). This social connectedness for focus group participants enabled members to feel comfortable and safe to share personal information in a group setting (Vaughn et al., 1996). Providing an opportunity for community members from the same program delivery site to share their views was valuable as it helped facilitate participants' feelings of confidence and safety to delve into circumstances that they felt were positively impacted by their engagement in the MGVP. This data collection approach was critical in a context where communities are experiencing challenging circumstances and had developed friendships or strong social connections (Longhurst, 2003; Vaughn et al., 1996). Program participants and stakeholders were asked to share three key words describing their experience of the MGVP. This question provided participants an opportunity to identify the most salient aspects of their program experience that had a lasting impact on them over time. Following the opening question, participants were asked a series of open-ended questions centred on program experiences, benefits, and elements of value. Through the focus group conversations, rich insights around program experiences, personal and community benefits, and program elements instrumental in changes were garnered.

Findings: Positive Experiences of the Master Gardener Volunteer Program

The most common words offered to describe their experiences were community, confidence, social connection, and peer education. Slightly less common, although consistently used descriptive words, were inclusive, encouragement, empowering, hands-on, doing, skill building, belongingness, commitment, caring, educational, and growth. The identification of these words points not only to the positive impact and perception of the MGVP but also to the underpinning pillars of community and engagement. The following section discusses the findings by way of principal benefits of the program. It builds on the descriptive terms identified above that were selected by community members and provides additional depth and perspectives.

Changes Reported by Participants

Gardening as Therapy and Empowerment

Restorative benefits of nature are multifaceted. For program participants, their wellbeing was impacted by the deep, meaningful practical nature experiences afforded by the structured program. Many reported it was both therapeutic and empowering. The restorative capacity of nature is known anecdotally by people and is supported throughout the literature (Berman & Krpan, 2014).

Opportunities for active involvement in purposeful gardening activities allowed for deep introspection, and the gardening site became a place for restoration, escape, or improved sense of wellbeing. One participant shared their thoughts of the therapeutic nature of gardening activities:

> So, yeah, I thought it was really important for people to know that they don't have to do a huge amount of physical stuff to produce a beautiful garden if you're using the permaculture principles, and encourage people to just, you know, get their hands dirty and learn about the earth. Because you've got to have a garden to notice the changes and the seasons. It's healthy for your mind. Yeah. The wellbeing of my community is really important. And, through bare feet and gardening and plants and things, you can sort of gently soothe the soul, and everyone can do it in their own yards. (MGVP participant)

The practical engagement through gardening activities such as building garden beds and composting fostered a greater sense of self-confidence. Participants were empowered by the program as it activated a greater sense of self-belief as their confidence grew, which translated to community members taking ownership of their future life trajectory and seeking assistance from other support groups or health and wellbeing programs. For example, "It's also reminded me how important community groups are. So I started joining other groups for wellness, like physical and mental wellness, you know, the world is my gym and get out there and live it. Like be well" (MGVP participant).

The wellbeing improvements for community members were reiterated by stakeholders working with them in an ongoing capacity. They observed distinct community member changes in a range of areas over the life of the program including enhanced self-confidence, sense of purpose, life ownership, and decision-making abilities. They described how participants appeared to be implementing skills and tools developed through the program, and more specifically gardening activities, to enhance their personal wellbeing. One stakeholder offered the following perspective: "For the duration of the program I think people probably had a lift and a purpose, and some connection and somewhere to go that they really wanted to become involved" (Stakeholder).

The empowering and therapeutic nature of the community gardening program was conveyed by many MGVP participants and stakeholders as being associated with a range of changes in the health and wellbeing of participants along with a growing sense of social connectedness and community, which fosters improvements

in wellbeing and health. As illustrated in the following findings, participants' experiences of health and wellbeing were interconnected with feelings of social cohesion and capacity building.

Social Connectedness and Community Building

An increased sense of social cohesion was evident in participants' reported changes and benefits of their MGVP participation. Their social wellbeing was enhanced through greater social connectedness and sense of community. Similar to the therapeutic quality of creating a nature space, the formal establishment of a physical gardening setting afforded activities that brought community members together in efforts to achieve a shared goal and contribute positively to their community. One participant shared their experience: "Everyone came with a positive mindset, positive attitude, and a willingness to get along and to make a contribution, and to be part of a team in a sense, part of a group with a purpose" (MGVP participant).

Another program participant provided further insight:

> It creates an opportunity for people to come together around something that's worthwhile, and everyone's happy to be a part of it. It's not a program or a project that can cause division, because no one can find offence in gardening. Everyone can find something that they can see as being of benefit. (MGVP participant)

Participants reported that the sustained engagement in the program and ongoing community gardening activities resulted in enduring friendships and social support systems. Of noteworthy relevance was the opportunity for those who had socially disconnected due to mental, social, and physical health challenges and personal trauma to socially reengage and enhance health and wellbeing. One participant offered an insightful personal reflection:

> My neighbour, she has anti-social behaviour, and it really helped her. She got a whole lot out of it. She got so much out of it, and she was able to just—she went home, she made her own garden. It motivated her. It was just such an inspiration for her, and for me too. I lost my mum three years ago, going on four years actually now. She was a big gardener. I never was into it, but since this course came along—I've had no interest in gardening. It just meant sadness for me. But, yeah. My neighbour, she keeps trying to encourage me to get my own garden going at home, but I just can't do it. Sorry. I guess that's why the community garden, it's not just about one person and my own thoughts. It's about everyone. Yeah. So, it helped me. It helped my friend. (MGVP participant)

Stakeholders further highlighted that the invaluable community tool of the gardens, and more broadly the structured program, was creating a conduit for social engagement, sharing produce, developing support agency relationships, fostering valuable friendships and social networks, and engaging in meaningful activities for their community.

Broader beliefs related to societal contribution was also a change reported by several program participants. Increases in beliefs around their capacity for civic

contribution were also articulated. Practical skills and knowledge development and community member unity through the program, gardening activities, and a tangible garden setting had a flow-on effect on strengthening personal beliefs of their own capacity and self-worth for contributing to society. Participants in the program recognised new possibilities for their involvement to make a wider social contribution. Stakeholders confirmed this wide-reaching change; they observed participants utilising their growing skills and self-assurance in sustained gardening engagement and other community activities to improve the livability of their community. The MGVP was a vehicle for positive changes in social cohesion, sense of belonging, and psychological wellbeing, as well as for building vibrant communities and empowered individuals, as conveyed by the following two quotes. As reported by a program participant

> I've seen women that have had a life full of violence, domestic violence placed upon them that would often never leave the home. Never thought that they had any skills or anything to contribute to society. Then they become a part of this garden. Just being able to watch them live again basically has been one of the most beautiful things I've ever seen. Or women that just didn't think that they would be anything or thought they were nothing because that's how they were treated, to becoming women that are running kitchens and cooking these amazing meals and foods and jams … Plants help people. (MGVP participant)

A stakeholder similarly explained,

> They've started growing things. They've started sharing with their neighbours. They have basically increased the liveability of their areas in a lot of places, even if it's just a really small thing. They'll say that people come past and talk to them about it, about what they're growing. (Stakeholder)

Both MGVP participants and stakeholders involved with the program explained the many ways that the community gardening program played a role in facilitating changes in social connectedness and personal beliefs and capacity for contributing to their social context.

Sociocultural Awareness: Fostering Inclusivity and Diversity

As part of program engagement, community gardeners learnt about other participants; they developed respect for other cultures and learnt to be inclusive and work cohesively with people from diverse cultural and social backgrounds. There were resounding reports from participants' experiences of the program that demonstrated their sociocultural awareness had increased over the duration of the program. Improvements in program participants' sociocultural awareness were also observed by stakeholders. Sociocultural awareness was increased through opportunities to share stories, recipes, cultural dishes, and cultural plan knowledge, as portrayed by this participant:

> When you're at the gardening site, cultural barriers tend to be diminished or don't become evident. But also social. Because it was an interesting group, in that we had a small number of people from a more affluent community, and as a group, it gelled really nicely. There

> was no sense of differentiation based on people's economic or social circumstances. Everyone came together and networked really well. So, people who were perhaps a little bit more advanced in their understanding of gardening and setting up community gardens were really forthcoming in offering support and assistance and engaging with people on a personal level. So, that artificial socioeconomic barrier that exists from time to time was certainly diminished by the activity of gardening, and opened up an opportunity to meet new people from different backgrounds and to get to understand that deep down we're all people and the passion was gardening, and that's what united people. (MGVP participant)

Working alongside people from different sociocultural and socioeconomic groups (from adolescents to single mothers) provided a valuable opportunity for program participants to develop a greater awareness and appreciation of challenges, diverse views, and cultural knowledge, as well as to enhance attitudes towards inclusivity.

Skill Development: Gardening, Communication and Social Skills

Over time, participants' skill sets developed in areas of gardening mastery, communication, and interpersonal competence. Participants overwhelmingly agreed a wide range of valuable gardening skills had been progressively gained over the program through hands-on learning. The development of new and practical gardening skills contributed to changes in wellbeing and motivation for seeking gardening-related employment and further knowledge. The consolidation of practical gardening skill development and cultivating a community garden site was fulfilling and empowering. The establishment of a productive community garden as a central part of the program also increased food security, positive dietary habits, and the physical health and safety of communities.

Master Gardeners identified changes in communication and interpersonal skills resulting from program participation. They recounted reflections of learning about health, positive and assertive ways to communicate in teamwork, and implementing these skills to share their newfound gardening knowledge with their community and beyond. One MGVP participant explained

> It is a housing estate and a social housing estate, and it has a high percentage of vulnerable people, people who are Aboriginal, Torres Strait Islander background, and of vulnerable communities, disabilities, and so I worked there with the kids in the afternoon … To a certain extent it's given me a bit more confidence with that. Like, yeah, I was able to use some of those new skills to work with the kids, yeah. (MGVP participant)

Stakeholders concurred with the changes in social and communication skills reported by Master Gardeners; however, they contributed additional views, stating that behaviour management skills had also been developed over the course of program engagement. A stakeholder shared similar insights:

> It's a connectedness. Small town. We know each other anyway but the connection between, because we did the garden and often we haven't had a lot of success in people coming back to care for the garden, but I do it. So there's these kind of jokes about "Have

> you watered our garden yet?" It's kind of nice. I know on the day there were a couple of women missing. I was out doing something else and I found them. I said "Get in the car. Come on, we're going." They said "Oh okay." (Stakeholder)

Importantly, stakeholders and program participants shared strong evidence of a range of changes in areas such as acquisition of practical gardening skills, capacity to share gardening knowledge, interpersonal and communication skills, and behaviour management skills. MGVP participants' skill development was a precursor to gaining volunteering, employment, and education opportunities.

Volunteering, Employment and Education

The MGVP was reported to be instrumental in positive changes in participants' involvement in work and education-related activities. Program participants reported increases in their involvement in volunteer work, paid employment, re-engagement in formal education, or pursuits of self-education or upskilling. Gaining new skills and knowledge stimulated an intrinsic motivation for many to continue learning through self-educational activities. Of noteworthy mention, one young person participating in the MGVP re-entered formal secondary education, with program participation reported to have played a crucial role in this significant change in the young person's life. A MGVP participant shared her son's powerful experience of the program:

> Being in the course was really, really helpful. So, my boy …—I might get upset, so just—had been angry for a very long time since his brother's suicide. This was the best time for him to get outside and since he's been making little steps. So, now I've just got a message from his new school teacher. He's back at school doing flexible learning. And, he's been busy and going on holidays to see relatives. So, yeah, it's initiated change with his life. (MGVP participant)

Another participant explained their experience of changes resulting from program engagement:

> I certainly would like to do more in that area of social development through gardening and the like programs. So, yeah, I haven't actually done anything per se, but it certainly has stimulated my interest. Because it's always been something that I've believed in, that the best way for people to build their confidence and capability is to do stuff. By doing stuff together, we all benefit from each other's understandings and insights. And, how we can best achieve that in communities where there aren't a lot of resources is something that interests me. So, yeah, I really am inspired to do more. (MGVP participant)

Stakeholders reiterated the sentiments of program participants by sharing examples of Master Gardeners engaging in volunteering, employment, and education proceeding their involvement in the MGVP. In some cases, such as the example below, considerable engagement in volunteering and education followed participation in the MGVP for some program participants, as conveyed in the following stakeholder's quote:

> I have known of a couple of students who've gone on but you could tell at the beginning that was their path anyway. We've had a bit of a success story with one of our clients. Well, she must have already been interested but she came to a Master Gardener's class. After that she enrolled in Conservation and Land Management at TAFE. She continued volunteering at the garden. She's put up her hand to run Intrepid Land Care Group which is Land Care for younger people and she's now got a job at National Parks. So I have a feeling she's not going to be doing much more volunteering. But you know, she's a real success story. (Stakeholder)

Notably, MGVP participants and stakeholders shared considerable evidence of opportunities that had presented for engagement in voluntary work, paid employment, and education (both formal and informal) as a result of participation in the community gardening program.

Salient Program Characteristics

This section presents findings of the salient program qualities that were reported by participants. These include program elements that were most enjoyable and that perceived to contribute to the changes in life outcomes. Importantly, the MGVP integrated both experiential and relational learning into its community development approach. First and foremost, the formal learning component that dovetailed with the community gardening drew from real-life experiences and lessons learnt on the ground; hands-on activities in the gardens bridged formal and informal learning, which strengthened the acquisition of knowledge and skills, as well as wellbeing and participation benefits. The intentional, targeted structure of the MGVP utilised a relational method of learning to provide participants a unique opportunity to engage deeply in areas of healthy food, food security, positive interpersonal interactions, community development, and cultural integration. Several key program characteristics emerged from participants' and stakeholders' experiences as instrumental in making the program effective in achieving its objectives.

Program Facilitator Qualities and Approach

The approach taken and the personal qualities of the staff delivering the program was a key characteristic of the MGVP that emerged as a quality that not only enriched the program experience but also contributed to achieving changes for participants. Several participants expressed their views of important facilitator qualities and approaches:

> We learnt a lot of things and facilitators were both fantastic. The facilitator, the way that she is so enthusiastic, but also she explained things in a way that even somebody who doesn't know a lot about gardening could understand. (MGVP participant)

> … talking about the facilitator now. Yeah, the delivery was, really good, yeah and just that it covered … And she makes you feel comfortable. You can't ask any stupid question with her. (MGVP participant)

> I was really impressed how the facilitator kind of inspired the garden members to be empowered to get and apply for infrastructure that would support the garden. So that was rare, I think, for her to be able to come and impart this enthusiasm and not like it's some kind of wishy-washy dream, but it's actually … achievable. (MGVP participant)

Above all, program facilitators are passionate gardeners and educators. This is a quality that transcends to delivery of expert knowledge not only of gardening but also effectively engaging community participants with diverse needs, interests, learning dispositions, and challenges. As such, the staff employed brainstorming and mind-mapping techniques to generate contextual knowledge on which to tailor the program from the outset. One MGVP participant shared the following insight: "The facilitator had a wealth of information that we all took in. It's when people like the facilitators, when everyone comes in it gives us a bit of cohesiveness. It actually pulls the whole thing together" (MGVP participant).

Program staff took a strengthens-based approach that authentically focused on upskilling, building trust and relationships, creating an inclusive space, and meeting needs over the course of the program. Critically, program staff role modelled expectations and behaviour; this included positive and healthy ways to communicate, engage community members from diverse backgrounds, and engage in respectful social exchange between participants. This was reported as an influential factor in achieving changes to participants' interpersonal and communication skills. Two participants explained in the following insightful quotes changes in their social engagement and the facilitators' role modelling of expectations, behaviour, and inclusion:

> Supportive and inclusive. We have two people that couldn't speak English at our class and [the facilitator] made them feel both so welcome. One of the guys that was with one of the persons who couldn't speak English, had to keep interpreting. So throughout the whole class this interpreting was going on and everyone just, you know, accepted and made them feel inclusive in the whole full day. (MGVP participant)

> Disability services contacted us last week and they bought 10 young adults to the garden. A few of them had autism. One of them wants to work in the garden and I can see it's going to be difficult because you can't say no. Well you can but through the course the facilitator was trying to influence us all to be allowing other groups to come in and be part of us. (MGVP participant)

Undoubtedly, program facilitators—their approach to teaching and learning and personal qualities—contributed immensely to a range of changes in participants, such as knowledge and social skill development and their positive experiences of the program. This aspect of the program extends to the responsiveness of the MGVP to community and participants.

Responsiveness to Community and Participants

Aligned with the authentic, grassroots approach taken by program facilitators, participants acknowledged that the responsiveness of the program made it more enjoyable and relevant. This program characteristic also appeared to contribute to the achievement of changes. As highlighted above, the program was responsive to each community context and their participants and began with place-based participatory sessions guided by the participants and community context. Participants wanted to learn; the experience was relevant to challenges in their lives and community and in turn contributed to improvements in health and wellbeing, skills, and social cohesion. One MGVP participant articulated their experience of the program's responsiveness:

> So, in response to an issue, there will be a response that will be contextual within a community, depending on the resources being available, and the gardening program provided a resource that allowed people to connect and create their own space, and to prove that with a bit of good will and support, people can do wonderful things. (MGVP participant)

The MGVP, targeted to individual and community needs and interests, created an environment where participants over time felt increasingly comfortable acknowledging their learning preferences and what worked for them. They also became more amenable to other ways of learning, such as theoretical knowledge and written workbooks.

Theory and Practice Balance

Overall, MGVP participants expressed a deep appreciation for the theory–practice balance embedded throughout the program and the relevant, expansive practical content complementing the theoretical learning. As one MGVP participant explained

> Yeah, and just all the people who had expert knowledge that come and shared that and all the hands-on stuff that we did while we were doing it. You know, we did theory in the classroom as well, but the hands-on stuff was really good, and then the two together, you know, we actually learnt quite a lot, I think.

Participants overwhelmingly identified affordances for experiential learning as being key to enjoying the program and its success; however, there was a clear respect for the value of the theory component. This characteristic of the program appeared to contribute to a range of participant life changes, including engaging in volunteer work, paid employment, and education, as it provided transferrable content and skills, practical learning, and experience. Further, the relational practical knowledge of the program encouraged ease of sharing information with others; this program quality was key to increasing self-confidence and social skills. The experiential activities contributed to positive interpersonal relationships and overall wellbeing improvements.

Empowerment and Capacity Building: From Individual to Community

Participants who engaged in the program shared experiences recognising the community reach of the program and potential benefits beyond them. For example:

> So, you've got the benefit around hopefully improved nutrition as well. People get stuff given to them or they harvest it themselves, and then you may have a chance to be able to share understanding about how best to prepare that food for meals. And, you get a multiple layer effect around the benefits. It's not just my skills and understanding of gardening and my wellbeing, but it's the community's wellbeing that benefits. So, for a small investment, it's a great return.

Similarly, it was clear from stakeholder insights that a salient program quality was the nurturing of individual empowerment, including healthy lifestyles and self-education and wider community empowerment throughout mobilisation, supporting them to address food security issues and collective capacity building. Importantly, for vulnerable community members, the program's ability to create pathways through networking with community agencies led to greater participation in paid employment, volunteering, and formal and informal education pursuits. One program participant explained their pathways:

> From an employment point of view I've retired, but I think, well Mission actually asked me if I'd be interested in doing some volunteer work with them. So, I started doing a course because my background's in Indigenous youth welfare.

Another participant shared their experience of empowerment, capacity development, and pathways:

> Our master class surely contributed to it. I think, because I've been doing the community garden for so long … Well, I think being in that master class actually helped me get the employment, yeah. I think if I hadn't have been doing that, I might not have got the work, yeah. I think it's just through a network. The facilitator knows—the person who hired me. That's Mission Australia. So the employer's funding, the facilitator knew her. Yeah, it came out that way, I think, yeah.

The identification of program qualities that not only enrich the experience of a community gardening initiative but also contribute to the numerous positive influences they have on their lives addresses a considerable gap in the literature. Participants' descriptions of the connection between community gardening program attributes and social, health, and wellbeing outcomes, such as interpersonal skill development, social cohesion, inclusiveness, and empowerment, informs the crucial program components necessary to improve the efficacy of programs. According to participants' and stakeholders' perspectives, community gardening programs should specifically comprise theoretical knowledge complemented by practical experiences, responsiveness to individual and community needs, intentional capacity building and empowerment, and facilitators' expertise and experience, as these were the more prevalent programs characteristics reported as instrumental to facilitating life changes for participants. Further, these program characteristics will function to address the challenges that authentic, grassroots community development approaches face and reduce barriers to sustained efforts.

Matarrita-Cascante and Brennan (2012) identified limitations of self-help forms of community development approaches, which include community members lacking their own technology, time, funds, and expertise to design, implement, and maintain particular projects, as well as the challenges associated with constantly relying heavily on local participation and involvement. Intentional capacity building, empowerment, and facilitator expertise and experience support community members to develop the skills, knowledge, expertise, confidence, and social cohesion that are key to successful community capacity-building approaches. These MGVP qualities may address several of the limitations identified by Matarrita-Cascante and Brennan (2012) regarding community development self-help approaches.

Conclusion: Embodying Community and Engagement as Process and Product

There is sufficient evidence to demonstrate that community gardening activities cultivate myriad positive benefits at the individual level and community level (Kingsley et al., 2024). The need to employ community gardens as a strategy to address inequalities in vulnerable communities and improve life outcomes is also apparent in more recent literature focused specifically on community gardens and vulnerable communities (Malberg Dyg et al., 2020; Ramburn, 2023; Tracey et al., 2020, 2023). Several noteworthy studies and discussion papers argue for more targeted efforts both in the community gardening research arena (Kingsley et al., 2024) and knowledge of the practical implementation (Tracey et al., 2023), particularly in relation to vulnerable communities. This chapter contributes to these research agendas by identifying salient characteristics of community gardening programs that are considered instrumental in life outcome changes and that Master Gardeners themselves report as enriching their experiences. The research findings contribute a more substantial understanding of the multifaceted ways that community gardens and engagement in a targeted educational gardening curriculum are catalysts for sustained changes in the lives of community members experiencing challenges.

This research is unique in that it documents the benefits of a targeted, formal educational community gardening initiative, leveraging the voices of participants to support advocacy of such efforts. The MGVP demonstrates that delivering an intentional formal program underpinned by community development that is place based, recognising the nuances of individuals and communities, offers participants a chance of improving particular aspects of wellbeing. Our research findings of the wide range of benefits of community gardening engagement, such as social connectedness (Kingsley & Townsend, 2006), individual health and wellbeing (Kingsley et al., 2009; Lampert et al., 2021; Malberg Dyg et al., 2020), and community wellbeing (Egli et al., 2016), align with those of other studies. Additionally, our findings of the learning and pathway affordances are similar to

those of Field (2009), who argues that participation in adult learning can positively influence attitudes and behaviours, indirectly impacting people's health and well-being through creating pathways to self-efficacy, confidence, and social networks. Implementing a purposeful program targeted towards skill development, improved wellbeing, and participation, while providing experiential opportunities relevant to real-life experiences strengthens learning for community members and enhances the capacity of the community and is therefore a critical quality.

Findings from the MGVP community gardening activities illustrating the multidimensional benefits of gardening on wellbeing and participation are consistent with recent research on community gardening and vulnerable communities (Booth et al., 2018; Gray et al., 2022; Jones et al., 2024; Malberg Dyg et al., 2020; Ramsden, 2021; Scott et al., 2020; Shimpo et al., 2019; Tracey et al., 2020, 2023) and offer new perspectives on both the process and product of the MGVP. Fundamental to both process and product is collaborative partnerships, not only with community members but also with local social support services and organisations. Moore et al. (2016) argue that collaborative partnership is a necessary ingredient in community participation and engagement when working with vulnerable communities. With community and engagement as two founding pillars of the MGVP, it is evident that these are embodied both as process in delivering the program to vulnerable communities and as product in the benefits attained by participants.

The MGVP delivers an initiative to vulnerable communities that supports individuals to become empowered in their own lives, build capacity, and gain human and social capital, and this extends to their communities. It intentionally aims to empower individuals through the development of the skills and knowledge required to effectively grow food and to gain a holistic understanding of successful gardening that could then be utilised to strengthen communities by growing and sharing produce.

This chapter offers a deeper understanding of the significance of a targeted, educational gardening program, such as the MGVP, and the experience of the impact on community members in vulnerable communities. The research afforded participants an opportunity to provide substantial insights into the program's positive influence on their lives in the areas of wellbeing, social cohesion, socio-cultural awareness, and skill development, as well as participation in education, volunteering, and employment. Over the course of the program, community members described how their lives had increasingly improved, demonstrating the potency of the program as a catalyst for change in vulnerable communities.

Community engagement through a participatory community development approach that is embedded in place is essential for community gardening programs. Ad hoc leisure community gardens and gardening activities are beneficial for people's health and wellbeing; however, a targeted, formal educative gardening program provides a greater opportunity for effective efforts in vulnerable communities to address the challenges and inequalities that may be faced by community members and to build capacity. The purposeful benefits of structured community gardening programs are observed in other studies (Gray et al., 2022;

Truong et al., 2022). Community members participating in the MGVP identified salient program qualities, including delivery by staff with gardening expertise and education backgrounds, responsiveness to the community and individuals, a theory–practice balance, and an empowerment, capacity-building focus. We argue these program qualities are essential for successful community gardening programs. The findings from our research on MGVP initiatives contribute valuable knowledge to the evidence base on community gardening programs and advocate for greater research and practical implementation of targeted, formal educative initiatives.

References

Anderson, I., Robson, B., Connolly, M., Al-Yaman, F., Bjertness, E., King, A., Tynan, M., Madden, R., Bang, A., Coimbra, C. E. A., Pesantes, M. A., Amigo, H., Andronov, S., Armien, B., Obando, D. A., Axelsson, P., Bhatti, Z. S., Bhutta, Z. A., Bjerrefaard, P., & Yap, L. (2016). Indigenous and tribal peoples' health (the lancet–lowitja institute global collaboration): A population study. *The Lancet*, *388*(10040), 131–157.

Baker, M. G., Zhang, J., Blakely, T., Crane, J., Saville-Smith, K., & Howden-Chapman, P. (2016). Collaborating with a social housing provider supports a large cohort study of the health effects of housing conditions. *BMC Public Health*, *16*(159), 1–9.

Berman, M. G., & Krpan, K. M. (2014). Restorative natural environments. In A. C. Michalos (Ed.), *Encyclopedia of quality of life and well-being research*. Springer. https://doi.org/10.1007/978-94-007-0753-5_3963

Booth, J. M., Chapman, D., Ohmer, M. L., & Wei, K. (2018). Examining the relationship between level of participation in community gardens and their multiple functions. *Journal of Community Practice*, *26*(1), 5–22.

Brown, K. (2011). "Vulnerability": Handle with care. *Ethics and Social Welfare*, *5*(3), 313–321. https://doi.org/10.1080/17496535.2011.597165

Chan, J., DuBois, B., & Tidball, K. G. (2015). Refuges of local resilience: Community gardens in post-sandy New York City. *Urban Forestry & Urban Greening*, *14*(3), 625–635.

Clark, B., & Preto, N. (2018). Exploring the concept of vulnerability in health care. *CMAJ : Canadian Medical Association Journal = Journal de l'Association Medicale Canadienne*, *190*(11), E308–E309. https://doi.org/10.1503/cmaj.180242

Clarke, M., Davidson, M., Egerer, M., Anderson, E., & Fouch, N. (2019). The underutilized role of community gardens in improving cities' adaptation to climate change: A review. *People, Place & Policy Online*, *12*(3), 241–251. https://doi.org/10.3351/ppp.2019.3396732665

Creswell, J. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

Egli, V., Oliver, M., & Tautolo, E. S. (2016). The development of a model of community garden benefits to wellbeing. *Preventive Medicine Reports*, *3*, 348–352.

Field, J. (2009). Good for your soul? Adult learning and mental well-being. *International Journal of Lifelong Education*, *28*(2), 175–191.

Firth, C., Maye, D., & Pearson, D. (2011). Developing "community" in community gardens. *Local Environment*, *16*(6), 555–568.

Gray, T., Tracey, D., & Pigott, F. (2024). Restorative and regenerative green spaces for vulnerable communities in social housing: Insights for seeding success. *Journal of Environmental Psychology*, *99*, 102448. https://doi.org/10.1016/j.jenvp.2024.102448

Gray, T., Tracey, D., Truong, S., & Ward, K. (2022). Community gardens as local learning environments in social housing contexts: Participant perceptions of enhanced wellbeing and community connection. *Local Environment*, *27*(5), 570–585.

Jones, C., Jarvis, K., & Stewart, H. (2024). The lived experiences of adults with learning disabilities: Taking part in a community gardening group. *British Journal of Occupational Therapy*, *87*(2), 98–105.

Kingsley, J., Goodall, Z., Chandrabose, M., Sugiyama, T., Stone, W., Veeroja, P., & Hadgraft, N. (2024). Housing and gardening: Developing a health equity-focused research agenda. *Landscape and Urban Planning*, *245*, 105014.

Kingsley, J., & Townsend, M. (2006). "Dig in" to social capital: Community gardens as mechanisms for growing urban social connectedness. *Urban Policy and Research*, *24*(4), 525–537. https://doi.org/10.1080/08111140601035200

Kingsley, J., Townsend, M., & Henderson-Wilson, C. (2009). Cultivating health and wellbeing: Members' perceptions of the health benefits of a Port Melbourne community garden. *Leisure Studies*, *28*(2), 207–219. https://doi.org/10.1080/02614360902769894

Koay, W. I., & Dillon, D. (2020). Community gardening: Stress, well-being, and resilience potentials. *International Journal of Environmental Research and Public Health*, *17*(18), 6740.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice-Hall.

Krueger, R. A., & Casey, M. A. (2000). *Focus groups: A practical guide for applied research* (3rd ed.). SAGE Publications.

Lampert, T., Costa, J., Santos, O., Sousa, J., Ribeiro, T., & Freire, E. (2021). Evidence on the contribution of community gardens to promote physical and mental health and well-being of non-institutionalized individuals: A systematic review. *PLoS ONE*, *16*(8), e0255621. https://doi.org/10.1371/journal.pone.0255621

Longhurst, R. (2003). Semi-structured interviews and focus groups. In N. Clifford, M. Cope, T. Gillespie, & S. French (Eds.), *Key methods in geography* (pp. 143–156). SAGE Publications.

Malberg Dyg, P., Christensen, S., & Peterson, C. J. (2020). Community gardens and wellbeing amongst vulnerable populations: A thematic review. *Health Promotion International*, *35*(4), 790–803.

Matarrita-Cascante, D., & Brennan, M. A. (2012). Conceptualizing community development in the twenty-first century. *Community Development*, *43*(3), 293–305.

McIlvaine-Newsad, H., Porter, R., & Delany-Barmann, G. (2020). Change the game, not the rules: The role of community gardens in disaster resilience. *Journal of Park and Recreation Administration*, *38*(3), 2–22.

Moore, T., McDonald, M., McHugh-Dillon, H., & West, S. (2016). *Community engagement: A key strategy for improving outcomes for Australian families*. Australian Institute of Family Studies, Australian Government.

Okvat, H., & Zauta, A. (2011). Community gardening: A parsimonious path to individual, community, and environmental resilience. *American Journal of Community Psychology*, *47*, 374–387.

Oppenheimer, S. C., Nurius, P. S., & Green, S. (2016). Homelessness history impacts on health outcomes and economic and risk behavior intermediaries: New insights from population data. *Families in Society*, *97*(3), 230–242.

Passidomo, C. (2016). Community gardening and governance over urban nature in new orleans lower ninth ward. *Urban Forestry & Urban Greening*, *19*, 271–277.

Peters, D. A. (1993). Improving quality requires consumer input: Using focus groups. *Journal of Nursing Care Quality*, *7*, 34–41.

Ramburn, T. T., Wu, Y. M., & Kronick, R. (2023). Community gardens as psychosocial interventions for refugees and migrants: A narrative review. *International Journal of Migration, Health and Social Care*, *19*(2), 122–141.

Ramsden, S. (2021). "It's one of the few things that ... pulls us together when the outside world is really tough." Exploring the outcomes and challenges of a charity-led community garden in a disadvantaged English city. *Local Environment*, *26*(2), 283–296.

Rollins, C., Glass, N. E., Perrin, N. A., Billhardt, K. A., Clough, A., Barnes, J., Hanson, G. C., & Bloom, T. L. (2012). Housing instability is as strong a predictor of poor health outcomes as level of danger in an abusive relationship: Findings from the SHARE Study. *Journal of Interpersonal Violence*, *27*(4), 623–643.

Scott, T. L., Masser, B. M., & Pachana, N. A. (2020). Positive aging benefits of home and community gardening activities: Older adults report enhanced self-esteem, productive endeavours, social engagement and exercise. *SAGE Open Medicine*, *8*, 2050312120901732.

Shimpo, N., Wesener, A., & McWilliam, W. (2019). How community gardens may contribute to community resilience following an earthquake. *Urban Forestry & Urban Greening*, *38*, 124–132.

Soga, M., Gaston, K. J., & Yamaura, Y. (2017). Gardening is beneficial for health: A meta-analysis. *Preventive Medicine Reports*, *5*, 92–99.

Spilková, J. (2017). Producing space, cultivating community: The story of Prague´s new community gardens. *Agriculture and Human Values*, *34*, 887–897.

Tracey, D., Gray, T., & Dimoulias, K. (2021). *Pathways to wellbeing, social cohesion, skill development, and participation in disadvantaged communities: Royal botanic garden sydney's master gardener volunteer program*. Western Sydney University. https://doi.org/10.26183/k47d-2j09

Tracey, D., Gray, T., Manohar, N., Kingsley, J., Bailey, A., & Pettitt, P. (2023). Identifying key benefits and characteristics of community gardening for vulnerable populations: A systematic review. *Health & Social Care in the Community, 2023*.

Tracey, D., Gray, T., Sweeting, J., Kingsley, J., Bailey, A., & Pettitt, P. (2020). A systematic review protocol to identify the key benefits and associated program characteristics of community gardening for vulnerable populations. *International Journal of Environmental Research and Public Health*, *17*(6), 2029.

Truong, S., Gray, T., Tracey, D., & Ward, K. (2018). *The impact of royal botanic gardens' community greening program on perceived health, wellbeing, and social benefits in social housing communities in NSW: Research report*. Centre for Educational Research, Western Sydney University. https://doi.org/10.4225/35/5ad9684c3e724

Truong, S., Gray, T., & Ward, K. (2022). Enhancing urban nature and place-making in social housing through community gardening. *Urban Forestry & Urban Greening*, *72*, 127586.

Vaughn, S., Schumm, J. S., & Sinagub, J. (1996). *Focus group interviews in education and psychology*. SAGE Publications.

Vossoughi, N., Jackson, Y., Gusler, S., & Stone, K. (2018). Mental health outcomes for youth living in refugee camps: A review. *Trauma, Violence, & Abuse*, *19*(5), 528–542.

Ward, K., Truong, S., & Gray, T. (2022). Connecting to nature through community engaged scholarship: Community gardens in social housing as sites for collaborative relationships, psychological and physiological wellbeing. *Frontiers in Psychiatry, Public Mental Health*, 13. https://doi.org/10.3389/fpsyt.2022.883817

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter’s Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter’s Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Part III
Expanding Practice: Lived Experience

Chapter 15
A Holistic Model of Positive Body Image and Outdoor Physical Activity

Joelle Breault-Hood, Tonia Gray, Jacqueline Ullmann, and Son Truong

Sociocultural Positioning

Joelle Breault-Hood As a Canadian-born, white, middle-class, cis-gender, heterosexual woman, I recognise the privilege inherent in my identity. I am a feminist and an activist at heart with a deep change making desire. I acknowledge a significant shift happening with deepening global inequalities and attempt to address these in my work, my writing, and my poetry. My experiences span across classroom education, outdoor and environmental education, nature therapy, and evaluation. My advocacy for positive body image is deeply intertwined with my personal journey of navigating body and health constraints. My educational background and professional journey are grounded in fostering holistic well-being and outdoor physical activity.

J. Breault-Hood (✉)
Independent Scholar, School of Education, Centre for Educational Research, Western Sydney University, Sydney, NSW, Australia
e-mail: jbreaulthood@gmail.com

T. Gray
World Leisure Centre for Excellence (WLCE), Western Sydney University, Sydney, NSW, Australia;
School of Education, Centre for Educational Research, Western Sydney University, Sydney, NSW, Australia
e-mail: t.gray@westernsydney.edu.au

J. Ullmann
School of Education, Centre for Educational Research, Western Sydney University, Sydney, NSW, Australia
e-mail: j.ullman@westernsydney.edu.au

S. Truong
School of Health and Human Performance, Dalhousie University, Halifax, Canada
e-mail: s.truong@westernsydney.edu.au; son.truong@dal.ca

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_15

Tonia Gray is a non-Aboriginal woman born on the unceded Country of the Yuin Nation. As a seventh-generation Australian from English and German decent, she is committed to making amends for the environmental destruction her forebears inflicted on the local lands whilst collecting red cedar for furniture and boat building where she continues to live. There is little doubt her ancestors also displaced Aboriginal and Torres Strait Islander Peoples in the 1820's when emigrating to the South Coast of NSW and they colonised Australia. Tonia was involved in an innovative school-based outdoor education program for young adolescents called 'Wilderness Studies' in the 80's as a secondary school teacher. Currently, Tonia a Senior Researcher in the Centre for Educational Research at Western Sydney University where her transdisciplinary research explores the intersection of outdoor experiential education, human-nature relationships, gender and health/wellbeing. Over four decades, Tonia remains committed to teaching and studying the impact of nature-infused pedagogies in her work. As the steward of a 25-acre (10 ha) property called "Dadirri", she attempts to live as sustainably as possible. Tonia co-exists with nature through the local wildlife, horse riding on nearby beaches, hiking, and exploring wilderness areas both in Australia and overseas.

Jacqueline Ullman I am a queer white woman from an American migrant, working-class family. I migrated to Australia to study 20 + years ago, and I am now a dual citizen who calls Australia home. Growing up in economic instability, I have been attuned to social, class-based marginalisation since childhood. My first career, as an English teacher in a public school on the lower east side of Manhattan, extended my education about the socio-political drivers of entrenched inequities. My research interests are social justice driven; I focus on understanding and addressing bias-based discrimination targeting gender/sexuality diversity; gender-based violence; and sexisms in school/workplace cultures.

Son Truong is an Associate Professor in the School of Health and Human Performance at Dalhousie University. My lived experiences as a first-generation Canadian, former Vietnamese refugee, and member of the 2SLGBTQ + communities have motivated me and informed my work as a community-engaged scholar and allied health practitioner. I have worked in diverse community settings in both minority and majority world settings. As a recreation therapist and health educator, my aim is to promote mental health and wellbeing through nature-based, culturally responsive, and anti-oppressive approaches to health and community care.

Introduction

This chapter examines positive body image in outdoor physical activity through analysis of survey responses ($N = 553$) and 40 interviews with female-identifying participants. Drawing from a larger research project, it explores how outdoor activities influence women's body perceptions. The chapter presents a literature

review, methodology, and findings, culminating in the Holistic Model of Positive Body Image and Outdoor Physical Activity with its eight core principles.

Literature Review

Multiple studies have demonstrated the positive impact of outdoor activities on women's body image. West-Smith (1997) found that consistent outdoor engagement enhances body image, while McDermott (2004) showed how wilderness canoe-tripping shapes women's understanding of their physical selves. Mitten and Woodruff (2010) revealed that outdoor participation improves body image and physical effectiveness. Hennigan (2010) discovered that time in nature helps women detach from cultural pressures and enhances embodied experiences, while Mitten and D'Amore (2017) confirmed the positive relationship between outdoor activities and improved body image. These findings suggest outdoor activities can empower women against unrealistic beauty standards while supporting mental health and overall wellbeing. The researchers emphasise the need for further investigation into outdoor engagement's benefits for women's self-perception.

Sociocultural theoretical approaches and models have provided a framework for understanding how sociocultural factors contribute to the development of body image concerns among women (Frederickson & Roberts, 1997; Thompson et al., 1999; Tiggemann, 2011). In its simplest form, the sociocultural model posits the following principles. First, there are societal beauty standards prevalent within a specific culture (Tiggemann, 2011). Second, these standards are conveyed through various sociocultural avenues (Tiggemann, 2011). Subsequently, individuals internalise these ideals, resulting in a degree of contentment or discontent with their appearance, which is contingent upon the extent to which they adhere to or deviate from these prescribed ideals (Tiggemann, 2011).

The tripartite influence model (Thompson et al., 1999) suggests that women experience pressure from various societal agents, such as family, peers, and media, to conform to dominant appearance ideals that prioritise thinness and muscle tone (Galfano & Swami, 2015). The tripartite influence model has been extensively supported by empirical evidence in studies with adolescent girls and young adult women (Johnson et al., 2015; Keery et al., 2004; Rodgers et al., 2011; van den Berg et al., 2002; Yamamiya et al., 2008).

Another useful theory in understanding body image is Fredrickson and Roberts's (1997) objectification theory, which is the belief that the female body is constructed as an object meant to be looked at by society. This experience of objectification can cause women to adopt this behaviour towards themselves and others, as they are socialised into it (Fredrickson & Roberts, 1997). This theory posits that as women become conditioned to society's expectations for their bodies, they begin to view their physical selves as objects to be measured, evaluated, and valued through the eyes of others (Fredrickson & Roberts, 1997). Objectification

theory is a useful tool to understand the detrimental impact of societal objectification of women's bodies.

Moving beyond pathological approaches to body image, Piran's (2017) developmental theory of embodiment emphasises body connection, agency, self-care, and freedom from objectification. According to this theory, a woman with a positive body relationship views it as central to her identity, with self-esteem rooted in physical capabilities rather than appearance, helping her better manage body image challenges. Similarly, Wood-Barcalow et al.'s (2010) holistic body image model, based on research with young women, identifies key features of positive body image: appreciation of body function, acceptance from others, self-love, spirituality, positive social circles, inner positivity, and a broad view of beauty.

Wood-Barcalow et al.'s (2010) model highlights how individuals actively shape their body image by choosing positive body image peers and creating supportive environments. While embodiment experiences can foster positive body image by emphasising mind–body connection and functionality over appearance (Menzel & Levine, 2011; Piran, 2016) and has been explored in outdoor recreation studies (Foland, 2009; Kiewa, 2000; Mitten & D'Amore, 2017; Newbery, 2003, 2004; Parsons, 2010; West-Smith, 1997, 2000; Woodruff, 2009), the relationship between outdoor physical activity and women's body perception remains understudied.

A positive body image transcends neutral or negative body perception, with distinctive attributes beyond appearance and weight considerations (Tylka & Wood-Barcalow, 2015; Webb et al., 2015), emphasising body value, broad beauty concepts, healthy behaviours, and mindful body connection while protecting well-being (Menzel & Levine, 2011; Webb et al., 2015; Wood-Barcalow et al., 2010). The concept of functionality appreciation, defined as "appreciating, respecting, and valuing the body for what it can do" (Alleva et al., 2017, p. 29), links to improved body image (Tylka & Wood-Barcalow, 2015). While Alleva and Tylka (2021) suggested that physical activities in natural settings may enhance positive body image by shifting focus from appearance to functionality, the role of nature-based physical activity in this relationship remains unexplored.

Body appreciation is characterised by the acceptance, cultivation of positive opinions about, and respect for the body (Avalos et al., 2005). It is a crucial element of positive body image, emphasising the acceptance and celebration of one's unique physique (Tylka & Wood-Barcalow, 2015). Furthermore, body appreciation entails accepting, respecting, and forming a favourable opinion of one's own body while rejecting unrealistic body ideals propagated by the media (Avalos et al., 2005). Other research (Swami et al., 2020; Webb et al., 2015) has highlighted body appreciation as a fundamental aspect of positive body image. Moreover, prior studies have demonstrated a direct link between body appreciation and nature exposure (Swami et al., 2019, 2020).

Recent research has demonstrated that natural environments benefit psychological functioning and body image (Bratman et al., 2021; Breault-Hood et al., 2016, 2017; Frumkin et al., 2017; Jimenez et al., 2021; Li et al., 2021). However, the relationship between outdoor physical activity, body appreciation, and functionality remains

unexplored. This chapter addresses this gap by presenting a holistic model of positive body image and outdoor physical activity.

Methodology

This chapter presents the qualitative component of a wider study exploring women's experiences with body appreciation, functionality appreciation, and outdoor physical activity (Breault-Hood, 2023). The research employed a mixed-methods approach, combining survey data with in-depth interviews. This chapter examines women's experiences with body appreciation and outdoor physical activity through qualitative analysis. Using Qualtrics surveys distributed via Facebook groups and snowball sampling, data were collected from $N = 533$ participants. From 250 survey volunteers, 40 were selected for in-depth interviews, demonstrating strong interest in the research topic.

The recruitment strategy for interviewees incorporated a balanced approach, combining elements of optional participation at the survey's conclusion and random sampling. As noted by Patton (2002), "There are no rules for sample size in qualitative inquiry" (p. 244), which guided the decision to cap the number of interviews at 40. Interviews were conducted via Zoom, scheduled for 30-min slots using the Calendly app, allowing participants to choose their preferred time. With participants' consent, interviews were digitally recorded and subsequently transcribed using Otter.ai, an automatic online transcription assistant.

Semistructured interviews explored participants' relationships with outdoor physical activity and its impact on body image and femininity. Questions covered the outdoor activity's importance, its effect on body appreciation, challenges to feminine constructs, and participants' personal journeys. Interviewing techniques included probing questions, empathetic listening, and paraphrasing.

The interviewee demographic represented a diverse cross-section of women. Ages ranged from 18 years to over 65 years, with nationalities including North American (18), Australian (17), European (two), and New Zealander (two). Participants reported varying financial situations, from moderately well-off to extremely well-off. This diversity extended to their engagement with outdoor activities, with reported durations ranging from under 15 min to over 2 h, and frequencies varying from daily to once every 3 months. The majority of activities were performed at moderate intensity.

Using reflexive thematic analysis (Braun & Clarke, 2023), themes and patterns were inductively derived from the data. The seven-step analysis process—from transcription to finalisation—was applied to both questionnaire responses and interview data, revealing both surface and deeper meanings. These findings will be discussed in the following section.

Findings and Discussion: A Holistic Model of Positive Body Image and Outdoor Physical Activity

Building upon Wood-Barcalow et al.'s (2010) holistic body image model and Piran's (2017) developmental theory of embodiment, the forthcoming findings and discussions present a model that integrates evidence from participants' reflections and experiences. This model seeks to capture the interplay between individual perceptions, societal influences, and environmental factors, providing insight into the complexities of body image formation and the strategies individuals employ to navigate and shape their sense of self (in relation to body image).

Discussed in Wood-Barcalow et al.'s (2010) model is the notion that participants not only absorb information from a variety of sources but actively transform their environment to promote personal growth. This concept emphasises the active role individuals play in shaping their body image experience. For instance, participants reported choosing to interact with others who have positive body image, mentoring younger individuals about healthy lifestyle choices, and creating environments that support their positive body image. This reciprocal interaction between the individual and their environment is a key feature of the model, highlighting the dynamic nature of positive body image development and maintenance (Wood-Barcalow et al., 2010).

Piran's (2017) theory examines how individuals inhabit their bodies, emphasising body comfort, positive self-talk, physical functionality, and resistance to appearance ideals. Together with Wood-Barcalow et al.'s (2010) model, this work provided the foundation for developing a holistic model of positive body image in outdoor physical activity. The model positions outdoor activity as a catalyst for cognitive shifts in body appreciation, examining diverse factors through women's experiences and perspectives. This approach revealed common themes around body appreciation and functionality while exploring gendered expectations and sociocultural barriers.

The Holistic Model of Positive Body Image and Outdoor Physical Activity connects personal experiences, self-perception, outdoor interactions, environmental influences, and societal dynamics. This framework demonstrates how outdoor physical activity positively influences body image, with practical applications for interventions, policy development, and educational initiatives promoting women's engagement in outdoor activities.

The Holistic Model of Positive Body Image and Outdoor Physical Activity encompasses eight principles (see Fig. 15.1). Conceptually, the model evidences self-acceptance (1), empowerment (2), mind–body connection (3), functionality appreciation (4), gratitude for the outdoors (5), environmental influences (6), self-discovery (7), and sociocultural influences (8) as guiding principles leading to positive body image. This holistic approach nurtures an appreciation for the body's abilities, prioritising functionality and the joy of movement over appearance.

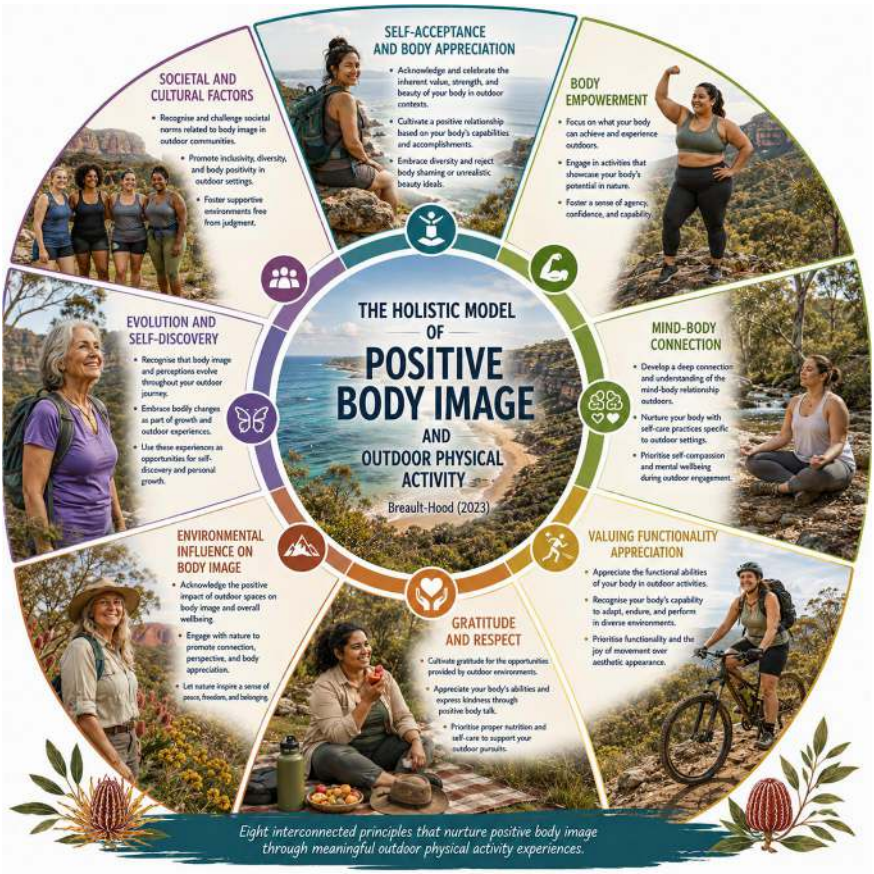


Fig. 15.1 Holistic model of positive body image and outdoor physical activity (the lead author developed this figure)

The model operates on two interconnected levels to foster positive body image through outdoor physical activity. At the first level, eight elements work together: self-acceptance, empowerment, mind–body connection, functionality appreciation, gratitude for the outdoors, environmental influences, self-discovery, and sociocultural influences. These elements create a framework promoting positive body perception and outdoor engagement. At the second level, outdoor experiences strengthen these elements—for example, outdoor activities provide opportunities for self-discovery and nature connection, which enhance self-acceptance and mind–body awareness. This creates a synergistic cycle that promotes holistic wellbeing and positive body image.

This chapter not only explains the Holistic Model of Positive Body Image and Outdoor Physical Activity but also illustrates how the data directly informed its

development. By showcasing how each principle aligns with real-world findings, it underscores the model's relevance and its potential to contribute meaningfully to the field.

Self-Acceptance and Body Appreciation

The narratives shared by many women in this study centred around pathways to self-acceptance, contributing to a holistic model of body image where self-acceptance holds a pivotal role:

- acknowledging and celebrating the inherent value, strength, and beauty of one's body in the context of outdoor physical activity;
- cultivating a positive relationship with the body based on its capabilities and accomplishments in outdoor settings;
- embracing diversity and rejecting body shaming or unrealistic beauty ideals within the outdoor activity community.

In recognising the changes that accompany ageing, a participant disclosed, "There are parts of my body that I've always wanted to change … but as I'm getting older, I have found an acceptance in what my body can do." This acceptance evolved into a celebration of her body's capabilities: "I have learned to appreciate my strong quads for bike riding and the soft curves that have carried three children." The transition from desiring changes to valuing functional aspects signifies a profound shift in self-perception, emphasising the journey towards self-acceptance.

Another participant shared a resilient journey, stating, "I'm not media traditionally beautiful. I've had to work hard to accept I'm not tiny, but I can still be fit and strong and climb and hike." Her resilience embodies the empowerment found in embracing personal strength and capabilities, thereby challenging conventional notions of beauty and emphasising the importance of self-acceptance.

Body Empowerment

Existing research supports the notion that individuals involved in outdoor physical activity demonstrate heightened levels of confidence, empowerment, and positive body image (refer to Breault-Hood et al., 2016; 2017; Hovey et al., 2016; Korpela et al., 2014; McDermott, 2004; Mitten & D'Amore, 2017, 2018; Mitten & Woodruff, 2010; Whittington, 2020). This resonance is mirrored in the perspectives shared by the women who participated in the current study. A holistic approach of body empowerment encompasses

- focusing on what the body can achieve and experience in outdoor physical activities, such as hiking, running, or exploring nature;
- engaging in activities that empower (participating in outdoor activities leads towards a feeling of self-empowerment) and showcase the body's potential in outdoor environments.

Participating in outdoor adventures emerged as a potent catalyst for personal growth and body empowerment. A participant acknowledged the impact of outdoor activities, stating, "I think doing more activities in the woods and outdoors—particularly becoming comfortable going out on adventures by myself—has helped me 'come into my own' and enjoy my body and who I am as a person." This declaration encapsulates the essence of body empowerment, illustrating the influence of outdoor activities on an individual's self-perception. It emphasises the concept that being at ease in one's body is a form of empowerment, cultivating a positive connection with oneself.

The purposeful involvement in outdoor activity evolved into a vehicle for developing a positive relationship with the body, contributing to empowerment, as expressed by a survey participant: "I think the appreciation I have for my body is inseparable from my outdoor activities—they feed each other." This response implies that appreciating one's body is an active process intertwined with the intentional choice to participate in outdoor activities. This active appreciation serves as a form of empowerment, where individuals consciously acknowledge and value their bodies.

Mind–Body Connection

In the context of outdoor physical activity, a primary focus was on fostering a deep connection and understanding of the mind–body relationship. This connection involves nurturing the body through self-care practices tailored to outdoor settings, including proper nutrition and recovery strategies, while prioritising self-compassion, kindness, and mental wellbeing. The mind–body connection aspect of the model includes

- developing a deep connection and understanding of the mind–body relationship in the context of outdoor physical activity;
- nurturing the body through self-care practices specific to outdoor setting;
- prioritising self-compassion, kindness, and mental wellbeing while engaging in outdoor activities.

This survey participant demonstrated a profound understanding of her body's requirements, choosing rest over potential injuries with a self-compassionate approach:

> I am very aware of what my body needs to function well, and I am more inclined to rest now rather than push through and cause injuries if I am not feeling the best. It took a long time for me to be content with the body I have been given. I am much kinder and engage in more low-impact activities, lots of massage, and recover now too.

This response, "I am evolving daily into a heart-centred space, guided by my need to practise yoga, be in nature, feel community-mindedness and setting health goals," highlights the interconnected nature of physical, mental, and emotional aspects. It emphasises the pivotal role of self-compassion in cultivating a harmonious and nurturing relationship with her body.

Another woman actively engaged in outdoor activities with a self-compassionate commitment to her body noted,

> I am aware that at the age of 62, I am more engaged with physical activity outdoors than many women my age. There are many more outdoor adventures to be had, and I know that continuing to care for my body well through good nutrition, yoga, specific exercises, and a positive attitude will allow me to continue to ride & hike for some time yet.

The findings in this study validate the importance of self-compassion and propose that kindness plays a role in shaping how outdoor physical activity impacts an individual's perception of their body's functionality and overall appreciation.

Valuing Functionality Appreciation

In this model, an emphasis is placed on recognising the functional capabilities of the body. This facet of the model encompasses

- valuing and appreciating the functional abilities and capacities of the body during outdoor physical activity;
- recognising the body's capabilities to adapt, endure, and perform in various outdoor environments and challenges;
- emphasising functionality and the joy of movement over aesthetic appearance in the context of outdoor engagement.

One participant expressed profound appreciation, stating, "This body just kept kicking ass—it got up every day and worked for me, and I was so grateful for that." In this context, the narrative shifts away from superficial aesthetics, placing a spotlight on the body's relentless functionality as a source of empowerment.

Another participant offered a refreshing perspective, viewing her body through a lens of practicality rather than conforming to conventional beauty standards:

> I am not beautiful. It doesn't bother me. Beauty isn't something I aspire to or something I value in myself. I'm generally practical, and I regard my body the way I'd regard a pair of hiking boots: it does the job, it does it pretty well, it's tough enough, and if it's not "pretty," it doesn't matter. My body is a tool for living, and I'm quite pleased with what it's capable of.

Embracing this viewpoint, she likened her body to a pair of hiking boots, valuing its ability to perform, endure, and fulfil its purpose—a tool for living that she is content with.

The distinction between body functionality and body image lies in the body's capabilities, with functionality appreciation emerging at the nexus where individuals reflect on their thoughts, feelings, and perceptions about what their bodies can

accomplish, extending beyond mere awareness of functionality (Alleva & Tylka, 2020). This concept gains further depth as a participant recognised the role of functionality in shaping body image:

> For me, body image is influenced a lot by function. I don't care too much about what size I am; I am more concerned about being fit and healthy. When I am fit and healthy, and my body is strong, etc., this does have positive impacts on the way I feel about my body.

This narrative intertwined body image with notions of health and fitness, emphasising a positive association between a robust, healthy body and a positive self-perception. The emphasis on strength and accomplishment over appearance is echoed in another participant's reflection: "I valued the strength and abilities of my body, what I could demand of it, and what I accomplished, more than its appearance or weight." This perspective reflects a deliberate choice to prioritise the body's capabilities as indicators of functional appreciation.

Gratitude and Respect

According to Homan and Tylka (2018), gratitude plays a significant role in fostering body appreciation. This is achieved, in part, by diminishing the degree to which individuals tie their self-worth to their appearance, rely on the approval of others, or engage in social comparisons based on appearance (Homan & Tylka, 2018). A holistic approach to promoting positive body image revolves around fundamental principles, including

- cultivating gratitude for the opportunities provided by the outdoor environment and expressing appreciation for the body's ability to partake in outdoor activities;
- prioritising proper nutrition, nourishment, and overall wellbeing to support optimal performance and enjoyment of outdoor pursuits;
- practising self-respect, self-care, and positive body talk within the context of outdoor physical activity.

Acknowledging the potential for improvement compared to past achievements, a participant found contentment in her body's ability to engage in most activities:

> I am very grateful for what my body can do. I have times when my body can't do those things due to injury, and once I recover, I am very happy to have my body's capabilities back. … Other aspects of my life require my attention, and they give me joy and satisfaction as well. One day I will shift my focus back to my body, and it will take me to amazing places. In the meantime, I will look after it and do it until I am ready (or retire!).

Expressing gratitude for her body's capabilities, this woman reflected on periods of injury and recovery. Despite acknowledging room for improvement, she found happiness in the present abilities and acknowledged the multifaceted joys in her life. Her commitment to caring for her body extended to future adventures.

Another participant maintained deep gratitude for her body's fundamental abilities, highlighting mobility, strength, and independence as sources of thankfulness: "My body has many aches and injuries, but I am incredibly thankful for my mobility, strength, and independence." Despite those obstacles, there was a strong appreciation for the aspects of her body that continued to function well.

Environmental Influence on Body Image

A holistic model rooted in the association between self-reported nature exposure and various indicators of positive body image, including both body appreciation and functionality appreciation, asserts the propositions that

- acknowledging the positive impact of outdoor spaces on body image and overall wellbeing is important;
- engaging in physical activities in natural environments to promote a sense of connection with nature and enhance body appreciation resonates with women.

A significant shift in body image was attributed to this individual's engagement with outdoor activities as she reflected, "This had shifted positively in 18 months ... I felt really good in my body in the moment, and it was because I was moving well, being outside, and sleeping".

Another individual spoke to her experience stating, "Being outdoors and with nature helps renew my energy that was depleted by daily living in the modern world, filled with screens; constant contact via phones, and the rushed speed expected within work and family life." This quote illustrates how the demands of modern life, characterised by constant screen exposure, unceasing communication via phones, and the fast-paced expectations within work and family life, can drain and deplete one's energy. In contrast, spending time outdoors and immersing oneself in a natural environment offers a contrast to this modern, hectic lifestyle.

Further emphasising this theme, another participant shared a powerful experience of nature's impact on her wellbeing and body image:

> The more often and longer I spent in nature, especially when fully immersed, the better and stronger I felt. The weight of the world lifted from my shoulders, I relaxed and laughed more, and my body came alive. The longer I ventured, the stronger I became, and I cherished journeys. Multi-day hikes through natural environments were my passion, and I consistently returned feeling better about everything, including myself.

This narrative highlights the cumulative and enduring effects of sustained engagement with nature. It demonstrates how extended exposure to the natural world serves as a wellspring of continual renewal, enhancing overall wellbeing, body appreciation, and resilience. This account strongly resonates with the proposition that engaging in physical activities in natural

environments promotes a sense of connection with nature and enhances body appreciation among women.

Adding depth to this perspective, another participant articulated the intricate relationship between her engagement with nature and her approach to self-care and body image:

> I strongly believe that there is a cyclical relationship between the way we view nature and our place within it, and the respect we give our own bodies. I know that when I honour the health and vitality of my own body I feel more harmony with the natural world. There are ways of living which detract from this connection with nature. When I spend a lot of time in nature, the idea of being critical of my own body fades away somewhat however only if I am being healthy in other ways too.

This reflection illuminates the reciprocal nature of the relationship between body image and connection with the natural world. It suggests that time spent in nature not only fosters a more positive body image but also encourages healthier lifestyle choices, creating a virtuous cycle of wellbeing and self-appreciation. These testimonials reinforce the holistic model's propositions, highlighting the positive impact of outdoor spaces on body image and wellbeing. They demonstrate how engaging with nature through physical activities fosters a connection that enhances women's body appreciation, supporting the validity of this approach.

Evolution and Self-Discovery

This part of the holistic model developed due to storytelling by women in this study who spoke about their different attitudes towards their bodies during different life transitions. It includes

- acknowledging that body image and perceptions can evolve and change throughout different stages of engaging in outdoor physical activity;
- embracing the changes and fluctuations of the body as part of the journey in outdoor pursuits;
- using experiences in outdoor environments as opportunities for self-discovery, personal growth, and redefining one's relationship with the body.

One woman highlighted the increased focus on her body, the frequent comments received, and the internal struggle between staying active and conforming to societal norms:

> I was 37 weeks pregnant, and this was my first pregnancy, so focus on my body had become a lot more front of mind for me as I observed and experienced so many new changes. For me, pregnancy had also resulted in others commenting on my body (as well as my exercise habits) frequently, which had been somewhat stressful. I had remained physically active throughout my pregnancy, and this had helped my confidence as I approached birth, feeling fit and strong.

This woman's commitment to staying active empowered her, emphasising the importance of finding a balance between wellbeing and societal pressures.

Balancing acceptance of one's postpartum body with the commitment to outdoor activities presents a dual challenge for women following childbirth. Reflecting on her own journey, one woman shared, "At eight months postpartum, I grappled with body image issues. The longing to reclaim my pre-pregnancy physique and dive into outdoor activities was palpable."

Motherhood posed unique challenges for women's engagement in outdoor activities, impacting their body image. One mother, reflecting on the birth of her daughter, struggled with reduced activity levels and body dissatisfaction: "After having my daughter, I was at my heaviest and struggled with body issues. It was hard to feel good when I couldn't regain my previous level of outdoor activity." Another woman in the study recognised the importance of cultivating a healthy relationship with her body, especially as a role model for her daughter. She expressed,

> After having children, and especially my daughter who is now 8, it is so important for me to have a healthy relationship with my body to show my daughter that it's not about what people think is beautiful. The things our bodies do for us are what make them beautiful.

Age often brings a heightened awareness of our bodies, as exemplified by some of the following narratives. One individual reflected, "In my 50s, I realised I couldn't take my body for granted anymore after years of sedentary work. To continue bushwalking, I needed to give it more respect and care." This shift in perspective signifies an evolving relationship with the body, valuing proactive care and adjustments to meet its changing needs.

Another participant in their 70s reflected on feeling more at ease with their body than ever before, attributing this comfort to a diminished concern about others' opinions:

> I am in my seventies and am possibly more at ease with my body than ever before, I guess I no longer worry what others think. For me as long as I am healthy and can do the things I want to do that's good enough. Loving my body for what it is has made me happiest.

She expressed a shift in priorities, emphasising that being healthy and able to pursue desired activities was sufficient for them. The statement suggests a liberation from societal expectations, and the speaker found happiness in accepting and appreciating their body for what it was.

Societal and Cultural Factors

This model champions the promotion of inclusivity, diversity, and positive body image in outdoor settings, while nurturing a supportive and accepting environment that inspires individuals to embrace their bodies and engage in outdoor activities free from judgement or comparison. It includes

- recognising and challenging societal norms and cultural expectations related to body image within the outdoor activity community;

- promoting inclusivity, diversity, and body positivity in outdoor settings;
- fostering a supportive and accepting environment that encourages individuals to embrace their bodies and engage in outdoor activities without judgement or comparison.

One participant's experience with biking on technical tracks underlined the sense of achievement and competence that outdoor activities can instil: "When I'm bike riding on a technical track, I get a sense of achievement and competence. This is a place where my body can do something amazing and enjoy it." Another participant, reflecting on the impact of outdoor experiences noted,

> What I think I've noticed is that, like, I'm stronger and more capable than I think I am. And some of the barriers that I've faced in the past are, you know, not thinking I was strong enough to do something, or that my body couldn't get me, you know, to point A or B.

This realisation prompted a shift in perception, acknowledging greater strength and capabilities, allowing her to break free from societal constraints.

Another participant found inspiration and motivation in observing others, noting, "When I'm out mountain biking, I'd see women do things that challenged them and that would make them feel capable, and me too." Witnessing women defy societal expectations motivated her to do the same, empowering her to break free from cultural constraints and embrace her capabilities.

In outdoor communities, participants established deep connections and supportive subcommunities that celebrated personal growth and enjoyment over superficial judgements. One participant highlighted this empowering dynamic:

> I think there's more women in the outdoor community that are more accepting of each other and more encouraging of each other rather than being judgemental. People who walk down the street normally get looked at and people think, "what are they wearing?" But women in the outdoors look at each other differently. And I think they encourage each other differently. And I think as a group, we can do a lot in the way of not requiring us to look or be a certain way to be able to succeed in the activity we're trying to do.

These communities serve as safe spaces where women can freely pursue their passions and experience personal achievements.

Limitations and Future Directions

The study's limitations include sample size and demographic constraints, potentially affecting generalisability. The cross-sectional design limits causal inferences and longitudinal insights. Online data collection may have favoured participants from privileged socioeconomic backgrounds. Social desirability bias and the "halo effect" could have influenced responses. The exclusive use of English and the absence of disability-related questions limit inclusivity. Despite these constraints, the research uncovered rich and relevant themes, providing a foundation for future studies.

Future research should address the lack of diversity in body image studies. Chan et al. (2023) suggested using tailored measures for specific ethnic groups and exploring how resistance against discrimination influences positive body image outcomes. Bell (2019) advocated for including people with disabilities in nature experience studies, challenging ableist assumptions in outdoor discourses. Martin et al. (2023) highlighted the importance of examining outdoor leisure identity across diverse populations, particularly those who may not identify as "outdoorsy" despite their involvement in outdoor activities.

There's a need to explore the experiences of LGBTQIA + individuals in outdoor physical activities, employing gender-based and intersectional analyses. Argus (2018) revealed that mainstream outdoor programs often lack explicit support for LGBTQ individuals, emphasising the importance of creating inclusive environments. Future research should investigate the structural, institutional, and psychological dimensions of outdoor identities across various demographic groups.

The field is moving towards more inclusive and diverse research. Breunig (2021) challenged the dominant paradigm in outdoor recreation, calling for a shift towards prosocial and proenvironmental professional practices. Russell et al. (2013) emphasised the importance of adopting an intersectional perspective, considering the interplay between body size and factors such as gender, ethnicity, class, sexuality, and ability. This approach can contribute to developing positive and inclusive strategies that celebrate diverse body sizes and foster healthy relationships between individuals and outdoor activities.

Conclusion

The development of a holistic model of positive body image within outdoor physical activity holds significant implications for research and practice. This model contributes to the emerging field of positive body image research by emphasising the role of outdoor physical activity in fostering body appreciation and functionality among women, and challenges societal norms and expectations. From a practical viewpoint, the model emphasises the importance of creating supportive environments that encourage women to participate in outdoor activities. Recognising the power of outdoor physical activity, practitioners can develop opportunities to promote positive body image and empower women.

At the core of this model is the recognition and celebration of the body's inherent value and strength in outdoor physical activity. By emphasising capabilities and achievements while rejecting body shaming and unattainable beauty standards, the model fosters a positive relationship with the body. This comprehensive approach revolves around acknowledging the body's resilience, adaptability, and performance in various natural environments, prioritising functionality and the joy of movement. It nurtures an appreciation for the body's abilities, promoting a holistic sense of self. The model is inherently adaptable and inclusive, recognising that the definition of capability and achievement is subjective. Therefore, it

embraces individuals of all abilities, including those with disabilities or physical impairments, as it does not adhere to a singular norm.

An important aspect is the acknowledgment of the influence of outdoor spaces and physical activity on body image and overall wellbeing. Understanding the positive impact of nature and diverse experiences allows individuals to cultivate self-belief, personal growth, and resilience, reshaping perceptions of their own bodies. The model recognises that body image and self-perceptions can evolve over time through engaging in outdoor physical activity, celebrating these changes as integral to the outdoor journey.

Furthermore, the model suggests that societal norms and cultural expectations related to body image within the outdoor activity community should be acknowledged and challenged. Advocating for inclusivity, diversity, and body positivity creates an environment encouraging individuals to embrace their bodies and participate in outdoor activities free from judgement or comparison. This model represents a narrative of empowerment, self-discovery, and societal change. The significance extends beyond academia to practical applications, emphasising the need for inclusive and supportive environments promoting women's participation in outdoor physical activity, highlighting policies and programs fostering body acceptance and challenging restrictive gender norms. Practitioners, including those in outdoor education, outdoor recreation, health professionals, and others can design interventions promoting positive body image and empowering women with confidence and authenticity.

References

Alleva, J. M., & Tylka, T. L. (2020). Body functionality: A review of the literature. *Body Image*, *36*, 149–171. https://doi.org/10.1016/j.bodyim.2020.11.006

Argus, S. (2018). *Girl scout voices: Describing ecological identity*. Prescott College.

Avalos, L. C., Tylka, T. L., & Wood-Barcalow, N. (2005). The body appreciation scale: Development and psychometric evaluation. *Body Image*, *2*, 285–297. https://doi.org/10.1016/j.bodyim.2005.06.002

Bell, S. L. (2019). Experiencing nature with sight impairment: Seeking freedom from ableism. *Environment and Planning E: Nature and Space*, *2*(2), 304–322. https://doi.org/10.1177/2514848619835720

Bratman, G. N., Olvera-Alvarez, H. A., & Gross, J. J. (2021). The affective benefits of nature exposure. *Social and Personality Psychology Compass*, *15*(8), e12630. https://doi.org/10.1111/spc3.12630

Braun, V., & Clarke, V. (2023). Thematic analysis. In *APA handbook of research methods in psychology: Research designs: Quantitative, qualitative, neuropsychological, and biological* (2nd ed., Vol. 2, pp. 65–81). American Psychological Association. https://doi.org/10.1037/0000319-004

Breault-Hood, J. (2023). *Living in our bodies: The influence of outdoor physical activity on women's positive body image* [Doctoral dissertation, Western Sydney University]. Western Sydney University ResearchDirect. https://researchers.westernsydney.edu.au/en/studentTheses/living-in-our-bodies

Breault-Hood, J., Gray, T., Truong, S., & Ullman, J. (2016, July 4–8). The impact of outdoor education on the body image and self-efficacy of adolescent girls. In *Book of Abstracts: 7th International Outdoor Education Research Conference* (pp. 143-144). Cape Breton University.

Breault-Hood, J., Gray, T., Truong, S., & Ullman, J. (2017). Women and girls in outdoor education: Scoping the research literature and exploring prospects for future body image enquiry. *Research in Outdoor Education*, *15*(1), 21–46. https://doi.org/10.1353/roe.2017.0002

Breunig, M. (2021) Topographies of hope: Social justice, outdoor environmental education, and accomplice-ship. In G. Thomas, J. Dyment, & H. Prince (Eds.), *Outdoor environmental education in higher education. International explorations in outdoor and environmental education* (Vol. 9, 283–294). Springer. https://doi.org/10.1007/978-3-030-75980-3_24

Chan, J., Craddock, N., & Swami, V. (2023). Resistance and empowerment against racism: A preregistered study of associations with body appreciation and body acceptance by others in racialised minority adults in the United Kingdom. *Body Image*, *46*, 1–8. https://doi.org/10.1016/j.bodyim.2023.04.010

Foland, J. L. (2009). *Body image and body valuation in female participants of an outdoor education program* [Master's thesis, SUNY College at Cortland]. https://digitalcommons.cortland.edu/theses/103

Fredrickson, B. L., & Roberts, T. A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, *21*(2), 173–206. https://doi.org/10.1111/j.1471-6402.1997.tb00108.x

Frumkin, H., Bratman, G. N., Breslow, S. J., Cochran, B., Kahn Jr, P. H., Lawler, J. J., Levin, P. S., Tandon, P. S., Varanasi, U., Wolf, K. L., & Wood, S. A. (2017). Nature contact and human health: A research agenda. *Environmental Health Perspectives*, *125*(7), 075001. https://doi.org/10.1289/EHP1663

Galfano, G., & Swami, V. (2015). Cultural influences on body size ideals: Unpacking the impact of westernization and modernization. *European Psychologist*, *20*(1), 44–51. https://doi.org/10.1027/1016-9040/a000150

Hennigan, K. (2010). Therapeutic potential of time in nature: Implications for body image in women. *Ecopsychology*, *2*(3), 135–140. https://doi.org/10.1089/eco.2010.0017

Homan, K. J., & Tylka, T. L. (2018). Development and exploration of the gratitude model of body appreciation in women. *Body Image*, *25*, 14–22. https://doi.org/10.1016/j.bodyim.2018.01.008

Hovey, K., Foland, J., Foley, J. T., Kniffin, M., & Bailey, J. (2016). Predictors of change in body image in female participants of an outdoor education program. *Journal of Outdoor Recreation, Education, and Leadership*, *8*(2), 200–208. https://doi.org/10.18666/JOREL-2016-V8-I2-7698

Jimenez, M. P., DeVille, N. V., Elliott, E. G., Schiff, J. E., Wilt, G. E., Hart, J. E., & James, P. (2021). Associations between nature exposure and health: A review of the evidence. *International Journal of Environmental Research and Public Health*, *18*(9), 4790. https://doi.org/10.3390/ijerph18094790

Johnson, S. M., Edwards, K. M., & Gidycz, C. A. (2015). Interpersonal weight-related pressure and disordered eating in college women: A test of an expanded tripartite influence model. *Sex Roles*, *72*, 15–24. https://doi.org/10.1007/s11199-014-0442-0

Keery, H., van den Berg, P., & Thompson, J. K. (2004). An evaluation of the Tripartite Influence Model of body dissatisfaction and eating disturbance with adolescent girls. *Body Image*, *1*(3), 237–251. https://doi.org/10.1016/j.bodyim.2004.03.001

Kiewa, J. (2000). Outdoor adventure and body image: A change in focus. In L. West-Smith (Ed.), *Body stories: Research and intimate narratives on women transforming body image in outdoor adventure* (11–24). Adventurehaven Press.

Korpela, K., Borodulin, K., Neuvonen, M., Paronen, O., & Tyrväinen, L. (2014). Analyzing the mediators between nature-based outdoor recreation and emotional well-being. *Journal of Environmental Psychology*, *37*, 1–7. https://doi.org/10.1016/j.jenvp.2013.11.003

Li, H., Hafeez, H., & Zaheer, M. A. (2021). COVID-19 and pretentious psychological well-being of students: A threat to educational sustainability. *Frontiers in Psychology*, *11*, 628003. https://doi.org/10.3389/fpsyg.2020.628003

Martin, A. L., Adams, A. E., & Stein, T. V. (2023). Equity, identity, and representation in outdoor recreation: "I am not an outdoors person. *Leisure Studies*, 1–14.

McDermott, L. (2004). Exploring intersections of physicality and female only canoeing experiences. *Leisure Studies*, *32*, 283–301.

Menzel, J. E., & Levine, M. P. (2011). Embodying experiences and the promotion of positive body image: The example of competitive athletics. In R. M. Calogero, S. Tantleff-Dunn, & J. K. Thompson (Eds.), *Self-objectification in women: Causes, consequences, and counteractions* (pp. 163–186). American Psychological Association. https://doi.org/10.1037/12304-008

Mitten, D., & D'Amore, C. (2017) The relationship of women's body image and experience in nature. In D. A. Vakoch & S. Mickey (Eds.), *Women and nature?: Beyond dualism in gender, body, and the environment* (Chapter 6, pp. 96–116). Routledge.

Mitten, D., & D'Amore, C. (2018). The nature of body image: The relationship between women's body image and physical activity in natural environments. In D. A. Vakoch & S. Mickey (Eds.), *Women and nature? Beyond dualism in gender, body, and the environment* (1st ed., pp. 96–116). Routledge. https://doi.org/10.4324/9781315167244-7

Mitten, D., & Woodruff, S. (2010). The impact of short-term adventure experiences on body image perceptions of women over 40. *Journal of Experiential Education*, *32*(3), 322–326. https://doi.org/10.1177/105382590903200320

Newbery, L. (2003). Will any/body carry that canoe? A geography of the body, ability, and gender. *Canadian Journal of Environmental Education*, *8*(1), 204–216.

Newbery, L. (2004). Hegemonic gender identity and outward bound: Resistance and re-inscription? *Women in Sport & Physical Activity Journal*, *13*(1), 36–50.

Parsons, L. A. (2010). *Adventures in body satisfaction: The affect of adventure recreation on female's body image*. Unpublished paper.

Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). SAGE.

Piran, N. (2016). Embodied possibilities and disruptions: The emergence of the experience of embodiment construct from qualitative studies with girls and women. *Body Image*, *18*, 43–60. https://doi.org/10.1016/j.bodyim.2016.04.007

Piran, N. (2017). *Journeys of embodiment at the intersection of body and culture: The developmental theory of embodiment*. Academic Press.

Rodgers, R., Chabrol, H., & Paxton, S. J. (2011). An exploration of the tripartite influence model of body dissatisfaction and disordered eating among Australian and French college women. *Body Image*, *8*(3), 208–215. https://doi.org/10.1016/j.bodyim.2011.04.009

Russell, C., Cameron, E., Socha, T., & McNinch, H. (2013). "Fatties cause global warming": Fat pedagogy and environmental education. *Canadian Journal of Environmental Education*, *18*, 27–45.

Swami, V., Barron, D., Hari, R., Grover, S., Smith, L., & Furnham, A. (2019). The nature of positive body image: Examining associations between nature exposure, self-compassion, functionality appreciation, and body appreciation. *Ecopsychology*, *11*(4), 243–253. https://doi.org/10.1089/eco.2019.0019

Swami, V., Barron, D., Todd, J., Horne, G., & Furnham, A. (2020). Nature exposure and positive body image: (Re-)examining the mediating roles of connectedness to nature and trait mindfulness. *Body Image*, *34*, 201–208. https://doi.org/10.1016/j.bodyim.2020.06.004

Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment, and treatment of body image disturbance*. American Psychological Association. https://doi.org/10.1037/10312-000

Tiggemann, M. (2011). Sociocultural perspectives on human appearance and body image. In T. F. Cash & L. Smolak (Eds.), *Body image: A handbook of science, practice, and prevention* (12–19). The Guilford Press.

Tylka, T. L., & Wood-Barcalow, N. L. (2015). The Body Appreciation Scale-2: Item refinement and psychometric evaluation. *Body Image*, *12*, 53–67. https://doi.org/10.1016/j.bodyim.2014.09.006

van den Berg, P., Thompson, J. K., Obremski-Brandon, K., & Coovert, M. (2002). The tripartite influence model of body image and eating disturbance: A covariance structure modeling investigation testing the mediational role of appearance comparison. *Journal of Psychosomatic Research*, *53*(5), 1007–1020. https://doi.org/10.1016/S0022-3999(02)00499-3

Webb, J. B., Wood-Barcalow, N. L., & Tylka, T. L. (2015). Assessing positive body image: Contemporary approaches and future directions. *Body Image*, *14*, 177–189. https://doi.org/10.1016/j.bodyim.2015.03.003

West-Smith, L. (1997). *Body image perception of active outdoorswomen: Toward a new definition of physical attractiveness*. University of Michigan.

West-Smith, L. (Ed.). (2000). *Body stories: Research & intimate narratives on women transforming body image in outdoor adventure*. Adventurehaven Press.

Whittington, A. (2020, February). *Gender: Does it matter?* [Paper presentation]. Wilderness Education Association International Conference, Three Lakes, WI, United States.

Wood-Barcalow, N. L., Tylka, T. L., & Augustus-Horvath, C. L. (2010). "But I like my body": Positive body image characteristics and a holistic model for young-adult women. *Body Image*, *7*, 106–116. https://doi.org/10.1016/j.bodyim.2010.01.001

Woodruff, S. K. L. (2009). *The impact of short-term adventure experiences on the body image of women over forty* [Doctoral dissertation, University of Utah]. ProQuest Dissertations & Theses Global.

Yamamiya, Y., Shroff, H., & Thompson, J. K. (2008). The tripartite influence model of body image and eating disturbance: A replication with a Japanese sample. *International Journal of Eating Disorders*, *41*(1), 88–91. https://doi.org/10.1002/eat.20444

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 16
Trail Tracing and Walking with Grief: A Story of Practice

Laura Engel

Sociocultural Positioning

As a tertiary-educated white woman with Irish heritage, my writing embodies a humanistic and person-centred positioning, which draws upon experiential, process-orientated, ecotherapeutic, and posttraumatic growth theories. Recognition of my privileged position as a European migrant in Australia, and deep gratitude, has encouraged me to actively seek out opportunities for social and environmental justice. A sense of deep connection to nature and the importance of this is central to my work and way of living. The lens through which I view the world is grounded first and foremost in my lived experience as a mother, a wife, a sister, a daughter, a friend. Further to this, my writing is influenced by my professional knowledge and skills as an accredited mental health social worker and schema therapist who has long worked in clinical mental health settings, supporting people struggling with addiction, eating disorders, trauma, and grief.

The extent of this heartbreak marks the great fierceness of my love. (January 2018)



Note. Illustration by the author, inspired by an unreferenced source.

L. Engel (✉)
Tracing Psychotherapy, Fremantle, Australia
e-mail: laura.engel@tracingpsychotherapy.com.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_16

Introduction

Trail tracing is a vision for grief support that reaches far beyond the four walls of a therapy room. Instead, we are taken outside and into the safe holding of nature, of Country, the enduring mother. This idea was seeded on the wild trails of the Kunanyi mountain where a mother, lost in grief, howled for her daughter and felt the earth hold her steady. On this same mountain, day after day, one step followed by another, she knew she could find her way to a lasting connection with the little daughter she had lost. For she was in the trees and on the spiralling trails that led her broken mother. With her tiny fingers tracing the way. Like a spirited light landing and holding fast.

Trail tracing: The Walking with Grief Pilot Project was delivered by the Grief Centre of Western Australia (GCWA) in partnership with Right Foot Forward WA (RFFWA) as part of the WA Hiking Participation Grants Program. Funded by the Department of Local Government, Sport and Cultural Industries (DLGSC), the grants program is aimed at growing participation in hiking in WA. The pilot allowed the author—*this mother*—and co-inquirers to explore trail tracing as a unique way to support the bereaved. The pilot included five half-day therapeutic walks in national or regional parks and three social connection events in local nature reserves. Led by mental health and outdoor professionals, therapeutic walks were capped at 12 people per walk. With each step taken, we acknowledged and honoured the wisdom of traditional custodians, the Aboriginal people of the Whadjuk Noongar clan, who know this Land, understand this Land, and in their connection with this Land have so much to teach us.

My Reason

> Like a whisper she landed in me. Unscripted. This was never part of our plan but somehow always written. (September 2018)

On 4 September 2018, I sat quietly. Above me, the morning sun reaching height in the sky. Beneath me, the activity of the earth a hum with movement, with the work of living, of creating, of dying. I have arrived here early, hiking my way up the steep bush trail from the train station. As I meet the bustle at Stanwell Tops—to the Eighth International Adventure Therapy Conference—I am surrounded by people setting up tents, calling out to one another, and settling in. A coming together of people from so many different places, and I know in this moment I have found my tribe.

It Has Been a Year

On 4 September, a year before this, *Anna ~ Mae* was stillborn in the Royal Hobart Hospital. A quiet I had never known, this place where birth meets death. An icy

cold front of snow landing on this day. As I traced her tiny hands with mine, a quiet promise made: "I will not let you fade—like threads I am held together by this sense of you" (4 September 2017).

Three months following that day, I, with my husband and two young sons, sailed for the mainland on our journey back to Fremantle, Western Australia. Hobart had been our home for 2 years, and it was now time for us to return from where we had come. The grief I experienced upon leaving Tasmania saw all my past grief encircling into being, compounding the fierce splitting I felt within myself at losing my child. My body could not hold her. I, her mother, could not hold her. There are few words to describe such a pain. My story of *Anna ~ Mae* has been told many times in many different ways. Through words, through tears, through creative spirit and the quiet knowing shared between those who are truly close. Through endless hours on mountain trails, and under weeping princess gums, on Country. Tracing enduring connections and emerging pathways. All these unfolding since *Anna* was quietly taken. As I remember that September day, I hold on to the silent promise made to her.

> To my little daughter, I will find beauty and life and energy and love in the space you have left, this is my promise. I will seek to make the space you opened more conscious, more able to grasp, filling this with the flood of light, lit by you. You will remain in the spiralling trails that were awakened in the quiet, still moment, you were taken from me. (4 September 2018)

Trail Tracing ~ My Gift

> Is it possible to ever heal a tear in your universe … to find the light again in dark places. (Naidoo, 2022, p. 2)

Might *Trail Tracing* become my gift to the little girl who never came earthside—an expression of my connection to her, forged in the sacred still. Through my own experience of being lost in loss and finding my way on mountain trails, I awakened a way of connecting with the natural world that was profoundly healing. This experience intuitively led me to Country, and then onto the literature of ecopsychology, ecotherapy, and the growing field of outdoor health in Australia. This process allowed for an important intersection between my personal and professional self. I have long worked in the intimate place of other people's pain. Close to their suffering. At home in their dark corners. Or so I thought. For too long, those of us who work in this business of mental health, work to solve, reframe, or fix. We can remain distant from others' pain in this way. We can become strangers to connection, catching people but never really attuning to them. For me, this truth fell upon me with such clarity in my own grief. The loneliness of emotional pain, particularly in the context of tragedy, is profound. "No one can reach me here" (September 2017). Losing *Anna* halted me in my tracks and dramatically shifted the course of things both personally and professionally. This has driven me to challenge what I know about therapy and subsequently shown me a different path.

The Groundwork

Grief

Grief is a universal experience. The universality of grief does not presume a shared experience in how one finds their way in this painful experience. Wilderness spirit, rewilding leader, mother, and Alone Australia winner, Gina Chick (2024) so beautifully writes of the loss of her precious little girl Blaise:

> Grief is really love; this is the truth I keep coming home to. This is how big my love for her is, this country of grief, this place where I live. It has no boundaries, and its horizon is a true one, one I can never catch. No matter how hard I run, it lopes endlessly further, the days rolling on their backs and the clouds floating carelessly above, dreaming of rain. (p. 390)

Grief will often disrupt the life narrative and call into question belief systems about the world and oneself in it. Sudden, unexpected, or traumatic loss can lead to existential questions about life and death and bring into focus the "meaning" or "shattered meaning" associated with these. There have been many theories that have sought to explain the process of grief and how one experiences it. Of particular interest to me were theories of grief that make space for our human potential for meaning making, growth, and empowerment. Towards the end of the past century, an emerging model of grieving, which significantly departed from earlier approaches, was exemplified in the publication of *Continuing Bonds: New Understandings of Grief* (Klass et al., 2014). This shift in paradigm proposed the purpose of grief is to create a continuing bond with the person who has died—a narrative story that organises and makes meaning of both the survivor's life after the death and the life of the person who died (Neimeyer & Stewart, 1996). Here, grieving is understood to be a psychosocial process in which a person reaffirms or reconstructs meaning that has been called into question by a radical disruption to their life story (Neimeyer et al., 2014). It entails making sense of the loss, reconstructing aspects of life directly affected by it, and integrating the significance of it into the life that develops after. In this way, grief may hold the delicate possibility of transforming emotional suffering into meaning-filled growth that considers ongoing connection—*continuing bonds*—with the person who has died.

I remember studying grief in the fourth year of my psychology degree. I recall thinking to myself, *How could anyone ever work with such pain?* So close to suffering, so close to the greatest pain there can be. I wondered, *How could you do this work and not immediately burn out?* I had an incredible lecturer and teacher in this unit who introduced me to concepts of posttraumatic growth and the intimate work of shock, trauma, tragedy, and of living on—the survivor's life that follows after. It was only when I experienced my own grief that I returned to some of these learnings, seeing now with different eyes. In grief there is no solving, there is no fixing or reframing. For me, there was only the choice to remain paralysed or the choice to make her short presence in me truly matter—to find the gifts, "for what

else can there be in the senselessness and pain of this loss?" (4 September 2018). I am reminded here of Gina Chick (2024) and her beautiful, poignant words:

> I can see why people crystallise around their pain … to end my days in a room of love and loss … but to choose this is to say my life is done, that without her I am over. I am not done. Life is precious, I can't squander mine. This child has touched and transformed me in ways I cannot fathom. Can she reach through me into the world, the two of us now blended into one? Surely that is what we are designed to do, transform our pain into art and give it to the world like a shout in the dark. (p. 390)

The possibilities for growth from suffering and crisis stretch far back into human history (Calhoun & Tedeschi, 2006). What is more recent, however, is the systematic focus by scholars in the fields of psychology, psychiatry, social work, and others on the phenomenon of posttraumatic growth, which is defined as the experience of meaningful change that an individual may experience as a result of the struggle with a traumatic event (Calhoun & Tedeschi, 2013, p. 6). I was curious about how one may continue to live, make space for, and integrate the suffering that comes from grief and loss. "For what else can there be but to find the beauty?" (4 September 2018). As trail tracing developed, it became grounded in continuing bonds (Klass et al., 2014), meaning reconstruction (Neimeyer, 2001; Neimeyer et al., 2011), posttraumatic growth (Calhoun & Tedeschi, 2013), and Tonkin's (1996, 2017) less documented Growing Around Grief model which resonated deeply with me and is situated in a similar theoretical space.

Growing Around Grief Model

> It is not that you will ever grow smaller, but rather, it is I that will expand to grow around you. (September 2022)

The Growing Around Grief model offers a simple visual representation of a process of grieving over time (Tonkin, 2017). In Fig. 16.1, the first circle represents the grieving person, and the shading represents their grief. Following loss, grief is all-consuming. The second circle represents the general societal

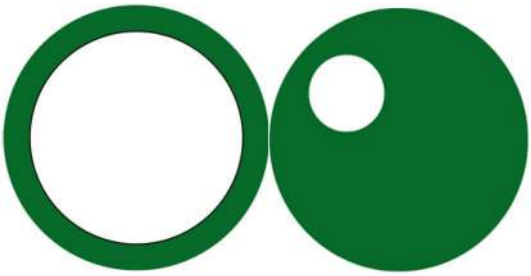


Fig. 16.1 Growing around grief: the all-consuming nature of grief and expectation it will diminish over time (adapted from Tonkins Tonkin, 2017)

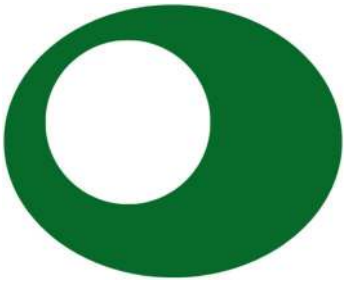


Fig. 16.2 Growing around grief (adapted from Tonkins Tonkin, 2017)

expectation that the significance of loss and associated grief will diminish over time—that the circle of shaded grief will decrease and eventually disappear. Many grieving people assume that they will, or should, "recover" from loss.

In Fig. 16.2, the model is represented. The sense of loss and associated grieving often continue to be present, but as time passes, the grieving person finds their life grows and expands around it (Tonkin, 2017).

The Growing Around Grief model challenges earlier theories that grief will diminish over time and rather suggests that a sense of loss and associated grieving will often continue to be present alongside a concurrent process of life continuing to develop and grow around it (Tonkin, 2017, 1996). Through the process of reconstructing and searching for meaning, expansion and growth around grief evolve into a new narrative of life and self.

Nature, Walking, and Grief

> When I lost my husband Graham, I was lost. I searched for a place I could fit in. I started my journey in nature head down, shoulders slumped. Slowly and over time, I raised my head, looked up and sensed my surroundings, the trees, the birds, the sounds and smells. I reached out and felt the leaves, I embraced the trees and felt their energy, their story. I felt connection to the earth, I felt grounded, and I knew in nature I would never be alone. (Annique, participant interview, 2022)

Moving one's body and meaningful connection with nature when grieving is something as simple, natural, and old as time. Before discussing the literature, it is important to acknowledge the ancient wisdom of First Nations peoples who know this and hold diverse and deeply spiritual traditions that connect death, grief, and Country. Country, both the source of life and sacred resting place. First Nations Australians integrate barefoot walkabouts, inspired by their connection to the land and ancestors, as a grounding and reflective mourning practice (Cacciatore, 2012; Rose, 1996). They understand that a meaningful relationship with nature marked by reciprocity of care, kindness, and respect is critical for the health of the planet and all living organisms that dwell upon it—the human and the more-than-human.

Ecopsychology positions relationships with nature within a reciprocal process that is intrinsically linked to mental health (Roszak et al., 1995). Ecopsychology's core hypothesis explains that movement away from the natural world due to conditions of industrialisation is at the root of human psychological distress (Roszak et al., 1995). Ecotherapy is interested in the therapeutic application of this theory and is viewed as applied or clinical ecopsychology (Buzzell & Chalquist, 2009). Experiential, ecotherapeutic, nature-based therapeutic modalities form an umbrella of therapies that can be considered therapeutic procedures utilised by mental health professionals. In Australia, outdoor health is the term used to encompass the range of evidence-informed, nature-based health interventions being provided around Australia and internationally (Outdoor Health Australia, n.d.). Outdoor health research draws from a breadth of cross-disciplinary evidence bases and practices that activate human contact with nature as an intentional setting, method, or mechanism to support human health, wellbeing, and healing. With guidance from Aboriginal and First Nations knowledge holders, outdoor health practices are known to benefit the health of natural environments alongside the health of people.

Walking in nature as a grief support practice is deeply embedded in cultural, spiritual, and therapeutic traditions around the world. In Japan, *shinrin-yoku* (forest bathing) encourages mindful immersion in forests to promote emotional healing (Li, 2018). In Norway, the philosophy of *friluftsliv* fosters outdoor living and reflection amid natural landscapes, supporting emotional wellbeing and grief processing (Henderson & Vikander, 2007). Tibetan Buddhist *kora* involves walking around sacred sites as a meditative practice to reflect on impermanence and process loss (Thurman, 1994). Indigenous traditions in Canada and South Africa emphasise land-based rituals and ancestral connections, incorporating walking as part of mourning ceremonies (Fadiman, 1997; Truth and Reconciliation Commission of Canada, 2015). In the United States and the United Kingdom, grief support groups often organise therapeutic hikes and nature walks, combining physical activity with communal healing (see Cruse Bereavement Support, n.d.; Wild Grief, n.d.). Similarly, the Māori hīkoi in New Zealand reinforces connections to land and lineage as part of the grieving process (Ngata, 2019). Across these practices, the themes of mindfulness, connection to nature, and the cyclical rhythms of life and death converge, offering solace and renewal to those in mourning. In her description of the "barefoot walkabout", Cacciatore (2012) argues that creative therapeutic strategies for processing grief invite us into a place of openness, humility, and connectedness, whereby the effects of these techniques may leave us without words to sufficiently describe the why and the how, but for many, such words are inconsequential—rather, we need only realise the pursuit for meaning that comes in the aftermath of traumatic loss, the vital lesson of inexplicable beauty which can sometimes be born of pain (Cacciatore, 2012).

As I began to bring shape and form to my idea, I came across a local example of this work in practice: the Walking Through Grief program in Tasmania (Mental Health Families and Friends Tasmania, n.d.), whereby carers of persons experiencing end-of-life care are given the opportunity to meet with others and walk together through natural spaces around Hobart. The program was grounded in a nonclinical,

humanistic approach, whereby the normalisation of grief and loss could occur. Walking groups encouraged sharing personal experiences with the aims of reducing isolation, enhancing social connection, and enabling persons to access intrinsic strengths, thus reinforcing innate coping capacities and resilience. Walks were not facilitated by mental health or outdoor professionals. With trail tracing and the Walking with Grief Pilot, I hoped to create a therapeutic outdoor health practice that would allow those *lost in loss* a unique way to find—*trace*—their way to an enduring connection, a continuing bond, with the person who had died.

> Trail Tracing was a seed that found its way up through the murky muddiness of the Kunanyi trails and across the country to the wondrous silver leaves of the weeping silver princess gum. The silvery storylines awash with vibrant red and flecks of gold like little fingers dancing, winding upwards toward the light. (December 2024)

The Practice

Trail Tracing: The Walking with Grief Pilot Project

I consulted with GCWA volunteers who had lived experience of grief and with other health professionals interested in outdoor health practices as a way to navigate grief. Thus, the pilot became a co-inquiry and codesign process. The codesign team included women who brought both lived experience and professional knowledge to the process. All had found comfort in the outdoors. Each worked, studied, or volunteered in a helping profession, which included registered social workers, a registered nature-based occupational therapist, a yoga instructor, a registered nurse, an art teacher, and Grief Centre volunteers, or worked in the outdoor education field. Two were qualified outdoor educators with professional experience working in wilderness and remote locations engaging adventure therapeutic approaches. All were consulted throughout the project to ensure voices were distinguishable in the codesign process. The codesign team were made aware of the voluntary, exploratory, and collaborative nature of the project and understood they could withdraw at any time.

In partnership with GCWA, RFFWA led the project. Codesigners were brought together for three cocreation workshops. The first two were conducted online via Zoom and led by me—a registered mental health professional. The outdoor upskill workshop was led by the RFFWA director and an outdoor educator. The codesign process resulted in the creation of the Walking with Grief Pilot Project, which included five therapeutic walks (i.e., the therapeutic practice of trail tracing) and three social connection events. With each chosen location, a reconnaissance was conducted whereby risk management, planning, and therapeutic intentions were established by the codesign team members involved. Each walk was led by mental health and outdoor professionals and at least two codesigners. Walks were capped at 12 participants.

The presence of registered mental health and outdoor professionals in partnership with GCWA volunteers ensured a safe therapeutic environment that allowed for a therapeutic process to unfold. It was agreed that guidelines set in typical indoor therapeutic settings (e.g., informed consent, establishing group contract, confidentiality parameters) would apply, with additional risk-management processes to account for working in an outdoor environment. Psychological safety was the responsibility of the registered mental health professional and physical safety the responsibility of the outdoor professional. Risk-management processes were set according to best practice standards with regard to the practice of social work (Australian Association of Social Workers [AASW], 2023) and outdoor education in Australia (Australian Adventure Activity Standards [AAAS], 2016, 2019). Walkers were provided with detailed information regarding what to expect and what would be involved with each walk. Expectations, parameters, and limitations regarding the walks were discussed, and each walk began with establishing a group contract that exemplified a shared understanding of therapeutic guidelines (e.g., confidentiality and the limits of this). Safety measures included prior acquisition of detailed medical consent forms by the outdoor professional. The form included detailed medical history, level of fitness, and relevant current mental or physical health concerns including allergies.

Identified risk was documented, with a risk assessment conducted at each location. This included information regarding access to phone reception and emergency response plans. All were included in a risk-management plan for each location and carried in a sealed plastic folder by the outdoor professional. Topographical maps of the area, a survival workplace first-aid kit, an emergency response phone, a set of wet weather gear for each participant, and additional water and emergency food were also carried by the outdoor professional on each walk. Each participant was provided with a pair of gaiters to account for snakes in warmer months.

Trail Tracing: People for Whom This Practice Is Appropriate

This practice is most appropriate for adults who are no longer in the early stages of grief but who are continuing to struggle with intense painful emotions or loneliness in their grief. For those who are experiencing loneliness or social isolation, trail tracing offers an experiential and physically active way to continue bonds with the person who has died, connect with others in nature, and create meaning. Thus, a sense of growth from, and around, loss becomes possible.

Description of the Practice

The therapeutic walk begins with an acknowledgment of Country and mindfulness-based *coming into* the practice (see Table 16.1). Safety and holding are established

by facilitators who outline risks, what to expect, group guidelines, and individual responsibilities. The mental health and outdoor professionals intentionally guide the walk and facilitate full program, with Grief Centre volunteers providing informal emotional support as needed, particularly during less structured parts of the walk.

At a chosen point, there is a brief mindfulness-based meditation and naming of person lost (Part 1: acknowledgment), followed by a silent walk (Part 2: connection) and the opening of a sacred circle (Part 3: sharing stories and honouring the person who has died). Between each structured or "intentional" part, there is walking time that is informal. Metaphor may also be used at times throughout the walk (e.g., steep hill to represent the physicality and hardship of grief, or tall tree to represent the enduring and steady presence of nature that does not speak nor solve but is just purely present).

Table 16.1 Mapping the terrain of trail tracing therapeutic walks

Location	Presence	Procedures	Process
National Park Regional Park Nature setting	Mental health professional	Welcome and acknowledgment of Country	Establish a safe and meaningful space
		Introduction and group guidelines	Ensure participants are informed
			Facilitators are responsive to group needs and competent to follow the affect trail
		Mindfulness activity	Guided process
		Naming the person who has died	Hold safety in moments of experiential intensity
	Outdoor educator	Silent walk	Facilitators invite acknowledgement and deep connection through experiential work
	Volunteers	Opening of sacred circle Closing of sacred circle	Facilitated, seated therapeutic conversation in private outdoor space that invites participants to • share something of meaning • share observations and reflections • talk about the person who has died
		Walk	Facilitation by mental health professional that allows participants to feel supported in their grief
		Reflective questions	Unstructured part of the walk to allow for spontaneous social connection between participants
		Program close	What are the gifts? What will you take with you from today?
			Facilitators close the walk and provide links to additional grief support services

Note Walking trails in national, regional parks, or nature settings are required. Choice of location is important and ties to the theme of the walk

Discoveries

> Sometimes it is in our darkest corners that we might discover our greatest potential for light. (December 2024)

Safety and Holding

I had hoped, through codesign, to open a safe and supportive space to acknowledge, seek connection, and honour the person who has died through continuing bonds, meaning making, and meaningful connection. The Walking with Grief Pilot allowed for this curiosity in trail tracing to be explored. Framing the work and positioning it within the domain of outdoor health practices made trail tracing something quite different to simply going for a walk. The explicit attention to therapeutic detail allows for this approach to be further developed as a potential therapeutic technique for grief therapy.

The presence of competent professionals in partnership with Grief Centre volunteers strengthened experiences of feeling safe and supported. This was possible through shared understanding and gentle offerings of supportive words throughout the walks by Grief Centre volunteers. Volunteers also supported facilitators during the walks. Their presence ensured that responsivity to individual needs were not lost in the group process, especially when the group was on the move. Lived experience offers unique insights that professional training alone cannot provide. The generosity afforded by Grief Centre volunteers in their provision of time, creativity, courage, and heart must be wholeheartedly acknowledged and recognised as integral to the project's success.

The presence of registered mental health and outdoor professionals' explicit understanding of physical and environmental risk, and attention to therapeutic process, provided safety and competence to hold the therapeutic space. Facilitators provided clarity regarding expectations and therapeutic parameters and managed risk, and held duty of care. Facilitators ensured safe guidance and held professional competence to manage all aspects of the walks—physical, environmental, and psychological. Walkers spoke about feeling safe in the outdoor environment and supported in the sharing of their grief, experiencing something unique to sitting within four walls of a therapy room. Furthermore, the outdoor environment, physical activity, and important sense of connectedness to nature, self, and the person who had died allowed for experiences of empowerment, meaning making, and growth. To be trail tracing was to open a space for continuing bonds with the person who had died.

Acknowledgment, Connection, and Honouring in Grief

Saying the name of the person who had died provided important acknowledgment of grief. For one walker, "naming our loss helped to create a language to share our

experience with others; naming loss involves acknowledging where we are in a moment without attempting to fix it" (Sue, participant interview, 2022). Mindfulness-based techniques such as the silent walk gave participants permission to go inward and simultaneously connect with the natural world around them. The intention was to enter a state of internal pause, becoming attuned to the changing emotional process through intentional contemplation, emotional transparency with self, self-compassion, and self-awareness (Cacciatore & Flint, 2012). During silent walks, participants were given the space to *feel into* their connection with self, environment, and the felt presence of the person who had died. In the words of one participant, "I felt that this was my moment to connect and be closer to my brother and my friends who had died" (Yvette, participant interview, 2022). For persons dealing with grief or trauma, nature-based mindfulness practices may offer a gentle and supportive environment for processing emotions. Further to this, opening a scared circle and sharing stories allowed for the respectful honouring of the person who had died. In grief, the pace of life continues, and for some, the feeling of being halted in grief can be lonely. To be able to have space to share stories and open a sacred space to really *be with* their grief often meant being with their loved one who had passed. In this way, trail tracing allowed for the possibility of an experiential way to honour the person who had died—this being their time to acknowledge, connect, and subsequently find steadiness in their grief: "In time I felt his presence and knew in nature I would no longer be alone" (Annique, participant interview, 2022).

My Hope

> Amidst the chirping of birds and the sweltering heat of the day, signs of seasonal change surrounded us, reminding me of nature's continuous evolution. I pondered where I would be in my grief journey if it weren't for the solace and grounding that nature provided me. Slowly but surely, it has infused strength into my broken heart. Granting me the courage to face each next step. Its presence instilled in me a sense of hope, let by the continuity of the earth. (Annique, participant interview, March 2024)

To grow around loss is to seek meaning, to find beauty, to discover gifts, and to continue bonds. Growth around or from loss (Tonkin, 1996, 2017) is a way of understanding and navigating grief that offers many people comfort and hope. Through my own loss, I am left with the hope that in the painful and often senselessness of grief, what else is there but to continue bonds and find a way to bring purpose to the pain that remains in their physical absence. Might there be an inherent freedom in knowing they will always remain somehow close by? *And might this be the gift.*

In my writing, I hope to provide a map for mental health and outdoor professionals to lead therapeutic walking—*trail tracing*—groups for people experiencing grief. I have shared a sound understanding of how to frame the work through good therapeutic presence, process, and therapeutic procedures and the relevant theories

that have informed this approach. I have examined the importance of professional competencies in relation to risk management and the ethical responsibilities tied to good therapeutic practice. But it is the integration of lived experience wisdom with professional competencies that best positions trail tracing as an outdoor health therapeutic practice. From the beginning, my vision has emphasised the importance of acknowledgment, connection, and honouring the person who has died in grief. I knew the deep importance of these, not from any training I have received but rather from my great privilege to bear witness to the stories of others and from the brokenness of my own heart when *Anna* died. This vision was her gift to me, and with trail tracing, it has become my gift back to her. My vow to expand and to grow around her.

Today you would have been six
That day
Still
Ridgeway blanketed in snow
A quiet I had never known before
Landing
The moment of birth and death
Still catching hold
Your tiny hands so delicate
A feather gently landing on my own trembling hands
A moment so precious
A promise to never let you fade
I hold fast on to this flicker of you
Anna ~ Mae
Six today
As we head inward to the trees
A quiet knowing we share on this day
The fourth
Your light, our steps, interlacing
With you today
Trail tracing 🌿

Note. Poem created by the author, inspired by an unreferenced source.

Acknowledgments To my husband Gerard and precious sons Beau, Conor and Rapha. You light my way, fill my heart and hold me steady. Your hands in mine, always. To my project partner, outdoor educator, and dear friend Jocelyn Evans. To co-inquirers Annique, Kristie, Sue, Cath, Yvette, Lisa, and Suzy. Thank you for being my fellow travellers on this journey.

References

Australian Adventure Activity Standards. (2016). *Australian adventure activity standards*
Australian Adventure Activity Standards. (2019). *Australian adventure activity standards*.
Australian Association of Social Workers. (2023). *Practice standards*.
Buzzell, L., & Chalquist, C. (2009). *Ecotherapy: Healing with nature in mind*. Counterpoint.

Cacciatore, J. (2012). Barefoot walkabout. In R. A. Neimeyer (Ed.), *Techniques of grief therapy: Creative practices for counseling the bereaved* (pp. 151–153). Routledge.
Cacciatore, J., & Flint, M. (2012). ATTEND: Toward a mindfulness-based bereavement care model. *Death Studies* in Press.
Calhoun, L. G., & Tedeschi, R. G. (2006). *Handbook of posttraumatic growth: Research and practice*. Lawrence Erlbaum.
Calhoun, L. G., & Tedeschi, R. G. (2013). *Posttraumatic growth in clinical practice*. Routledge.
Chick, G. (2024). *We are the stars: A misfit's story of love, connection and the glorious unknown*. Simon & Schuster.
Cruse Bereavement Support. (n.d.). *Bereavement support services*. https://www.cruse.org.uk
Fadiman, J. (1997). *The spirit of the rainforest*. Berrett-Koehler Publishers.
Henderson, B., & Vikander, N. (Eds.). (2007). *Nature first: Outdoor life the Friluftsliv way*. Dundurn Press.
Klass, D., Silverman, P. R., & Nickman, S. (2014). *Continuing bonds: New understandings of grief*. Taylor & Francis.
Li, Q. (2018). *Forest bathing: How trees can help you find health and happiness*. Penguin Life.
Mental Health Families and Friends Tasmania. (n.d.). *Walking through grief*. https://mhfamiliesfriendstas.org.au/walking-through-grief/
Naidoo, I. (2022). *The space between the stars*. Allen & Unwin.
Neimeyer, R. A. (2001). *Meaning reconstruction & the experience of loss*. American Psychological Association.
Neimeyer, R. A., Harris, D. L., Winokuer, H. R., & Thornton, G. F. (2011). *Grief and bereavement in contemporary society: Bridging research and practice* (1st). Taylor and Francis. https://doi.org/10.4324/9780203840863
Neimeyer, R. A., Klass, D., & Dennis, M. R. (2014). A social constructionist account of grief: Loss and the narration of meaning. *Death Studies*, *38*(8), 485–498. https://doi.org/10.1080/07481187.2014.913454
Neimeyer, R. A., & Stewart, A. E. (1996). Trauma, healing, and the narrative employment of loss. *Families in Society*, *77*(6), 360–375. https://doi.org/10.1606/1044-3894.933
Ngata, T. A. (2019). Whakapapa, tūrangawaewae, and grief. *Journal of Indigenous Wellbeing*, *4*(2), 4–8.
Outdoor Health Australia. (n.d.). *Supporting evidence-informed, nature-based health services in Australia*. https://outdoorhealth.org.au/
Rose, D. B. (1996). *Nourishing terrains: Australian Aboriginal views of landscape and wilderness*. Australian Heritage Commission.
Roszak, T. E., Gomes, M. E., & Kanner, A. D. (1995). *Ecopsychology: Restoring the earth, healing the mind*. Sierra Club Books.
Thurman, R. A. F. (1994). *Essential Tibetan Buddhism*. HarperOne.
Truth and Reconciliation Commission of Canada. (2015). *Honoring the truth, reconciling for the future: Summary of the final report of the Truth and Reconciliation Commission of Canada*. https://www.trc.ca
Tonkin, L. (1996). Growing around grief: Another way of looking at grief and recovery. *Bereavement Care*, *15*(1), 10–10.
Tonkin, L. (2017). Growing around the grief of "circumstantial childlessness. *Grief Matters*, *20*(2), 37–42.
Wild Grief. (n.d.). *Nature-based support for grieving teens, adults, and families*. https://wildgrief.org

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 17
Underlying Social Psychological Mechanisms of Nature-Based Interventions



Kylie Agnew

Sociocultural Positioning

I am a White, mid-40s cisgender female. I grew up on a farm on Narrunga land; we moved around Australia while I was growing up, and I currently live near the beach on Kaurna land (Adelaide, South Australia). I am a psychologist with a diverse professional background and a strong commitment to evidence-based mental health treatment. I am passionate about adventure therapy. I work to support therapeutic outcomes for children, adolescents, and adults, including neurodiverse and transgender clients, with previous experience as a safari leader (in East Africa), as a teacher, and with the charity Operation Flinders Foundation.

This chapter is based on my 2012 university thesis, which serves as a springboard for a focus on current trauma-informed practices and has been rewritten to reflect the current research directions overseen by the Operation Flinders Foundation Clinical Advisory Committee.

Introduction

The broad importance of outdoor therapeutic work is discussed throughout this book. Nature adventure programs are supported by research for their positive effects on mental health and personal development (Moser & Mikkelsen, 2019; Wilson & Lipsey, 2000). With the recent expansion of outdoor health offerings, it has become essential not only to demonstrate the efficacy of these programs but also explore the reasons behind their success (Pryor et al., 2018). This chapter aims to explore the underlying mechanisms that facilitate increased wellbeing and positive behavioural

K. Agnew (✉)
Semaphore Park, SA, Australia
e-mail: kylie_agnew@hotmail.com

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_17

changes. I examine the specifics of four psychological mechanisms and a conceptual framework that links these constructs to the intervention outcomes.

In this chapter, I explore how self-affirmation, values affirmation, and willingness to change improve wellbeing and drive positive behaviour change. Exploring these processes through a social psychology lens, I aim to illuminate a potential "how or why" nature-based adventure programs contribute to enhancing the wellbeing of individuals and communities.

Childhood trauma and adverse experiences during adolescence often lead to long-term maladaptive coping behaviours, emphasising the importance of early intervention in redirecting individuals towards healthier paths (Berridge et al., 2001; Department of Education, Training and Youth Affairs [DETYA], 2001; Farrington & Ttofi, 2011; MacKenzie, 2000). However, effective intervention programs must be meticulously designed to maximise success (Pringle et al., 2021). Understanding the complexity of people accessing intervention programs and the interplay of under-the-surface psychological processes assist practitioners in ensuring both physical and psychological safety. Research by Harper and Dobud (2020) and Dobud and Natynczuk (2022) supports this assertion.

Four social psychological concepts are at the core of this work: self-forgiveness, self-affirmation, values affirmation, and willingness to change. These chosen underlying psychological processes were examined more widely through contemporary research conducted around the world and at a more granular level through a small experimental study conducted specifically within the context of an outdoor adventure program. This experimental study focused on an 8-day program in South Australia called Operation Flinders. This adventure therapy program is still running and evolving in line with contemporary practices. This 2012 quantitative research had significant findings and was overseen by professors from Flinders University South Australia.

The chapter concludes with some suggested applications of these theories and processes in the field of outdoor health and how the researched processes link to the current work of Operation Flinders. It also addresses the limitations of the research and suggests future research directions.

Theoretical Background

Genuine Self-Forgiveness

Genuine self-forgiveness is an underlying process that involves recognising one's maladaptive coping behaviours while maintaining self-worth and committing to change. According to Enright's (2001) model, this process requires acknowledging wrongdoing, experiencing remorse, and fostering self-compassion. Worthington and Scherer's (2004) process model emphasises the cognitive and emotional work needed for self-forgiveness, including reframing and self-compassion. Research shows that self-forgiveness leads to improved mental health, including lower anxiety and depression (McCullough et al., 1998), greater resilience and wellbeing

(Toussaint & Williams, 2008), and better interpersonal relationships (Brown & Lewis, 2011).

Self-forgiveness is an underlying mechanism that is valuable to examine for both survivors and perpetrators of trauma. There is validity in exploring the role of forgiveness in the healing process for trauma survivors as it offers insights into therapeutic approaches. For trauma survivors, self-forgiveness is a critical mechanism in healing, allowing them to reconcile with past actions while maintaining their self-worth. Studies suggest that genuine self-forgiveness fosters psychological growth by reducing negative self-judgement and maladaptive behaviours (Hall & Fincham, 2005; Wohl et al., 2008). It is associated with lower levels of depression and anxiety, as well as improved life satisfaction and health outcomes (Mohr et al., 2001; Koopman & Spiegel, 2022; Thompson et al., 2005). Through this process, individuals are able to move forward with a stronger sense of self and emotional wellbeing.

Value Affirmation

Value affirmation is about reinforcing personal values to accept responsibility without harming self-esteem. This process strengthens an individual's belief in their values and their commitment to upholding them, ultimately allowing for the acceptance of responsibility without detrimental effects on self-worth (Woodyatt & Wenzel, 2013). It clarifies personal values and encourages a recommitment to community values and behavioural expectations, limiting the negative self-implications of responsibility acceptance (Presser & Van Voorhis, 2002).

Value affirmation theory, developed by Steele (1988), posits that individuals maintain self-esteem by affirming their core values, which helps buffer against threats to self-worth. Self-affirmation theory (Sherman & Cohen, 2006) extends this concept, suggesting that affirming values can enhance psychological resilience and reduce defensiveness in the face of challenges.

Research has shown that value affirmation can mitigate stress and improve emotional regulation. For example, a study by Cohen and Sherman (2014) found that value affirmation interventions reduced stress responses and improved health outcomes in stressful situations. Additionally, value affirmation has been linked to increased openness to feedback and enhanced problem-solving abilities (Sherman et al., 2013).

Self-Affirmation

Self-affirmation is a process of maintaining self-integrity, which allows an individual to perceive themselves as efficacious and capable (Creswell & Sherman, 2021; Sherman et al., 2009). If a person is self-affirmed, they should have the self-confidence to acknowledge maladaptive coping behaviour and are more likely to forgive themselves without threatening their perception of being a worthwhile

person (Sherman et al., 2009). Hence, it can be argued that self-affirmation can enable genuine self-forgiveness.

Willingness to Change

Willingness to change is a pivotal aspect signifying a shift from resistance to openness and motivation for change. Nature-based intervention programs aim to enhance participants' willingness to change by fostering opportunities for personal growth and self-reflection. This involves accepting maladaptive coping behaviours exist, recognising one's capability for change, and engaging in novel cognitions regarding potential alternative behaviours, ultimately paving the way for sustainable behavioural improvements (Raymond, 2003).

Contemporary Evidence

The integration of nature-based interventions with self-forgiveness and value affirmation is a promising area of research. Nature-based settings may provide a conducive environment for self-reflection and self-forgiveness by reducing stress and promoting emotional healing (Fletcher & Hinkle, 2020).

For instance, aspects of spending time in nature could facilitate the cognitive and emotional processes necessary for self-forgiveness. Nature-based settings have the potential to reduce stress and promote emotional healing (Harper et al., 2019). The calming effect of nature, with its soothing sounds and sights, may aid in cognitive and emotional processes, making it easier for individuals to engage in self-reflection (Gergen et al., 2014).

Preliminary studies suggest that nature-based interventions may enhance the effectiveness of self-forgiveness and value affirmation strategies. A study by Hinds and Jordan (2016) found that participants engaging in nature-based activities reported increased self-compassion and greater ability to forgive themselves. Nature was seen as a facilitator of emotional shifts, helping individuals to be kinder to themselves.

Similarly, nature-based settings may support value affirmation by providing a reflective space where individuals can reconnect with their core values and self-worth. Time spent in nature encourages mindfulness and reflection, which, in turn, allows individuals to affirm their values and sense of self-worth (Hartig et al., 2014).

Australian Experimental Study

A 2012 university thesis by the author investigated the impact of a nature-based adventure program on adolescents' reported self-forgiveness, value affirmation,

self-affirmation, and willingness to change (Agnew, 2012). This study provided valuable insights into the mechanisms underlying behaviour change in young people in the context of a nature-based intervention program.

Methodology

The participants of this study ($N = 90$) were 63 male and 27 female adolescents aged 14 to 18 years ($M = 14.8$, $SD = 2.1$) from secondary schools in South Australia. Fifty-two percent were from metropolitan areas, while the remainder were from regional areas. Nine percent identified as Indigenous. They were selected to attend an 8-day adventure program based in South Australia in either June or August 2011. Participants were nominated by their school or community agency to attend the program. This selection of participants was made independently of the research, and schools and agencies could choose up to 10 young people to attend the program each year.

Participants attended the 8-day program voluntarily and were given the option to participate in this research or decline without any impact on their attendance in the program. Participants completed pre- and post-program questionnaires focused on the four social psychological concepts. There were no human rights violations (that the researcher was aware of), and the participants' dignity was maintained by the nature-based program studied and via adherence to both Flinders University and Department of Education ethics protocols.

Results

Statistical comparisons were made using independent samples t tests and pairwise t tests to assess changes from pre- to posttest scores within groups. Attendance in the 8-day program had significant effects on reported self-affirmation, value affirmation, and willingness to change, compared to the control group (a waitlist of people not attending the program) (Table 17.1).

In order to test the mediation hypothesis, a series of ANCOVA regression analyses were undertaken, allowing for the statistical control of baseline levels while testing the mediation processes (Appendix). The regression analysis looked at how attending the program impacted outcomes, while taking into account participants' baseline (preprogram) scores. The results showed that after completing the program, participants had higher average scores on all measured outcomes compared to those who did not attend. When adjusting for initial scores, the program had a significant positive effect on willingness to change, value affirmation, and self-affirmation, meaning participants who attended the program were more likely to show improvements in these areas.

Table 17.1 Mean differences between groups (standard deviation)

	Program group		Control group	
	Pre	Post	Pre	Post
Genuine self-forgiveness	3.56 (1.36)	4.15 (1.30)	3.88 (1.22)	4.06 (1.22)
Value affirmation	3.38 (1.06)	4.14 (0.96)*	4.15 (0.94)	3.60 (0.71)*
Self-affirmation	4.86 (1.43)	5.27 (0.99)*	5.31 (1.35)	4.90 (1.61)*
Willingness to change	3.92 (0.78)	4.36 (0.84)	4.30 (0.89)	4.22 (0.74)

*$p < 0.05$

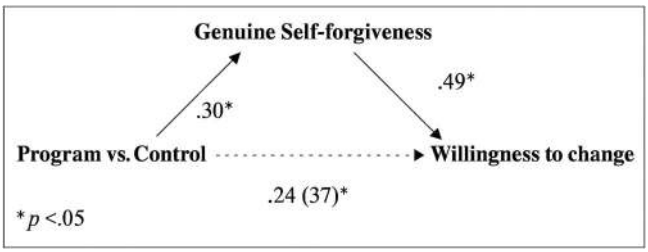


Fig. 17.1 The impact of attending the program vs control on willingness to change significantly mediated by genuine self-forgiveness (The author developed this Figure.)

The 2012 study showed that genuine self-forgiveness helped link the intervention program to increased willingness to change (Appendix). This implies that fostering genuine self-forgiveness is crucial for promoting positive behaviour change in young people. Interestingly, one of the key theoretical implications of this finding was the confirmation that genuine self-forgiveness mediated the effect of the program on willingness to change (Fig. 17.1). This significant result contributes to the body of knowledge regarding the benefits of genuinely forgiving oneself.

The Basis of Forgiveness

As the first regression analysis found genuine self-forgiveness was a significant part of willingness to change (Fig. 17.1), the study further examined the factors that contributed to the program's effect on the increase in genuine self-forgiveness. Value affirmation was identified as a significant mediator in the regression analysis between the intervention program and genuine self-forgiveness (Fig. 17.2). In contrast to value affirmation, self-affirmation did not significantly mediate the relationship between the intervention program and genuine self-forgiveness. This implies that while self-affirmation may have other benefits, it may not directly contribute to genuine self-forgiveness in the context of nature-based interventions.

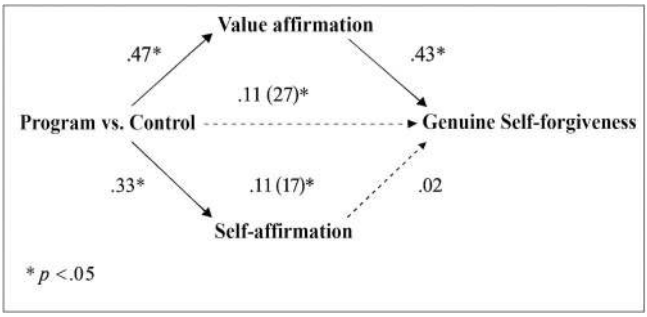


Fig. 17.2 Relationship between mediators (value affirmation and self-affirmation) and the impact of the program on genuine self-forgiveness (The author developed this Figure.)

Strengthening an individual's belief in their values appears to facilitate genuine self-forgiveness by encouraging acknowledgment of the values important to them. Higher levels of reported value affirmation, indicating personal importance of specific values to a young person, correlate with greater likelihood of genuine self-forgiveness.

Discussion

Implications for Nature-Based Interventions

This chapter explores social psychology theories of self-forgiveness, self-affirmation, values affirmation, and willingness to change, analysing these mechanisms within the context of nature-based interventions and within a specific Australian outdoor program. Research suggests that integrating self-forgiveness and value affirmation into nature-based interventions can enhance psychological growth by providing environments that promote relaxation and introspection, thereby aiding emotional processes like self-forgiveness and self-compassion.

Studies, such as Gergen et al. (2014) and Hinds and Jordan (2016), indicate that nature can support emotional acceptance and foster self-compassion, both of which are important for self-forgiveness. Additionally, Hartig et al. (2014) highlighted how nature facilitates value affirmation, which strengthens resilience and wellbeing. Together, these studies suggest that nature-based interventions may improve emotional balance, self-compassion, and resilience, with potential benefits for therapies like mindfulness, cognitive behavioural therapy (CBT), and self-compassion training.

The 2012 study by the author supports these findings, emphasising the importance of self-forgiveness and value affirmation in interventions aimed at changing maladaptive behaviours. The author also volunteers with the Operation Flinders Foundation, which has incorporated these concepts into its trauma-informed

adventure therapy model. Their 2024 *Our Social Impact* report focuses on resilience, connection, and purpose, which are closely linked to self-forgiveness and value affirmation.

Resilience, connection, and purpose help foster psychological healing by promoting self-compassion and reducing self-blame. Research by Neff and Germer (2018) shows that self-compassion enhances resilience by improving emotional regulation. Connection, linked to self-affirmation, strengthens an individual's self-worth through positive social interactions, while purpose, driven by values affirmation, provides meaning and guides individuals towards self-forgiveness and personal growth.

Program developers would benefit from integrating activities that promote self-forgiveness and value affirmation to facilitate behaviour change. Staff training in these areas can improve the effectiveness of nature-based interventions by helping participants recognise and address coping behaviours in a supportive, non-shaming environment (O'Brennan et al., 2009).

Limitations and Future Research Directions

While studies on nature-based interventions provide valuable insights, they also have several limitations. Gergen et al. (2014) highlighted a link between nature and emotional healing but lacked clarity on how nature specifically influences self-forgiveness. The emotional impact of nature may vary based on individual factors such as culture, prior experiences, and mental health status, limiting the generalisability of findings. Additionally, the type of natural setting or activity was not considered, potentially oversimplifying the effects of nature. Other factors, like personality traits, may also mediate self-forgiveness, which needs further exploration.

Hinds and Jordan (2016) relied on a small, homogeneous sample, which limits generalisability. Self-reported data could also introduce biases, such as social desirability bias, which may affect the reliability of the findings. Hartig et al. (2014) reported short-term changes related to value affirmation, but it is unclear if these effects persist. Although the studies suggest positive correlations between nature-based interventions and psychological outcomes, other factors, like mindfulness or social interaction, may also contribute.

The 2012 study by the author did not measure external factors influencing willingness to change, focusing only on internal motivation. Future research should explore both internal and external factors to better understand the effectiveness of nature-based interventions (Newes, 2001). The relationship between value affirmation and self-forgiveness also requires further testing, particularly to determine if affirming values leads to greater self-forgiveness. Research could examine the impact of value affirmation on different types of self-forgiveness (Presser & Van Voorhis, 2002).

The findings from this study, along with the meta-analysis by Bowen and Neil (2013), suggest that nature-based interventions can promote positive behaviour

change. Both quantitative and qualitative data are needed to provide a comprehensive understanding (Beaumont & Hollins-Martin, 2020). Further research could investigate the long-term impact of nature-based interventions on measurable behavioural outcomes and explore which individual characteristics make participants more receptive to nature-based programs (O'Brien, 2018).

Further studies with larger participant groups would help refine intervention designs, focusing on self-forgiveness and value affirmation, particularly for participants with posttraumatic stress disorder (PTSD) It is also crucial to explore how nature-based programs encourage prosocial values and address behaviours in a meaningful way. Additionally, understanding the underlying mechanisms that lead to behaviour change is vital, as it is not just participation in a nature program but ongoing support that helps sustain positive changes (Hemphill & Howell, 2000; Pringle et al., 2021).

Future research should also address the reliance on self-reported data and short-term observations. More controlled, randomised trials with objective measures, such as physiological stress indicators, could provide a clearer understanding of the long-term effects of nature-based interventions on self-forgiveness, behaviour change, and emotional healing (Newes, 2001). Strengthening the evidence base will enhance the effectiveness of nature-based interventions for promoting self-forgiveness and positive behavioural change.

Conclusion

Understanding the psychological mechanisms underlying outdoor therapeutic interventions is crucial for optimising program design and efficacy. By promoting genuine self-forgiveness, value affirmation, and self-affirmation, these interventions empower adolescents to confront and overcome maladaptive coping behaviours, ultimately fostering positive societal outcomes. This chapter contributes to the ongoing discourse on the transformative potential of nature-based interventions in youth development and wellbeing.

In summary, the chosen study demonstrated that the nature adventure program had significant effects on self-affirmation, value affirmation, and willingness to change compared to not attending the program. The results of this study are significant because nature-based intervention programs can be further developed to enhance goals for improving behaviour in young people when the mechanisms behind how the program works are better understood. Knowing that value affirmation is important for fostering self-forgiveness in young people with maladaptive coping behaviours can direct program development.

However, further research into self-forgiveness and the relationship between positive behaviour changes will strengthen the impact the program can have on young people. A focus on this area will help improve the current and future social behaviour of young people and communities.

Appendix

Effects of Gender on Both Mediation Hypotheses

See Appendix Tables 17.2, 17.3, 17.4 and 17.5.

Table 17.2 Summary of hierarchical regression analysis for variables predicting willingness to change including gender ($N = 49$)

Variable	B	SE B	β
Step 1			
Gender	− 0.23	0.22	0.00
Program status	− 0.64	0.24	− 0.36**
Preprogram genuine self-forgiveness	0.08	0.07	0.13
Preprogram willingness to change	0.61	0.12	0.63**
Step 2			
Gender	− 0.02	0.21	0.01
Program status	− 0.44	0.23	− 0.25
Preprogram genuine self-forgiveness	0.01	0.07	0.01
Preprogram willingness to change	0.47	0.12	0.49**
Postprogram genuine self-forgiveness	0.24	0.08	0.38*

* $p < 0.05$ ** $p < 0.001$

Table 17.3 Summary of hierarchical regression analysis for variables predicting genuine self-forgiveness including gender ($N = 49$)

Variable	B	SEB	β
Step 1			
Gender	0.23	0.40	0.09
Program status	− 0.58	0.42	− 0.21*
Preprogram genuine self-forgiveness	0.30	0.15	0.31*
Preprogram value affirmation	− 0.03	0.19	− 0.02
Preprogram self-affirmation	0.22	0.14	0.21
Preprogram willingness to change	0.37	0.24	0.24
Step 2			
Gender	0.55	0.38	0.21
Program status	− 0.01	0.39	− 0.01
Preprogram genuine self-forgiveness	0.20	0.13	0.21*

(continued)

Table 17.3 (continued)

Variable	B	SEB	β
Preprogram value affirmation	0.09	0.17	− 0.08
Preprogram self-affirmation	0.24	0.16	0.20
Preprogram willingness to change	0.39	0.21	0.26
Postprogram value affirmation	0.55	0.38	0.49**
Postprogram self-affirmation	− 0.06	0.16	− 0.06

* $p < 0.05$ **$p < 0.001$

Table 17.4 Mean changes (pre–post) within groups (standard deviation)

	Attended the program	Control
Genuine self-forgiveness	0.55 (1.33)*	− 0.21 (1.22)
Self-affirmation	0.26 (1.21)	− 0.78 (1.48)*
Value affirmation	0.59 (1.01)*	− 0.46 (0.82)**
Willingness to change	0.22 (0.81)*	− 0.62 (0.82)**

* $p < 0.05$ ** $p < 0.01$

Table 17.5 Correlations matrix between pre- and postprogram scores on all dependent variables

	Pre GSF	Pre VA	Pre SA	Pre WTC	Post GSF	Post VA	Post SA
Pre VA	0.588*						
Pre SA	0.336*	0.433**					
Pre WTC	0.430**	0.397**	0.581**				
Post GSF	0.463**	0.304*	0.452**	0.428**			
Post VA	0.221	0.191	0.188	0.053	0.562**		
Post SA	0.197	0.198	0.547**	0.139	0.435**	0.499**	
Post WTC	0.377**	0.264	0.539**	0.579**	0.631**	0.490**	0.539**

GSF = Genuine self forgiveness, VA = Value affirmation, SA = Self affirmation, WTC = Willingness to change. * $p < 0.05$ ** $p < 0.02$

Table 17.6 Mean postprogram differences between groups taking into account covariance of preprogram (standard error)

	Program group	Control group
Genuine self-forgiveness	4.27 (0.19)	3.69 (0.28)
Self-affirmation	5.22 (0.17)**	4.24 (0.25)**
Value affirmation	4.16 (0.15)*	3.45 (0.22)*
Willingness to change	4.67 (0.10)**	4.01 (0.16)**

* $p < 0.05$ ** $p < 0.02$

Table 17.7 Analysis of variance for attending the program on postprogram dependent variables calculating for covariance of preprogram score

Source	df	F	η	p
Genuine self-forgiveness	1,47	2.81	0.057	0.100
Self-affirmation	1,48	10.83*	0.187	0.002
Value affirmation	1,48	6.78*	0.126	0.012
Willingness to change	1,47	10.56*	0.187	0.002

* $p < 0.05$ ** $p < 0.02$

ANCOVA was performed to test the effect of program attendance on the dependent variables, with baseline scores as the covariate. The postprogram mean scores for all variables were higher following attendance in the program compared to the control condition, and these differences are shown in Table 17.6. After adjusting for preprogram scores, attending the program had a significant effect on postprogram willingness to change $F(1, 47) = 10.56$, $p = 0.002$, partial $\eta^2 = 0.187$, value affirmation $F(1, 47) = 6.78$, $p = 0.012$, partial $\eta^2 = 0.126$, and self-affirmation $F(1, 47) = 10.83$, $p = 0.002$, partial $\eta^2 = 0.187$. The significance is shown in Table 17.7. There was no significant effect of the program on genuine self-forgiveness.

References

Agnew, K. (2012). *Prevention of anti-social behaviour: Genuine self-forgiveness and willingness to change* [Unpublished doctoral dissertation]. Flinders University

Beaumont, S. L., & Hollins-Martin, C. J. (2020). Supporting health and well-being through adventure therapy: A mixed-methods investigation. *International Journal of Mental Health Nursing*, *29*(1), 190–201.

Berridge, D., Brodie, I., Pitts, J., Porteous, D., & Tarling, R. (2001). The independent effects of permanent exclusion from school on the offending careers of young people. RDS Occasional Paper,

Bowen, D. J., & Neill, J. T. (2013). A meta-analysis of adventure therapy outcomes and moderators. *The Open Psychology Journal*, *6*, 28–53. https://doi.org/10.2174/1874350120130802001

Brown, R., & Lewis, S. (2011). The role of self-forgiveness in the recovery process. *Journal of Clinical Psychology*, *67*(2), 185–197.

Cohen, G. L., & Sherman, D. K. (2014). The psychology of change: Self-affirmation and social psychological intervention. *Annual Review of Psychology*, *65*, 333–371.

Creswell, J. D., & Sherman, D. K. (2021). The role of self-affirmation in the promotion of health and well-being: Theory, mechanisms, and interventions. *Annual Review of Psychology*, *72*, 347–372. https://doi.org/10.1146/annurev-psych-081420-110642

Department of Education, Training and Youth Affairs. (2001). *Innovation and best practice in schools: Review of literature and practice*.

Dobud, W. W., & Natynczuk, S. (2022). *Solution-focused practice in outdoor therapy: Co-adventuring for change*. Routledge.

Enright, R. D. (2001). Forgiveness: A step toward healing. *International Journal of Mental Health*, *30*(3), 48–69.

Farrington, D. P., & Ttofi, M. M. (2011). Bullying as a predictor of offending, violence, and later life outcomes. *Criminal Behaviour and Mental Health*, *21*, 90–98.

Fletcher, J. R., & Hinkle, J. S. (2020). Nature-based interventions for trauma: A review of theoretical and empirical evidence. *Journal of Counseling & Development*, *98*(3), 269–279.

Gergen, K. J., McNamee, S., & Barrett, F. J. (2014). Toward transformative dialogue. *International Journal of Public Administration*, *37*(7), 479–488.

Hall, J. H., & Fincham, F. D. (2005). Self-forgiveness: The stepchild of forgiveness research. *Journal of Social and Clinical Psychology*, *24*(5), 621–637.

Harper, N. J., & Dobud, W. W. (Eds.). (2020). *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives*. Routledge.

Harper, N. J., Waite, S., & Hicks, M. (2019). Nature-based therapies for mental health treatment: A systematic review. *European Journal of Counselling Theory, Research and Practice*, *3*(2), 63–77.

Hartig, T., Mitchell, R., De Vries, S., & Frumkin, H. (2014). Nature and health. *Annual Review of Public Health*, *35*, 207–228.

Hemphill, J. F., & Howell, A. J. (2000). Adolescent offenders and stages of change. *Psychological Assessment*, *12*, 371–381.

Hinds, J., & Jordan, M. (2016). *Ecotherapy: Theory, research and practice*. Palgrave Macmillan.

Koopman, C., & Spiegel, D. (2022). Trauma, forgiveness, and healing. *Journal of Traumatic Stress*, *35*(1), 148–157.

MacKenzie, D. L. (2000). Evidence based corrections: Identifying what works. *Crime and Delinquency*, *46*, 457–471.

McCullough, M. E., Rachal, K. C., Sandage, S. J., Worthington, E. L., Jr, Brown, S. W., & Hight, T. L. (1998). Interpersonal forgiving in close relationships: II. Theoretical elaboration and measurement. *Journal of Personality and Social Psychology*, *75*(6), 1586–1603.

Mohr, P., Heseltine, K., Howells, K., Badenoch, D., Williamson, P., & Parker, A. (2001). *Evaluation of Operation Flinders nature-adventure program for youth at risk. Report to Attorney-General's Department*. FAPRG, University of South Australia.

Moser, S. T., & Mikkelsen, B. E. (2019). Adventure therapy: A scoping review and meta-analysis of outcomes. *Journal of Experiential Education*, *42*(3), 251–266.

Neff, K. D., & Germer, C. K. (2018). *The mindful self-compassion workbook: A proven way to accept yourself, build inner strength, and thrive*. Guilford Publications.

Newes, S. L. (2001). Future directions in adventure-based therapy research: Methodological considerations and design suggestions. *The Journal of Experiential Education*, *24*, 92–99.

O'Brennan, L. L., Bradshaw, C. P., & Sawyer, A. L. (2009). Examining developmental differences in the social-emotional problems among frequent bullies, victims, and bully/victims. *Psychology in the Schools*, *46*(2), 100–115.

O'Brien, L. (2018). Engaging with and shaping nature: A nature-based intervention for those with mental health and behavioural problems at the Westonbirt Arboretum in England. *International Journal of Environmental Research and Public Health*. *15*(2214), https://doi.org/10.3390/ijerph15102214

Presser, L., & Van Voorhis, P. (2002). Values and evaluation: Assessing processes and outcomes of restorative justice programs. *Crime and Delinquency*, *48*(1), 162–188.

Pringle, G., Dobud, W. W., & Harper, N. J. (2021). The next frontier: Wilderness therapy and the treatment of complex trauma. In E. Brymer, M. Rogerson, & J. Barton (Eds.), *Nature, physical activity, and health* (pp. 191–207). Routledge.

Pryor, A., Carpenter, C., & Townsend, M. (2018). Outdoor adventure interventions: Learning from SARS-CoV-2. *Australian Journal of Outdoor Education*, *22*(2), 107–118.

Raymond, I. (2003). *Risk, crimonogenic need, responsivity: An evaluative framework applied to the Operation Flinders nature therapy program for youth at risk* [Unpublished doctoral dissertation]. University of South Australia.

Sherman, D. K., & Cohen, G. L. (2006). The psychology of self-defense: Self-affirmation theory In J. M. Olson & M. P. Zanna (Eds.), *Advances in experimental social psychology* (Vol. 38, pp. 183–242). Academic Press.

Sherman, D. K., Cohen, G. L., Nelson, L. D., Nussbaum, A. D., Bunyan, D. P., & Garcia, J. (2009). Affirmed yet unaware: Exploring the role of awareness in the process of self-affirmation. *Journal of Personality and Social Psychology*, *97*(5), 745–764.

Sherman, D. K., Nelson, L. D., & Steele, C. M. (2013). Do messages that blame the victim make things worse? The role of value affirmation in reducing defensiveness and promoting behavior change. *Personality and Social Psychology Bulletin*, *39*(1), 60–72.

Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 21, pp. 261–302). Academic Press.

Thompson, L. Y., Snyder, C. R., Hoffman, L., Michael, S. T., Rasmusen, H. N., Billings, L. S., Heinze, L., Neufeld, J. E., Shorey, H. S., Roberts, J. C., & Roberts, D. E. (2005). Dispositional forgiveness of self, others and situations. *Journal of Personality*, *73*(2), 313–358.

Toussaint, L. L., & Williams, D. R. (2008). The role of forgiveness in mental health and well-being. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research, and practice* (pp. 237–254). Guilford Press.

Wilson, S. J., & Lipsey, M. W. (2000). Nature challenge programs for delinquent youth: A meta-analysis of outcome evaluations. *Evaluation and Program Planning*, *23*, 1–12.

Wohl, M. J. A., DeShea, L., & Wahkinney, R. L. (2008). Looking within: Measuring state self-forgiveness and its relationship to psychological well-being. *Canadian Journal of Behavioural Science*, *40*(1), 1–10.

Woodyatt, L., & Wenzel, M. (2013). Self-forgiveness and the restoration of offenders after an interpersonal transgression. *Journal of Social and Clinical Psychology*, *32*, 221–254.

Worthington, E., & Scherer, M. (2004). Forgiveness is an emotion-focused coping strategy that can reduce health risks and promote health resilience: Theory, review, and hypotheses. *Psychology & Health*, *19*, 385–405.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 18
Redefining Body and Self: Making Meanings of Abortion Through Embodied Experiences of Climbing in Nature

Chloe Paul

Sociocultural Positioning

I am an early career academic, PhD candidate, and outdoor educator. My work utilises posthuman and new materialist frameworks to explore experiences of grief and how the more-than-human world facilitates and is a part of becoming and healing. My research encourages questions around: what it means to be a body, whose bodies are valued, and where bodies and beings really end and begain in multispecies worlds?

This chapter challenges the dominant positivist paradigm, utilising (vulnerable) autoethnography to confront the "taboo" topic of abortion honestly with a view to create research that connects, validates, and heals.

Introduction

In May 2022, I had an abortion following an unplanned pregnancy. I struggled to process my experience, in place of the relief that I thought I should be feeling, and I found myself navigating a period of grief. While I have found numerous academic works acknowledging grief and abortion since beginning this research, an initial search for lived experiences of abortion that were similar to mine, challenging and multifaceted but overall positive, gave way to a vacant space. This enhanced my grief with feelings of isolation; however, it was this very vacancy that inspired my research in the first place. Grief *and* abortion were seemingly unable to coexist in narratives of abortion, except for when grief was being framed as a reason not to have one.

C. Paul (✉)
University of Cumbria, Ambleside, UK
e-mail: chloepaul26@outlook.com

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_18

During a climbing trip a few months after my abortion, I felt something of a shift, and I began to briefly exist outside of my grief and beyond my abortion—as a new person who had been shaped by my experience but was not defined by it. Reflecting on that moment of change, I began to wonder what factor had enabled this change: Why did I reconnect to myself in that context, and what was it I experienced in those moments? I felt the answer had to be the physicality of climbing and the natural spaces within which I climbed.

Through the exploration of my personal journey, I intend to create a space where grief *can* be acknowledged as a valid part of abortion, existing as a prominent feature of an overall positive and empowering abortion experience. This research analyses my embodied experiences of both abortion and climbing in an attempt to answer the question: How did climbing provide me with the space to process the grief associated with my abortion?

Silbergleid (2017), in her account of a missed miscarriage, stated, "The stories of women's bodies are not supposed to be told. We cramp. We bleed. We cry. We do it, largely, alone" (pp. 115). While this chapter details my personal healing journey, I hope the effect can reach beyond to create a space where grief can be shared and validated, as can our experiences of almost-motherhood (Letherby, 2010), however they came to be.

Situating Personal Narratives in Evolving Outdoor Health Practices

When referring to outdoor health and healing practices, definitions of therapeutic and healing practices and what it means to operate in the outdoors in this way are continually evolving (Harper & Doherty, 2021; Mitten, 2021; Richards et al., 2019). As such, the lived experiences of those who have found such healing can greatly contribute to this discussion, offering personal insights that can better refine these definitions and understand what healing lies in the natural world.

Additionally, through outdoor and nature-based healing practices, as this chapter later demonstrates through journal excerpts, humans can become more attuned to the natural world in a material sense. Thus, these practices that fundamentally alter the way in which one experiences the natural world also provide a means to understand colonial narratives of the natural world and move towards embracing nature as more-than-human (Braidotti, 2022; Tait, 2018).

Situating My Abortion in a Sociopolitical Context

I live in the United Kingdom, where abortion can be accessed up to 24 weeks of pregnancy on the grounds of risk to the physical or mental health of the pregnant person, usually through the National Health Service (Abortion Act 1967).

In the context of this research, when I refer to abortion, I am referring to my experience of medical abortion, whereby a series of medications is taken to terminate the pregnancy and induce a bodily response to pass the pregnancy.

Abortion provides a lens through which society and culture can be examined. Brooke (2009) outlined in their research how access to safe and legal abortion ensures full and equal participation of women in society and allows women access to education, a career, and a fulfilling family life. Sheldon et al. (2023) demonstrated further how the biography of the *Abortion Act 1967* reflects the evolution of contemporary social and political norms in the United Kingdom, with the rise of secularisation, changing familial and gender roles, a visible disability rights movement, and changing political ideologies.

When writing, researching, or talking about abortion, it is important to highlight that the choice to have an abortion is not a simple one; sometimes, it not a choice at all—for example, in the case of miscarriage that requires intervention or an unviable pregnancy (Irvine, 2017; Silbergleid, 2017). As such, care needs to be demonstrated when doing so in order to acknowledge the nuance and uniqueness of each abortion story and the people telling them.

Author Positionality

My abortion story is one of privilege. As a white, cis-gendered, British woman, I have been able to access abortion care legally, safely. Additionally, while the outcome of a pregnancy can never be guaranteed, it is likely that if I had continued with my pregnancy, my position in society would have enabled me access to health care that would ensure a safe pregnancy and birth and the best possible outcomes for my child and me thereafter. Being able to share my experience safely is an extension of these privileges.

Research Context

The methodological and theoretical framework for this research is feminist autoethnography (Allen-Collinson, 2016). Autoethnography is a research method utilising the personal experience of the researcher to gain understanding and insight into wider social or cultural practices, with feminist autoethnography specifically utilising gender as a focal point of experience to analyse society (Allen-Collinson, 2016; Denzin, 2014). Within autoethnography, the experiential process of research initiates a process through which experience informs research and research informs life (Denzin, 1994). Thus, academic inquiry in social and human sciences can be expanded through autoethnography to the ontological (Allen-Collinson, 2011; Bochner & Ellis, 1996; Bryman, 2012). Bochner (2020) and Ellis (2016) exemplify this, describing how autoethnography has become an embodied way of being in the world.

Diven by personal experience, autoethnographic research depicts a relatively accurate profile of the researcher and the morals and values they hold (Bochner & Ellis, 2022). Toyosaki and Pensoneau-Conway (2016) explain how, in this way, autoethnography becomes a praxis of social justice, where researchers can realise, enact, and communicate an ethical code or value system that feeds into wider societal contexts as a way of being in the world. Through these emotive and value-driven accounts, autoethnographic research engages readers intellectually, morally, and politically by inviting them to feel the truth of the lived experiences of the researcher (Bochner & Ellis, 1996).

> We autoethnographers acknowledge our contingency and finitude; we open ourselves to otherness, dedicate ourselves to social justice and narrative ethics, and seek to apply our moral imagination and desire for edification to keep conversation going. We believe as long as we can keep the dialogue alive, we can sustain our hope of living in a more just and loving world. (Bochner & Ellis, 2022, p. 15)

My autoethnographic data was collected through journaling that took place over a 5-month period. Excerpts from this journal form the basis of my discussion where, using the theoretical lens of embodiment, I situate my lived experience within the existing literature to analyse how the intersections between my experiences of abortion, grief, and climbing have impacted how I define my body and self.

Theoretical Context: Embodiment

In this chapter, I utilise the conceptual framework of embodiment to explore abortion in the context of outdoor health and nature-based practices.

According to Merleau-Ponty (1945/2014), the self, and the ways in which one may experience their idea of "the self", cannot be isolated from the body. People can only experience the world as embodied beings. Furthermore, their experience cannot be separated from the perceived world; by means of having a body, people are fundamentally—and materially—part of this same world (Neimanis, 2017).

The perception one holds of the world and the way in which they embody it occurs via interaction between the subject and the object (the subject being the perceiving self and the object being the perceived external world). Therefore, all interactions that occur originate through an embodied process in which the bodily experiences of the subject, and the context within which this happens informs the perception of the object. Merleau-Ponty's work has been contextualised in feminist research where the body exists in the middle of an unfolding existence in a particular time and place (Beauvoir, 1952; Bordo, 1998).

Building on this concept of subject and object, particularly with reference to how the body can simultaneously be both subject and object (operating as the experiencing individual and the object to another person), phenomenologists have described how the body and the world belong to one another

(Merleau-Ponty, 1945/2014; Neimanis, 2017). Thus, the intertwined nature of subject and object, body and world, fosters a natural intelligence that is possessed by the embodied individual as a result of the connectivity that exists between these factors.

If the body is the site of experience, then the sex of that body, as well as the gender one identifies as, has implications for the way in which one might embody the world. This is to say that to exist within the world is to be a body within it; to be a body in the world is to be of a particular sexual configuration, and thus, even though it does not determine one's manner of relating to others, themselves, and to the world, one's sexual being will inevitably have a mediating effect on it (Beauvoir, 1952; Merleau-Ponty, 1945/2014).

Phenomenologically, sex and gender have systematically been analysed in embodiment using a binary lens (Levinas, 1969; Merleau-Ponty, 1945/2014; Stoller, 2005). While it is important to note my positionality in writing from my lived experiences as a cis-gendered woman, it is fundamental to recognise the multiplicity of sexual and gender configurations that people embody (including people who are, for example, intersex or nonbinary) and the implications this poses to experiences of pregnancy, pregnancy loss, and abortion. This is to say that to become pregnant, one does not have to be a woman, and likewise, to have a child one does not require a pregnancy; however, the ways in which we choose to embody the world can contribute to how we perceive and experience it (Andalibi et al., 2022).

Embodiment in Pregnancy and Abortion

The lived, bodily experience becomes increasingly relevant in discussions of reproductive choice and embodiment. As suggested by Kjelsvik and Gjengedal (2011), each bodily change will change the way in which one embodies the world. On this basis, pregnancy, and thus abortion, serve as amplifiers of embodiment, heightening individuals' awareness of their state of being as one of a fundamentally embodied nature.

Just like pregnancy, each experience of abortion is individual and unique, the single commonality being the person's body as "protagonist" (Amuchastegui, 2013, p. 1).

Experiencing Unplanned Pregnancy

I remember vividly the morning I found out I was pregnant. The abundance of emotions compounding a single moment was overwhelming—the shock of reading a positive pregnancy test, the heaviness in the pit of my stomach as I felt the gravity

of the situation, my inability to properly cry as I recognised a part of me was happy, all accompanied by an undercurrent of guilt.

The experience of an unplanned pregnancy can temporarily turn the world of the individual off-axis (Kjelsvik et al., 2018). Kero et al. (2001) analysed the language women attributed to their initial pregnancy, before termination, and found words such as joy, anger, dread, wonder, shame, despair, panic, grief, and guilt, exemplifying the spectrum of emotions unplanned pregnancy can evoke. In finding Kero et al.'s research, I also found a sense of validation in my own experience; this exemplifies the importance of research that documents the lived experience of abortion.

Kjelsvik et al. (2018) explained how women have described unplanned pregnancy as tiring and intense; thus, women often search for space in which to contemplate, leading to social withdrawal. The centrality of the body is accentuated in these circumstances when not only is time counting down (for me, I had a matter of weeks to decide whether to terminate or continue my pregnancy) but also symptoms of pregnancy are increasing. I found that while my body was inescapable, it was not escape that I was searching for. As I withdrew socially, I connected with my body more. The difficulty for me was that I *wanted* to be a mother; the question was whether it was the right time for me—in the middle of my undergraduate degree, in a relationship that was not established, and with questionable resources to build a life for myself and a child.

In the cases where a decision *can* be made to terminate or continue a pregnancy, it is not a simple dichotomy; it is a decision influenced by an abundance of cultural, political, and biological narratives that factor into our state of embodied being. To exemplify this, since Roe vs Wade was overturned in the United States in 2022, every pregnant individual, including those who continue their pregnancy, those who experience pregnancy complications, and those who face adverse pregnancy outcomes or miscarriage, has been put at risk of medical complications and death, as well as increased surveillance and criminal prosecution, with people of colour disproportionately at risk of death and prosecution (Paltrow et al., 2022). The multifaceted nature of the decision to become, continue, or terminate pregnancy becomes clearer through the lens of embodiment, where the biological and the social are not separated but are instead combined to build a richer picture of people's lived experiences as bodies inhabiting a social, political, material, and cultural world (Kimport & Littlejohn, 2021; Neimanis, 2017; Purcell, 2015).

Pregnancy itself, however, does present a unique question of dichotomy between self and other (Young, 1984), and the boundaries between these separate (or not) entities when the biological other is irrevocably intertwined with the state of being of the pregnant person as it grows inside them. In this respect, the pregnant person and the foetus are neither separate, nor are they the same (Lupton & Schmied, 2013); as such, the process of deciding to terminate or continue unplanned pregnancy has been described as existentially challenging.

The morning after my abortion, I experienced a kind of detachment between myself and my body. Reflecting upon the experience, I predict that this was most likely due to the expectation that I had to be completely okay once I'd had the

abortion; to me, the abortion represented an "end point." The sun shone through the window, a new day began, and I went about it the way I thought I should—bearing little thought to or acknowledgement of the experience I'd just had.

Climbing and Embodied Landscapes

The environment, materially and through the way in which people embody it, affects the body and redefines what the body can do, and the meanings attached to it (Merleau-Ponty, 1945/2014; Neimanis, 2017). Thus, embodied mobility through outdoor education can cultivate an interaction between the natural world and the individual that recognises the malleable nature of the self, the body, and the definitions we attach to things as we experience them (Humberstone, 1998; Mullins, 2009, 2020; Urry, 2000).

The embodied nature of physical activity in the outdoors triggers a dialogue through which participants can explore significant embodied events (Barratt, 2011; Carless & Douglas, 2016). Contextualising this within this chapter, my body was the site of a significant bodily event, and climbing served as a therapeutic dialogue through which I could make sense of my experience and explore the implications this held for my sense of corporeality in the new definitions of self and body that I had accumulated. What has ensued through my autoethnographic account is a journey of grief, loss, relief, clarity, and acceptance, leading me to redefine my body and my self through embodied experiences of climbing.

The Crux: Redefining Body

> Everything fell into place in that moment. I'd had my moment where it was just me and the rock, I'd felt that intimacy that I'd been longing for, and I got to bask in the sunlight and the bitter cold wind at the top. For a moment, a long moment actually, a resounding peace washed over me. Everything felt right.
>
> I nestled that feeling of peace away, deep inside so I wouldn't forget it. After a difficult few weeks over Christmas and new year [encountering] my would-be due date, I longed to feel peace, calmness, and clarity.
>
> I chatted happily away to my climbing partner, laughing as he realised he'd dropped his shoe in a puddle at the top and declared it was game over, but inside another kind of happiness sat in that moment of clarity. For when I climb, it is the time I experience the most peace about my abortion.
>
> When I climbed yesterday my grief, my anger, my confusion, my wondering of what could have been, were all tucked neatly away in pockets. I carried the tiny human that could-have-been and who did and does exist to me peacefully up the rock. And we exhaled together at the top. (17 January 2023)

Depicted in this journal excerpt is the projection of my feelings of grief outside of my body and onto the rock as I relieve my anguish, using the version of my self (my self to address the specific self that exists in a specific state of being that I inhabit) existing in my climber's body to explore my self in the body of abortion. This projection through climbing allowed my feelings to exist, fully on the rock as an "object" separate to my self as "subject," so that I could realise and inhabit the various states of being I embody in the body of a climber, the body of abortion, and the body of grief.

Merleau-Ponty (1945/2014) described how bodies accumulate definitions written through embodied experiences that shape the perceptions one holds about the world, one's self, and one's body. As an embodied being, upon climbing, my state of being is fundamentally altered; the way in which I experience reality changes the moment I enter into a dialogue with the rockface.

The novelty of adventurous, nature-based experiences, combined with the bodily sensations associated with this kind of physicality are factors that can enable an individual to enter this new state of being (Vespestad & Lindberg, 2011; Vespestad et al., 2019). This heightened state of being has been linked to existential authenticity, wherein people can engage in activities that enable them to unveil their idea of their true self and enact it (Rickly-Boyd, 2013, 2012; Rickly & Vidon, 2017; Wang, 1999). This accumulation of research demonstrates the way in which climbing can heighten one's awareness of their embodied state of being, in a similar way that pregnancy and abortion can. The implication of this in my lived experience was the realisation that who I am in the instance of climbing is different to all other versions of my self and becomes integrated into my identity, changing who I am in that moment when I become the climber.

If there exists a version of my self that holds a definition exclusive to my state of being when climbing, then I propose there also exists an equal version of my self that has accumulated a separate definition based on the state of being I inhabited during my abortion. I suggest that a parallel can be drawn between these separate states of being to better understand the meanings I attach to them. What occurs is an existential interaction whereby I can use my state of being as my climbing self to explore the meanings attached to the states of being I inhabited during and after my abortion. I can then discover new definitions of my body and the implications these pose for my sense of self as an embodied being.

When people are faced with a circumstance that presents a fundamental change to their way of embodying the world and sense of self, they may use narrative to make sense of and attribute meaning to the experience (Medved & Brockmeier, 2008; Sparkes & Smith, 2011). The body as an unyielding factor of the corporeal experience thus becomes the site of narrative and experience where stories are told through and from (Frank, 1995). In November, my feelings around my abortion centred mostly on grief; these feelings were ongoing, and grief was the most prominent theme in my journal until early January.

In providing a way to cope with my new embodied state after my abortion, one of loss, the rockface became a canvas upon which I could draw my intense feelings of grief. Merleau-Ponty (1945/2014) discussed how a musician does not "learn" or

"memorise" the keyboard but rather "literally incorporates the space of the keyboard into his [*sic*] bodily space" (p. 146). Merleau-Ponty went on to describe how this unity between object and body creates space of expressiveness.

When my interaction with the crag begins as I climb, the rock ceases to exist as an entity that is separate from my own. This is reflected in my journal when I wrote that the rock and I will "become one":

> The rock is a place to relieve my anguish, but it is also my sanctuary of hope. Entire universes live in the contact points between the rock and me. Time sometimes disappears completely. This space, for me, is where hope lives. Finger pads on crystals of granite, cool, light mountain air, the sound of a river flowing nearby. These natural things represent a very real hope for me. These are the spaces that thrive every spring despite each harsh winter. (08 January 2023)

Immersive embodied interaction has been encouraged to understand experiences that change the nature in which people embody the world (Carless & Douglas, 2016). For me, climbing represents the immersive embodied interaction that I require to understand my experience.

Embodied experiences in nature have been utilised by other researchers to understand personal narratives of grief. Buckley (2018) wrote about navigating the liminal space between life and death after her son Robbie passed away suddenly. She referred to the cyclical heroine's journey (Murdock, 2013), where the heroine's quest is one of inner healing that sees body, mind, nature, and spirit as intertwined factors allowing her to emerge as her authentic self with an expanded perspective. This narrative directed Buckley through her grief, which saw her seek nature to heal. Documented in Buckley's research is her reconnecting to her body through reawakening her senses and perceiving the world more intensely through embodied experiences in nature. This features in my own journey; specifically, this reawakening of senses can be seen in the language I use to describe the relationship between myself and the natural environment of the rockface.

Additionally, Engel (in press) depicted through developing the outdoor health practice of *Trail Tracing* how individuals can become *with* their grief, acknowledging the nature of grief as a facet of life that continues to exist within an individual's life long after the event of loss itself. Engel began developing the practice after her personal grief, losing her daughter Anna-Mae following stillbirth, exemplifying the potential that lived experiences have in shaping outdoor health practice. As a nature-based practice, the techniques deployed in *Trail Tracing* connect participants with nature, purposefully designed to give them "permission to go inward and simultaneously connect with the natural world around them" (p. 18). Engel depicted perfectly here the ways in which nature-based activities, including climbing, enable one to embody different states of being to process, heal, and become *with* grief and nature.

Both Buckley and Engel discussed how grounding themselves through nature was a way to reconnect with Robbie and Anna-Mae (respectively). For a long while, I debated the idea of motherhood and how it could or could not fit in my developing perception of self. Like a jigsaw piece that never quite fit, I felt that

I couldn't call myself a mother as I chose to have an abortion, but equally, I was experiencing a very real sense of having lost something that I had always wanted. Additionally, and I acknowledge that this is not the experience of all individuals who have an abortion, I had felt love towards the foetus I was carrying and a want to continue my pregnancy despite the circumstances leading me to choose abortion. I wrote about the child I could have had in my journals reflecting on "what could have been" in multiple instances.

Letherby (2010) used the term "nearly mother" to describe her relationship to motherhood and how her various experiences have influenced her identity in this context. I relate to this term and adopt it to describe how my own experiences with motherhood intersect with my identity.

My experiences are embodied in nature and are, therefore, fundamentally intertwined with the body they happen in. My abortion changed my perception of my body and, as such, changed the way I experience the world. By embodying the world through my climbing self, I have been able to explore, acknowledge, and accept the accumulation of definitions my body has.

I continue to experience the world through my climber's body. I also experience the world through the unfolding definitions and meaning my body holds as the body of abortion, the body of grief, and the body of a "nearly" mother, and the interconnected nature of what it means to experience my body in these ways.

The Second Pitch: Redefining Self

> As I reached the lower-off relief washed over me, somehow, we had drifted onto the more difficult lines either side of our intended route and I had to practise some of my most technical climbing to date. After I weighted my kong, I looked out across the valley. I could see the corner of a reservoir, that had remained hidden until now, chalky swathes of limestone spreading as far as I could see, and so many trees, trees that looked like pinpricks compared to the height of them on the ground. In that moment I had two thoughts that had never crossed my mind before: the first was that of how monumental it felt to finally share the moment of a completed multipitch with another women, the second was what can only be described as an innate need to keep doing exactly what I was—climbing in the mountains and having adventures. This acceptance was an inkling, that perhaps the notions of motherhood I had adopted before my abortion would no longer fit the ideal of my life and required a new perspective.
>
> The version of myself defined by my abortion and the version of myself that was defined by climbing seemed to converge in that moment and a new definition began. (28 March 2023)

Time is an embodied experience. Merleau-Ponty (1945/2014) wrote, "I am not in space and in time, nor do I think space and time; rather I am of space and time" (p. 141). To experience a fundamentally different state of being, in the context of abortion or climbing, is to experience time differently. Beynon-Jones (2016) specifically elaborated on this in her research, analysing the Western conceptualisation of

time as it is adopted within obstetric medicine and the ways in which women experience gestating time as an embodied experience.

Temporal landscapes are shaped by dimensions of past, present, and future, where events in each dimension affect one another (Merleau-Ponty, 1945/2014; Wittman, 2018); these temporal dimensions can disconnect or blur for people in the time leading up to abortion (Kjelsvik et al., 2018; van Manen, 1990). Kero et al. (2009) explained that this experience of temporal disconnect climaxed the moment the women in their study had the pill in their hand and was described as an emotionally charged act representing a moment where past and future amalgamate. I share in this experience; for me, the moment of holding the pill to end my pregnancy definitely felt loaded. Until I swallowed that medication, there was a possibility that my life could completely change, but the moment I did, I think I knew that my life would remain more or less the same while I would be different, fundamentally changed by this experience of *almost*.

Similarly, the way in which time is experienced during climbing is altered. This is thought to be due to the nature of climbing in initiating a flow state, in which our sense and perception of self, and consequently our sense of time, are lessened (Wittman, 2018). Climbing allows women to exist outside of the social norms prescribed to them, happening in an environment and through movement that is not typically "feminine" (Bell et al., 2018; Straker, 2003). Combining these ideas, climbing allows women, and other marginalised individuals, to explore and redefine what it can mean to embody the world as themselves by experiencing a lessened sense of self and, thus, a momentary reduction of the social constructs within which that "self" exists.

Discourse surrounding the essence of a woman has primarily centred on notions of motherhood (Amuchastegui, 2013). Such discourse has led to "woman" and "mother" being perceived by many people as synonymous. These notions of both what it means to be a woman and what it means to be a mother enable the vilification of women pursuing adventurous activities and careers, including climbing, as this presumably goes against what has been societally deemed a good mother and woman (Coates & Clayton, 2023, Frohilk, 2006). Additionally, this poses questions as to who in society is allowed to become a mother or a parent and what we perceive as a family.

In light of these intersecting societal norms regarding womanhood and motherhood, the act of choosing to terminate a pregnancy is an autonomous one that can be compared to the rejection of these norms (Amuchastegui, 2013; Belfrage et al., 2022; Makenzius et al., 2012). Thus, the enactment of movement that challenges socially prescribed norms, in addition to that of abortion, restores the essence of a person as belonging to themself. Depicted in the above journal excerpt is a moment on the second lower-off I had ever shared with another woman, where the movement of climbing allowed me to reflect upon my choice not to become a mother—a choice that allowed me to experience the adventure of climbing in Costa Blanca 10 months later.

Our perception of self at a present moment is conditioned by our past as a collection of events in our lives that we have assigned meaning to; meanwhile,

we are simultaneously unfolding constantly into the prospective future (Merleau-Ponty, 1945/2014; Wittman, 2018). When I refer to the embodiment of a new definition, I refer to a renegotiation of myself: an evolution of what it means to be me as an embodied being. Merleau-Ponty demonstrated this through the case of a young woman who experienced an inability to speak after she was forbidden to see a man with whom she shared a sexual and romantic relationship: "The young woman never stops speaking; rather, she 'loses' her voice as one loses a memory" (p. 164). Here, Merleau-Ponty (1945/2014) outlined how the experience this woman had with her inability to speak was because of the significant connection that that part and ability of the body had in a certain part of her life. The change in her circumstances fundamentally altered how she embodied the world, showing how the body accumulates certain definitions because of what occurs through lived experiences and how this is related to the self as the being who continues to embody the world.

This is to say that the perception one holds of one's body and self is constructed, negotiated, and renegotiated based on experiences and the meanings we attach to them. For me, overcoming the difficulty I experienced after my abortion through climbing is partly due to that specific modality of embodiment, highlighting what my body is capable of and reframing it through the set of possibilities that climbing offers.

> I want to talk about change, about transformational periods of time and the extent of resilience that we have the potential to practise as humans. I want to talk about mountains, and space, and perspective, and clear air—but all of that begins with me admitting one thing.
>
> It begins with me stating how I was wrong.
>
> This entire time I thought that climbing connected me to my abortion, that it created a space for me to be tethered to the child I almost had and the person I almost became. While there is some truth to those words in that I wouldn't have necessarily had the time and space to actively think about my experience without the safe space that climbing made for me, I realise that perhaps this wasn't the only space that climbing made for me or the only space that I needed.
>
> The last week has held some intense emotions and reflection. I revisited many of the places I went to in the summer around the Lakes, where the initial seed of this idea was planted. What I realised is that climbing hasn't been a way for me to connect to my abortion and the child I almost had. Instead, it's been a lens through which I can look to my future. Slowly I've been drawn in and opened the window, letting more of the future in and making peace with the past until I am no longer grounded by it.
>
> Climbing has represented my future this entire time. Waving the flag for everything I love and everything I hope to achieve and has allowed me a way to invest in that future—a future I wouldn't have had without my abortion.
>
> Going climbing, thinking about my future, and investing in myself within it has allowed me to gain autonomy over my abortion. Throughout this research I've also read and heard a lot about other women's experiences and perspectives [of abortion] and spent much time considering how my own experience plays into an abundance of differing and very opposing narratives; I've worried about my work being used to vilify women seeking

> abortion and wondered about how best I can talk about grief and abortion synonymously, in such a way to empower women, whatever their experience. Through this, I've come to feel very empowered by my abortion and every aspect of the experience.
>
> For a while, my abortion defined me. Now my abortion makes up just one piece of my tapestry.
>
> I have found a deeper connection than I thought possible to my fertility, womanhood, and to other women through writing this dissertation. (16 March 2023)

This final excerpt from my climbing journal exemplifies this changing perception of self and demonstrates time as the thread that links past, present, and future together to converge at a point of redefining self. The grief I experienced in the aftermath of my abortion resulted in abortion remaining constantly present in my sense of self. It would remain this way until I assigned meaning to it, redefining who I was and what it meant to be me after this significant corporeal event. Through embodying my climbing self, I was able to fully realise and feel my loss by also embodying my grieving self. As such, I have been able to redefine what it means to be me and how I experience the world.

The Redefined Self

The "end point" I was searching for with regard to my abortion, my grief, and my almost-motherhood does not exist. As I continue to embody the world, my experience of the present and immediate predictions for the prospective future will continue to evolve to define, and redefine, my perception of self and with that the way in which I relate to my abortion and the space that does or does not hold in the way I perceive my self to be. Sometimes I will grieve. Sometimes I will be relieved and glad. At other times I may be indifferent. Right now, climbing has enabled me to acknowledge, accept, and embody a new definition of self, of which my abortion is a defining part of that self.

Epilogue

I write this only days after the 2-year anniversary of my abortion and at least a year since the original version of this research was written. If I had to choose one word to describe the feeling of this second anniversary year, I would choose "celebration."

As I reflect, I realise that choosing to have an abortion was the greatest act of self-love I have ever demonstrated. Each of my favourite moments from the last 2 years has been directly opened to me through my abortion, and with that, every climb completed (or attempted), every mountain I have had the joy to walk upon, and every wave that has caressed my body. It has been a journey through the depths of grief, but it has also been a journey home—back to myself.

References

Abortion Act. (1967). UK Government. https://www.legislation.gov.uk/ukpga/1967/87/section/1

Allen-Collinson, J. (2011). Feminist phenomenology and the woman in the running body. *Sport, Ethics and Philosophy*, *5*(3), 297–313.

Allen-Collinson, J. (2016). Autoethnography as the engagement of self/other, self/culture, self/politics, selves/futures. In T. E. Adams, S. H. Jones, & C. Ellis (Eds.), *Handbook of autoethnography* (pp. 281–299). Routledge.

Amuchastegui, A. (2013). Body and embodiment in the experience of abortion for Mexican women: The sexual body, the fertile body, and the body of abortion. *Gender, Sexuality & Feminism*, *1*(1), 1–17.

Andalibi, N., Lacombe-Duncan, A., Roosevelt, L., Wojciechowski, K., & Giniel, C. (2022). LGBTQ persons' use of online spaces to navigate conception, pregnancy, and pregnancy loss: An intersectional approach. *ACM Transactions on Computer-Human Interaction (TOCHI)*, *29*(1), 1–46.

Barratt, P. (2011). Vertical worlds: Technology, hybridity and the climbing body. *Social & Cultural Geography*, *12*(4), 397–412.

Beauvoir, S. (1952). *The second sex* (H. M. Parshley, Trans.). Vintage Books.

Belfrage, M., Didier, E., & Vazquez-Quesada, L. (2022). Voicing abortion experiences to reduce stigma: Lessons from an online storytelling platform in Mexico. *Women's Reproductive Health*, *9*(3), 203–217.

Bell, M., Cosgriff, M., Lynch, P., & Zink, R. (2018). Nourishing terrains? Troubling terrains? Women's outdoor work in Aotearoa New Zealand. In T. Gray & D. Mitten (Eds.), *The Palgrave international handbook of women and outdoor learning* (pp. 199–215). Springer International Publishing.

Beynon-Jones, S. N. (2016). Gestating times: Women's accounts of the temporalities of pregnancies that end in abortion in England. *Sociology of Health and Illness*, *39*(6), 832–846.

Bochner, A. P., & Ellis, C. (1996). *Composing ethnography: Alternative forms of qualitative writing*. AltaMira Press.

Bochner, A. P. (2020). Autoethnography as a way of life: Listening to tinnitus teach. *Journal of Autoethnography*, *1*(1), 81–92.

Bochner, A. P., & Ellis, C. (2022). Why autoethnography? *Social Work & Social Sciences Review*, *23*(2), 8–18.

Bordo, S. (1998). Bringing body to theory. In D. Welton (Ed.), *Body and flesh: A philosophical reader* (p. 360). Blackwell Publishers.

Braidotti, R. (2022). *Posthuman feminism*. Polity Press.

Brooke, S. (2009). The sphere of sexual politics: The Abortion Law Reform Association, 1930s to 1960s. In N. Crowson, M. Hilton, & J. McKay (Eds.), *NGOs in contemporary Britain* (pp. 77–95). Palgrave Macmillan.

Bryman, A. (2012). *Social research methods* (4th ed.). Oxford University Press.

Buckley, A. (2018). Navigating grief in the outdoors to emerge as a bush adventure therapy leader. In T. Gray & D. Mitten (Eds.), *The Palgrave international handbook of women in outdoor learning* (pp. 405–420). Springer International Publishing.

Carless, D., & Douglas, K. (2016). Narrating embodied experience: Sharing stories of trauma and recovery. *Sport, Education and Society*, *21*(1), 47–61.

Coates, E., & Clayton, B. (2023). Mothers at the wall: Using creative nonfiction techniques to explore climbing and motherhood. In L. Spowart & K. R. McGannon (Eds.), *Motherhood and sport* (pp. 149–161). Routledge.

Denzin, N. (1994). The art and politics of interpretation. In N. Denzin & Y. Lincoln (Eds.), *The handbook of qualitative research* (pp. 500–515). SAGE.

Denzin, N. K. (2014). *Interpretive autoethnography*. SAGE.

Ellis, C. (2016). Preface: Carrying the torch for autoethnography. In T. E. Adams, S. H. Jones, & C. Ellis (Eds.), *Handbook of autoethnography* (pp. 9–13). Routledge.

Engel, L. (in press). Trail tracing and walking with grief: A story of practice. In A. Dickmeyer, A. Pryor, B. Knowles, P. Marsh, T. Gray, & C. Carpenter (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Frank, A. (1995). *The wounded storyteller: Body, illness and ethics*. University of Chicago Press.

Frohilk, S. (2006). "Wanting the children and wanting K2": The incommensurability of motherhood and mountaineering in Britain and North America in the late twentieth century. *Gender, Place & Culture*, *13*(5), 477–490.

Harper, N. J., & Doherty, T. J. (2021). An introduction to outdoor therapies. In N. J. Harper & W. W. Dobud (Eds.), *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives* (pp. 3–16). Routledge.

Humberstone, B. (1998). Re-creation and connections in and with nature: Synthesizing ecological and feminist discourses and praxis? *International Review for the Sociology of Sport*, *33*(4), 381–392.

Irvine, B. (2017). A feminist perspective on selective termination. In E. R. M. Lind & A. Deveau (Eds.), *Interrogating pregnancy loss: Feminist writings on abortion, miscarriage, and stillbirth* (pp. 112–117). Demeter Press.

Kero, A., Hogberg, U., Jacobsson, L., & Lalos, A. (2001). Legal abortion: A painful necessity. *Social Science & Medicine*, *53*(11), 1481–1490.

Kero, A., Wulff, M., & Lalos, A. (2009). Home abortion implies radical changes for women. *The European Journal of Contraception & Reproductive Health Care*, *14*(5), 324–333.

Kimport, K., & Littlejohn, K. E. (2021). What are we forgetting? Sexuality, sex, and embodiment in abortion research. *Journal of Sex Research*, *58*(7), 863–873.

Kjelsvik, M., & Gjengedal, E. (2011). First-time pregnant women's experience of the decision-making process related to completing or terminating pregnancy: A phenomenological study. *Scandinavian Journal of Caring Sciences*, *25*(1), 169–175.

Kjelsvik, M., Sekse, R. J. T., Moi, A. L., Aasen, E. M., Chelsla, A. A., & Gjengedal, E. (2018). Women's experiences when unsure about whether or not to have an abortion in the first trimester. *Health Care for Women International*, *39*(7), 784–807.

Letherby, G. (2010). Reflection on loss as a m/other and a feminist sociologist. *Journal of the Motherhood Initiative Forest Research and Community Involvement*, *1*(2), 258–268.

Levinas, E. (1969). *Totality and infinity: An essay on exteriority*. (A. Lingis, Trans.). Duquesne University Press.

Lupton, D., & Schmied, V. (2013). Splitting bodied/selves: Women's concepts of embodiment at the moment of birth. *Sociology of Health & Illness*, *35*(6), 799–976.

Makenzius, M., Tyden, T., Darj, E., & Larsson, M. (2012). Autonomy and dependence: Experiences of home abortion and prevention. *Scandinavian Journal of Caring Sciences*, *27*(1), 569–579.

Medved, M., & Brockmeier, J. (2008). Continuity amid chaos: Neurotrauma, loss of memory, and sense of self. *Qualitative Health Research*, *18*(4), 469–479.

Merleau-Ponty. (2014). *Phenomenology of perception*. Routledge. (Original work published 1945).

Mitten, D. (2021). Critical perspectives on outdoor therapy practices. In N. J. Harper & W. W. Dobud (Eds.), *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives* (pp. 175–187). Routledge.

Mullins, P. M. (2009). Living stories of the landscape: Perception of place through canoeing in Canada's north. *Tourism Geographies*, *11*(9), 233–255.

Mullins, P. M. (2020). Together along the way: Applying mobilities through praxis in outdoor studies field research. In B. Humberstone & H. Prince (Eds.), *Research methods in outdoor studies* (pp. 196–206). Routledge.

Murdock, M. (2013). *The heroine's journey: Woman's quest for wholeness*. Shambhala Publications.

Neimanis, A. (2017). *Bodies of water: Posthuman feminist phenomenology*. Bloomsbury Academic.
Paltrow, L. M., Harris, L. H., & Marshall, M. F. (2022). Beyond abortion: The consequences of overturning Roe. *The American Journal of Bioethics*, *22*(8), 3–15. https://doi.org/10.1080/15265161.2022.2075965
Purcell, C. (2015). The sociology of women's abortion experiences: Recent research and future directions. *Sociology Compass*, *9*(7), 585–596.
Richards, K., Hardie, A., & Anderson, N. (2019). *Outdoor mental health interventions. Institute for Outdoor Learning statement of good practice*. The Institute for Outdoor Learning.
Rickly, J. M., & Vidon, E. S. (2017). Contesting authentic practice and ethical authority in adventure tourism. *Journal of Sustainable Tourism*, *25*(10), 1418–1433.
Rickly-Boyd, J. M. (2012). Lifestyle climbing: Toward existential authenticity. *Journal of Sport & Tourism*, *17*(2), 85–104.
Rickly-Boyd, J. M. (2013). Existential authenticity: Place matters. *Tourism Geographies*, *15*(4), 680–686.
Sheldon, S., Davis, G., O'Neill, J., & Parker, C. (2023). *The Abortion Act 1967: A biography of a UK law*. Cambridge University Press.
Silbergleid, R. (2017). Missed miscarriage. In E. R. M. Lind & A. Deveau (Eds.), *Interrogating pregnancy loss: Feminist writings on abortion, miscarriage, and stillbirth* (pp. 112–117). Demeter Press.
Sparkes, A. C., & Smith, B. (2011). Inhabiting different bodies over time: Narrative and pedagogical challenges. *Sport, Education and Society*, *16*(3), 357–370.
Stoller, S. (2005). Asymmetrical genders: Phenomenological reflections on sexual difference (C. R. Nielsen, Trans.). *Hypatia*, *20*(2), 7–26.
Straker, J. (2003). A philosophical journey in Antarctica. In B. Humberstone, H. Brown, & K. Richards (Eds.), *Whose journeys? The outdoors and adventure as social and cultural phenomena* (pp. 329–336). The Institute for Outdoor Learning.
Tait, P. (2018). Performing ghosts, emotions and sensory environments. In L. Stevent, P. Tait, & D. Varney (Eds.), *Feminist ecologies: Changing environments in the Anthropocene* (pp. 175–191). Palgrave Macmillan.
Toyosaki, S., & Pensoneau-Conway, S. L. (2016). Autoethnography as a praxis of social justice. In T. E. Adams, S. H. Jones, & C. Ellis (Eds.), *Handbook of autoethnography* (pp. 557–575). Routledge.
Urry, J. (2000). *Sociology beyond societies: Mobilities for the twenty-first century*. Routledge.
van Manen, M. (1990). *Researching lived experience human science for an action sensitive pedagogy*. State University of New York Press.
Vespestad, M. K., & Lindberg, F. (2011). The understanding nature-based tourist experiences: An ontological analysis. *Current Issues in Tourism*, *14*(6), 563–580.
Vespestad, M. K., Lindberg, F., & Mossberg, L. (2019). Value in tourist experiences: How nature-based experiential styles influence value in climbing. *Tourist Studies*, *19*(4), 453–474.
Wang, N. (1999). Rethinking authenticity in tourism experience. *Annals of Tourism Research*, *26*(2), 349–370.
Wittman, M. (2018). *Altered states of consciousness: Experiences out of time and self* (P. Hurd, Trans.). The MIT Press.
Young, I. M. (1984). Pregnant embodiment: Subjectivity and alienation. *Journal of Medicine and Philosophy: A Forum of Forest Bioethics and Philosophy of Medicine*, *9*(1), 45–62.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 19
"If You Look, You Will See the Light Shining Through the Darkness": A Photovoice Study Exploring A Nature Walking Group for People Attending Mental Health Services

Julaine Allan, Katarzyna Olcoń, Peter Destry, and Thomas Astell-Burt

Sociocultural Positioning

The authors of this chapter are a group of white researchers who believe that increasing contact with nature helps people to feel less lonely and boosts positive mental wellbeing. With backgrounds in social work and public health, we bring a focus on improving outcomes for people with severe and persistent mental health conditions. Our work is informed by social constructivism, feminism, and sustainable living approaches to climate change to develop and enhance outdoor health.

J. Allan (✉)
Rural Health Research Institute, Charles Sturt University, Orange, Australia
e-mail: juallan@csu.edu.au

KatarzynaOlcoń
School of Social Science, University of Wollongong, Wollongong, Australia
e-mail: kolcon@uow.edu.au

P. Destry
Illawarra Community Mental Health Rehabilitation, Illawarra Shoalhaven Local Health District, Wollongong, Australia
e-mail: peter.destry@health.nsw.gov.au

T. Astell-Burt
School of Architecture, Design and Planning, The University of Sydney, Sydney, Australia
e-mail: thomas.astell-burt@sydney.edu.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_19

Background

Mental health is an integral part of a person's health and wellbeing. Good mental health supports participation in daily life, strong relationships, and physical wellbeing. However, environmental, personal, and genetic factors can contribute to mental health conditions that can affect every aspect of a person's circumstances (World Health Organization [WHO], 2022). Mental health conditions are increasing globally, causing ongoing disability; consequently, access to quality care is an international priority (WHO, 2022).

Mental health conditions occur on a spectrum from mild to severe, and symptoms are typically sporadic or cyclical depending on life circumstances and stressors (Wren-Lewis & Alexandrova, 2021). However, enduring mental illnesses are recurring and debilitating for 1.3 million Australians or 19% of the population (Australian Institute of Health and Welfare [AIHW], 2024). The more serious the condition, the greater the need for care and support. In 2022 to 2023, Australia spent AU$13.2 billion on mental health services, an annual average annual increase of 3% since 2017 to 2018 (AIHW, 2025). Expenditure was primarily for medical care, including general practitioner appointments, medications, and specialist psychiatric hospital outpatient and inpatient services (AIHW, 2024). Demand for these and for other mental health services has been accelerated by COVID-19 (AIHW, n.d.). Given that many people will need intermittent but ongoing care, alternative, complementary, cost-effective interventions are required (Astell-Burt et al., 2023; Olcoń et al., 2023).

The impact of severe mental illness on people's circumstances is significant. It limits many people's ability to work, study, and socialise, resulting in structural discrimination and poverty- related disadvantage such as poor housing, chronic unemployment, poor physical health, social isolation, and loneliness (Feng & Astell-Burt, 2022a; Migliorini et al., 2022). By middle age, people with enduring conditions are likely to have experienced multiple episodes of illness and treatment. For these reasons, many people with enduring conditions prioritise improvement in social and functional outcomes over reduction in clinical symptoms (Barnett et al., 2022). A focus on improving wellbeing, defined as a state of positive feelings, and meeting full potential in the world (Simons & Baldwin, 2021) is consistent with the recovery approach that guides Australia's publicly funded mental health services.

Implementing a recovery-focused approach requires interventions that take a person-centred and holistic view of health and wellbeing (Glover, 2012). In practice, this means supporting personal efforts of recovery through more than talking therapies and case management. Nature connection has potential to impact wellbeing. Engagement with nature has been proven to protect and restore mental health and wellbeing for people experiencing stress, depression, anxiety, and the population in general (Bratman et al., 2019; Nguyen et al., 2023).

Access to nature is a social determinant of health. People who regularly visit green space (parks, gardens, bushland) and blue space (rivers, lakes, beaches) are

more likely to have better mental, physical, and social health than those who do not access these environments (Astell-Burt et al., 2022; Bell et al., 2019; Corazon et al., 2018). However, it is generally easier for healthy, employed people living in more expensive suburbs to visit natural environments due to better access to safe and higher quality green and blue spaces (Feng & Astell-Burt, 2022b; Nguyen et al., 2021). Unfortunately, evidence shows that people with enduring mental illness face barriers to accessing nature due to the same socioeconomic factors that impact their mental health (Migliorini et al., 2022; Olcoń et al., 2023; Tambyah et al., 2022). These barriers restrict their ability to engage with and experience benefit from natural environments. For example, a recent nationally representative study in Australia reported that among adults living with a high risk of psychological distress, only 57.7% spent upwards of 2 hrs per week in any form of natural environment (compared with 67.0% of those with low or no risk), and just 26.1% visited a preferred natural setting at least once a week in the past month (compared with 45.7% of those with low or no risk) (Astell-Burt et al., 2023). This indicates lower than average levels of nature contact per se, and especially less contact with those natural settings that resonate with people's preferences (Astell-Burt et al., 2023).

People with mental health conditions also experience barriers to participating in research. Studies into mental health and mental illness have tended to objectify people by researching *on* them, not *with* them. For example, historically, many researchers have tended to turn a person's experience of mental illness into a list of symptoms, behaviours, and attributes that can be diagnosed (Chesney et al., 2014). More recently, some researchers have tried to be inclusive, valuing lived experience and designing studies around topics that people with mental health conditions view as important in their lives. For example, one study described and documented the housing experiences of people with severe mental illness in terms of the condition and quality of the housing and its impact on their physical health rather than in relation to the mental health diagnoses of the people living there (Cabassa et al., 2013).

Modern person-centred methods of research have also adapted to foreground the views and experiences of the people involved in a study. Photovoice involves research participants documenting their experiences of a research topic through photos and related narratives to convey their experiences (Creighton et al., 2018). Photovoice is often used to represent the marginalisation experiences of members of a stigmatised group to others to promote empathy and understanding (Russinova et al., 2017; Tippin & Maranzan, 2022). It is consistent with a participatory action research methodology where the aim of the research is to create practice or policy change in community settings (Johnston, 2016; Wang et al., 1996). However, the use of images to convey meaning has also been used to illustrate mental health recovery narratives as an alternative to spoken explanations (Vansteenkiste et al., 2020). Further, taking photos of positive experiences has been found to enhance those experiences (Diehl et al., 2016). Photovoice provides an opportunity for people to represent thoughts, feelings, and experiences in images they create and subsequently control the interpretation of.

The impact of nature on people with enduring mental illness is underresearched, and implementation of nature-related programs within Australian mental health services is minimal (Olcoń et al., 2023). This research aimed to explore the impact and meaning of a nature walking group on participants' mental health via photos taken during the walks and discussed in the closing reflective workshop.

Methods

This study used a multimethod ethnographic approach to observe and explore the experiences of people participating in a 10-week nature walking group (Denzin, 2011). Alongside focus groups, interviews, and observations, photovoice was a component of the study to ensure the inclusion of the walking group participants' voices in the collection and analysis of data (Edmondson et al., 2022). The photos were intended to provide a means for nature walking group participants to highlight the most significant aspects of the walks and to self-interpret the meaning of the photos and the impact of the walking group program rather than have researcher-interpreted accounts of their experiences. All participants provided written consent for participation, and to use their quotes and descriptions associated with photos in publication; and the study was approved by the joint University of Wollongong and Illawarra Shoalhaven Local Health District (ISLHD) and Medical Human Research Ethics Committee (2020/ETH02764). This chapter focuses only on the photovoice component of the study, while the outcomes of the entire program are described elsewhere (see Olcoń et al., 2023).

Setting and Participants

The ISLHD provides public hospital and community health services to a population of approximately 400,000 residents along the New South Wales coast, south of Sydney. Both inpatient and outpatient acute and rehabilitation clinical mental health services are provided across the district. All participants were recruited from Illawarra Community Mental Health Rehabilitation Service [hereafter the Service] where the author PD was employed as a social worker. The Service provides a range of rehabilitative interventions on a weekly or fortnightly basis to people experiencing serious mental health conditions including bipolar disorder, schizophrenia, and clinical depression. Most people attending the Service have enduring conditions requiring ongoing support and will be involved with the Service for months to years at a time.

The Illawarra region is known for its natural beauty and has many green and blue spaces available for walking, including coastal national parks and eucalyptus forest tracks in the escarpment rising behind the coastal strip, as well as beaches, large parks, and gardens around lakes and waterways. PD selected

10 public walking tracks within a 1-hour drive of Wollongong city. All tracks were graded 2 or 3 on the National Parks walk grading system (https://blog.nationalparks.nsw.gov.au/whats-the-best-hike-for-you/), which meant they had well-formed paths and few hills and were classified as suitable for most ages and fitness levels.

Nature Walking Group Program

Ten participants (four in Phase I and six in Phase II) were recruited from the Service for one of two 10-week nature walking groups, involving one walking session each week. Research participants also continued to receive treatment as usual. Groups were facilitated by two mental health clinicians who also provided transport to and from the walk site for all participants in health service vehicles. The walking sessions lasted between 30 and 60 min and took place between July and December 2022. During the group, participants were invited to walk at their own pace, with or without social company, while remaining in the group. PD conducted a short introduction to the site at the beginning of each walk, including any natural features (e.g., "Today we will walk to a waterfall") or specific history (e.g., "This is an Indigenous cultural site for food gathering"). At the end of each walk, a short debrief session was held where PD or the other facilitator asked participants to reflect on things they had seen, heard, touched, or smelt that they thought were memorable.

Photovoice Procedure

Disposable film cameras with 36 exposures were provided at each walk. Each participant was given the same camera each time, so all photos on the film belonged to the same person and was available on all walks they attended. The choice of disposable as opposed to digital cameras was deliberate, as research shows that the intention to share photos with others—for example, on social media—compared to the photos taken for oneself can undermine enjoyment (Barasch et al., 2017). Furthermore, the use of smartphones was discouraged as technology potentially reduces connectedness with nature (Barasch et al., 2017). Participants were asked to capture any photos that they deemed particularly meaningful or beautiful. Participants were informed prior to consenting to the photovoice component of the study that the photos were part of the data collection, and they would be invited to discuss any they perceived as significant to their walking group experience in a focus group conducted at the end of the final walk. Photos were developed by the facilitators and given to the participants at the start of the closing reflective group meeting. It was the first time they saw the photos they had taken over the 10-week period.

Data Collection

Data collected for the study included photos taken by participants during the walks, an audio-recorded reflective focus group held at the end of the 10th walk for each group, and notes made by participants about their photos. In the focus group, participants were given a packet containing their photos and asked to look through them. After 5 min of looking at the photos, each person was asked to choose three to five photos that were most significant to them in representing their walking group experience. Participants were given a sheet of paper and a pen and asked to make some notes about which photos they had chosen and why. Following this each person in turn was invited to show their chosen photographs to the group and say what was significant about each one. Occasional prompts were used by the research team (KO and JA), including "What does this photograph mean to you?" "Why did you decide to take it?" and "What does this photo mean for your health?"

Data Analysis

The narratives produced by participants were used to explore their lived experiences of nature walking and aspects of the natural environment that were meaningful to them (Tsang, 2020). Photovoice gives participants control over what feelings or meanings to use to explain their perspectives rather than being researcher interpreted (Asaba et al., 2023). The researchers collated the participant accounts with copies of the relevant photos and searched for repeated words and phrases in the focus group transcript and participant photo descriptions to group together similar sentiments or experiences into themes.

Results

The key themes identified from the participant analysis were (a) "Made me feel calm," (b) "You will see the light," and (c) "When you look at the photo, you can feel like you're there." Participants' words were used to name each theme to preserve the original intention and meaning behind participants' photos and their interpretations. Nature walking group participants valued the walking group experience, perceiving it to improve their mental state, create links between the present and positive times in their past, and to give them safe opportunities to interact with others. All names used are pseudonyms.

"Made Me Feel Calm"

The first theme captures the experiences and the feelings of the participants while they were out walking in nature. It refers to the immediate sensory experiences such as observing colours, hearing sounds, and whether the pictures were able to capture some of these moments in nature. It also refers to participants learning how to become more observant of their environment, some of which can be attributed to being asked to take photos of whatever they found interesting, beautiful, or meaningful.

Participants reported the nature walks made them feel calmer and more present in the moment. Many tried to capture this sense of peace and calm in their photos to carry that feeling with them. Water seemed to have a calming effect on many participants. For example, Paul stated that he really loved the Minnamurra Rainforest, especially the sound of the water falling and trickling over the rocks. He continued describing how the peacefulness of the environment made him feel calm and at ease. He shared the photo (Fig. 19.1) he took of the water flowing through the rainforest and the hanging bridge with joy:

Others found the water element similarly calming. A few participants selected photos representing water (Fig. 19.2) and captioned them simply:

Living with chronic anxiety and depression and other mental health conditions, as well as precarious situations including temporary and insecure housing, many of the participants would not often have experienced feeling calm and peaceful, and these moments in nature seemed to have a significant value for them.

Participants reported that being asked to take photos helped them to start noticing things in the natural surroundings. Garry said he normally did not take photos, so he was hesitant when he was given a camera and asked to take photos on the walks: "First of all, What am I gonna take pictures of? like this little bush, and you see it everywhere you look, nothing much really changes." Nevertheless, the exercise made him more observant of the things in nature he might have normally



"It felt peaceful and just the water trickling over the rocks made me feel calm. And that's probably the best photo that I've got there that sort of reminds me of the peacefulness and quiet." (Paul)

Fig. 19.1 "It helps you feel at ease"(The image and quote are shared with permission from participants of the research)



"To be calm." (John)



"Taking a breath." (Olivia)

Fig. 19.2 Representing water (The image and quote are shared with permission from participants of the research)

not noticed. As he concluded, "You're surprised what stands out at you when you're walking along" (Garry). Similarly, Olivia stated, "Finding other bits in nature were really good." One of the things participants started to notice were the colours and the lights. The colour green particularly stood out. Sometimes it was in unexpected objects such as a rock covered in green moss, which Rachel commented on particularly enjoying, and at other times it was the totality of the surrounding: "Just the greenery, the silence in the rainforest it was just amazing to see" (Patricia).

Some participants mentioned, however, that their photos did not do the scenery or focus of the photo justice. For example, Patricia was disappointed the photos did not come out as well—the forest was a lot greener and a lot brighter while she was in it. This nevertheless speaks to participants paying attention to the sensory experiences that nature was offering to them such as the intensity of the colours.

"You Will See the Light"

In addition to representing and recreating the immediate soothing and sensory impact of being in nature, the photos held an additional layer of meaning to many participants. Participants made various interpretations of their photos, from bringing up their childhood, creating links with their past and present mental health symptoms and recovery, to finding in nature hope and motivation for their future.

The photos transported some of the participants to other times, mostly their childhood. The time in nature and the corresponding photos reminded them of their grandparents, their family home, or a plant they received as a gift. For example, Garry talked about the "good times" with his grandparents:

> I take pictures with the escarpment all over the place. I just like the bush, I always had. It reminds me of my grandparents and good times. I've lived in the city and that most of my life. When I was a kid, I used to go to my grandparents, and they were the good times.



"This one … It just reminds me of the desert, like it died, it's dry and—yes, in the Botanic Gardens. So, it's just dry and, for some reason, the first plant I got as a child was a cactus so takes me back there." (John)

Fig. 19.3 "It reminds me of the desert" (The image and quote are shared with permission from participants of the research)

John also made a connection to his childhood while looking at the photo of the desert area in a local botanic garden (Fig. 19.3). He was reminded of a cactus he received as a child. Although he did not expand on the meaning of this gift and who he received it from, he seemed to have enjoyed his photos of the desert the most.

Olivia was also brought back to her "home":

> It was the water and then the Steelworks is hidden right over there. So actually, to me, that's what home is, like when you come down Mount Ousley, it's always the Steelworks and water. And so that's home. It's home and that's how I feel on the inside too, so there's different parts.

Some participants made an explicit connection between their mental health journey and the different nature elements they encountered on their walks. The greenery of the bush, the light skimming through the tree canopy, or a log carried by the water all represented an aspect of the mental health struggles they had been going through. For many, however, the ultimate meaning they took out from nature was that of hope and resilience. For example, Patricia, who struggled with finding motivation to do things including to simply get out of the house, shared how the light in the rainforest was a symbol of getting through the dark days and of not being alone (Fig. 19.4):

She concluded that one must

> remember that the dark days do come but the good and the light can shine through during this time even when you're feeling so down. You've just got to hang in there and keep looking for something small to keep you going.

Patricia later shared another photo (Fig. 19.5) with the group and made a connection between a tree trunk in a river and acceptance of one life's course.

Fiona shared a photo (Fig. 19.6) of a moss covering a rock because it reminded her of a time when she was at a different place in her mental health recovery. The photo can be seen as both a symbol of her past coping skills to manage her symptoms and the progress she has made since:

Sometimes, the participants photographed and attached the most meaning to rather unexpected objects. For example, on one of the walks, participants saw an old tire disposed in the woods. For Michael (Fig. 19.7), this tire had a special meaning:



"The greenery in the rainforest causes darkness, but if you look up, you will see the light. No matter how dark it can be, you can always see the light coming through. If you just hold on, you will get there and there will be something to brighten your day." (Patricia)

Fig. 19.4 "Darkness can appear in your life, but the light is always shining" (The image and quote are shared with permission from participants of the research)



"And also, this one, there was a log there, and I just like the fact that such a huge trunk got carried away with the water but yet, it stood here and didn't go any further. So, it's like, that was where it's meant to be and I feel that sometimes in life you feel like you're getting dragged somewhere, but eventually, once you're there, you're like, oh, this was taking me to a place where I really needed to go and maybe I should just go with the vibe sometimes and just see where my life is taking me." (Patricia)

Fig. 19.5 Acceptance of life course (The image and quote are shared with permission from participants of the research)

Sometimes, the reasons participants took some of their photos were surprising. For example, Olivia photographed the large duck pond in the Botanical Garden. When asked why, Olivia stated that the duck pond water was very dirty and had a "shitty" colour. She made a connection between the appearance of the water and her own feelings of "shittyness" and said that it was the perfect picture. Although somewhat unexpected, this photo and its interpretation speak to the participant's ability to self-reflect, assess her current mental health status, and openly share it with others. Later in an interview, Olivia reported immediate benefit of being part



"I just I like the moss on this one, on the rock. I like to collect moss, and I like terrariums. That's something I did when I was a bit manic was make terrariums because I thought I could control the world inside the jar 'cause I couldn't control the world outside but I don't do that anymore. I have had enough of all that." (Fiona)

Fig. 19.6 "I could control the world inside the jar' cause I couldn't control the world outside." (The image and quote are shared with permission from participants of the research)



"The one I picked is my lonely tire. I'd seen the lonely tire, so I had to take a photo of that on the way back. I didn't wanna miss it. It's there with grass and the birds and the insects. … it's out of its element. I don't know who put the tire there. Where are the other three tires? Because there's always gunna be another tire out there, you're gunna put with it like—it's like if you're single, you're gunna find someone out there, there's gunna be another tire out there for you. So, that's why I chose that one." (Michael)

Fig. 19.7 Lonely tire (The image and quote are shared with permission from participants of the research)

of the group: "I've been under some kind of medical care since I was 12, so a long time. This is probably the only thing that I've actually got a huge benefit from, like an immediate benefit from."

"When You Look at the Photo, You Can Feel Like You're There"

Finally, the photos evoked for the participants the moments they spent in nature and produced similar feelings. All the participants struggled with leaving their houses due to mental health symptoms, lack of social connections, and lack of motivation. None of them had continued walking in nature when we checked in with them over the phone 3 months after the group ended. They shared that they

were unlikely to replicate the nature walks on their own, especially the more remote ones, due to lack of transport, anxiety, and lack of company. The photos were thus an important memory they could hold on to. For example, in a follow-up interview, Paul talked about how the photos continue to have a positive impact because sometimes when he looks at them, they bring back memories of the walking group. His favourite photo would transport him to the Minnamurra Rainforest: "Just made you feel at ease, the trickling of the water over the rocks. I think it's your memory, it brings that back and especially when you look at the photo, you can feel like you're there." Similarly, Garry, at first hesitant and unsure what to take photos of, ended up with many photos that he and others found beautiful. He even considered getting his favourite image (Fig. 19.8) enlarged.

When asked what the photos may remind them of when they look at them later, some participants were hopeful that they will be a reminder of the progress they have made since the group: "A reminder of where I was" (Olivia) and "The first couple of steps taken to get me act back together again" (Garry). For Fiona, the photo (Fig. 19.9) was a replacement of a garden she used to own:

> Just going places where I hadn't been before, and just getting back in nature. I hadn't done that for many years, so it's been good, you got fresh air. I don't have a garden anymore where I live now. I used to have a big garden so it's nice just to walk through and look at the flowers and plants and stuff.

Finally, for some participants, the photos were a reminder to spend more time in nature or "to get out more" (Garry). Olivia explained during her follow-up interview, "I've never sort of done anything like that before. One of my photos with the water and the Steelworks [reminds me] of finding other bits in nature," emphasising both the photos as an important memory prompt of the group and the uniqueness of the walking group experience. Given many of the participants' histories of sedentary and lonely lifestyles, these simple reminders held a significant promise of the potential of nature walking groups as a contribution to mental health support programs.



"That waterfall I'd like to, I don't know, might even get it enlarged. It just looks good, just peaceful." (Garry)

Fig. 19.8 The waterfall (The image and quote are shared with permission from participants of the research)



"All pictures show that I like vegetation, flowers, trees, and nature. Gives me a garden I don't have anymore." (Fiona)

Fig. 19.9 Getting back in nature (The image and quote are shared with permission from participants of the research)

Discussion

This research explored the impact and meaning of a walking group on participants' mental health via photos taken during the walks and described in the closing reflective discussion. The photovoice approach was an effective way to capture people's lived experiences of the group and their personal interpretations of the impact of nature at the time of the walks and ways they were connected to memories and hopes and motivations for the future. Our findings speak to the soothing and renewing properties of nature and how photos can provide additional benefits for mental health service recipients. Furthermore, the circumstances of the study's participants bring to attention the fact that nature activities can sometimes be difficult to engage in for certain populations such as patients with enduring mental health conditions. We argue, however, that if temporarily we cannot take people into nature, we need to bring nature to them. Photos can be an expedient means to do that, supported by the implementation and maturation of urban greening strategies over longer periods of time.

Contact with nature has been underutilised and its benefits underreported in supporting individuals with mental health conditions. As reported in our previous study (Olcoń et al., 2023), being in nature allowed the mental health service recipients to feel calmer and more present in the moment, increased their energy levels, and improved their mood. As one of the participants put it, "I can get to a happy place by visiting nature" (Olcoń et al., 2023). Taking photos was a way to bring this happiness back home and enhance memories of the walks (Diehl et al., 2016). Moreover, consistent with other studies (Edmondson et al., 2022; Keating, 2021) that speak to the effectiveness of photovoice methods in providing the right medium to talk about mental health, participants in this study were able to open up, through photos, about their experiences of anxiety, depression, and loneliness. Equally, the meaning the participants attached to the photos was that of hope, motivation, and self-reflection. The photos offered a way to reflect on their mental

health recovery journey—the progress they had already made and where they hoped to be (Vansteenkiste et al., 2020). Spending time in nature and capturing these moments through photos had a positive impact on participants' mental health while they were involved in it and wishing they could continue it.

Nevertheless, people with severe and enduring mental health needs face multiple barriers to accessing nature. Most of the participants in our study, for example, experienced social isolation, lack of awareness of and a dearth of transport options to access some of the more remote local nature preserves, and often low levels of energy and motivation to simply leave their home (Olcoń et al., 2023). They reported that outside of the nature walking group, they had not visited natural environments in many years and were unlikely to do so on their own in the future. This speaks to the need for a bespoke evidence-based set of solutions to enable and empower this population to surmount particular barriers while nurturing autonomous motivations for nature contact (Astell-Burt et al., 2023), such as nature walking groups organised and provided for by the mental health services on an ongoing basis. In cases, however, when patients are unable to be taken into nature, nature needs to be brought to them. For example, people who are hospitalised, experiencing the acute phase of mental illness, and/or suicidal ideations, or those unable or unwilling to access mental health supports, may benefit from viewing nature scenes through their window, wall images, photos, or videos.

The groundbreaking research by Roger Ulrich in hospital settings demonstrated, for example, that a natural view from the patient's window was associated with less pain medication, fewer postoperative complications, and quicker discharge than those without natural views (Ulrich, 1984). A recent systematic review of physiological benefits of viewing nature while indoors confirmed more relaxed body responses in those who viewed nature via photos, 3D images, virtual reality, and videos of natural landscapes in comparison to a control group (Jo et al., 2019). Mental health services should thus consider bringing nature into their facilities and into the patients' homes, which will also likely have a beneficial role for health professionals (e.g., nurses) known to experience high levels of chronic stress and burnout (Middleton & Astell-Burt, 2023). Easily displayed photos of nature, taken by both the patients themselves and others, can be a way to incorporate nature into the daily lives of people.

Conclusion

In conclusion, a nature-based intervention such as the nature walking group described in this chapter can have multiple benefits for mental health service recipients. Taking photos of nature can offer additional benefits, which can be particularly significant for this population—a way to be more present in the moment and notice the little things, a soothing feeling that can be evoked by looking at the photo, a message of hope and resilience, a beautiful memory to hold on to, and a reminder of how far they have walked on their mental health recovery journey and where they want to be.

References

Asaba, E., Park, M., Mondaca, M., & Laliberte Rudman, D. (2023). Qualitative research methodologies for occupational science and occupational therapy. In S. Nayar & M. Stanley (Eds.), *Qualitative Research Methodologies for Occupational Science and Occupational Therapy*, (2nd ed.). Routledge. https://doi.org/10.4324/9781003456216

Astell-Burt, T., Hartig, T., Eckermann, S., Nieuwenhuijsen, M., McMunn, A., Frumkin, H., & Feng, X. (2022). More green, less lonely? A longitudinal cohort study. *International Journal of Epidemiology*, *51*(1), 99–110. https://doi.org/10.1093/ije/dyab089

Astell-Burt, T., Hipp, J. A., Gatersleben, B., Adlakha, D., Marselle, M., Olcoń, K., Pappas, E., Kondo, M., Booth, G., Bacon, S., Lem, M., Francois, M., Halcomb, E., Moxham, L., Davidson, P., & Feng, X. (2023). Need and interest in nature prescriptions to protect cardiovascular and mental health: A nationally-representative study with insights for future randomised trials. *Heart Lung and Circulation*, *32*(1), 114–123. https://doi.org/10.1016/j.hlc.2022.11.008

Astell-Burt, T., Pritchard, T., Francois, M., Ivers, R., Olcoń, K., Davidson, P. M., & Feng, X. (2023). Nature prescriptions should address motivations and barriers to be effective, equitable, and sustainable. *The Lancet Planetary Health*, *7*(7), e542–e543. https://doi.org/10.1016/S2542-5196(23)00108-0

Australian Institute of Health and Welfare. (2024). *Prevalence and impact of mental illness in Australia*. https://www.aihw.gov.au/mental-health/overview/mental-illness

Australian Institute of Health and Welfare. (2025). *Expenditure on mental health-related services*. https://www.aihw.gov.au/mental-health/topic-areas/expenditure

Australian Institute of Health and Welfare. (n.d.). *Mental health impact of COVID-19*. https://www.aihw.gov.au/getmedia/6e2c41a8-d849-44ea-ab16-6e7d75503a14/mental-health-impact-of-covid-19.pdf.aspx#:~:text=20%25%20of%20respondents%20experienced%20high,%25)%20and%20women%20(23%25)

Barasch, A., Zauberman, G., & Diehl, K. (2017). How the intention to share can undermine enjoyment: Photo-taking goals and evaluation of experiences. *Journal of Consumer Research*, *44*(6), 1220–1237. https://doi.org/10.1093/jcr/ucx112

Barnett, P., Steare, T., Dedat, Z., Pilling, S., McCrone, P., Knapp, M., Cooke, E., Lamirel, D., Dawson, S., Goldblatt, P., Hatch, S., Henderson, C., Jenkins, R. K. T., Machin, K., Simpson, A., Shah, P., Stevens, M., Webber, M., Johnson, S., & Lloyd-Evans, B. (2022). Interventions to improve social circumstances of people with mental health conditions: A rapid evidence synthesis. *BMC Psychiatry*, *22*(1), 302. https://doi.org/10.1186/s12888-022-03864-9

Bell, S. L., Leyshon, C., Foley, R., & Kearns, R. A. (2019). The "healthy dose" of nature: A cautionary tale. *Geography Compass*, *13*(1), e12415. https://doi.org/10.1111/gec3.12415

Bratman, G. N., Anderson, C. B., Berman, M. G., Cochran, B., de Vries, S., Flanders, J., Folke, C., Frumkin, H., Gross, J. J., Hartig, T., Kahn, P. H., Kuo, M., Lawler, J. J., Levin, P. S., Lindahl, T., Meyer-Lindenberg, A., Mitchell, R., Ouyang, Z., Roe, J., & Daily, G. C. (2019). Nature and mental health: An ecosystem service perspective. *Science Advances*, *5*(7), eaax0903. https://doi.org/10.1126/sciadv.aax0903

Cabassa, L. J., Nicasio, A., & Whitley, R. (2013). Picturing recovery: A photovoice exploration of recovery dimensions among people with serious mental illness. *Psychiatric Services*, *64*(9), 837–842. https://doi.org/10.1176/appi.ps.201200503

Chesney, E., Goodwin, G. M., & Fazel, S. (2014). Risks of all-cause and suicide mortality in mental disorders: A meta-review. *World Psychiatry : Official Journal of the World Psychiatric Association (WPA)*, *13*(2), 153–160. https://doi.org/10.1002/wps.20128

Corazon, S. S., Nyed, P. K., Sidenius, U., Poulsen, D. V., & Stigsdotter, U. K. (2018). A long-term follow-up of the efficacy of nature-based therapy for adults suffering from stress-related illnesses on levels of healthcare consumption and sick-leave absence: A randomized controlled trial. *International Journal of Environmental Research and Public Health*, *15*(1). https://doi.org/10.3390/ijerph15010137

Creighton, G., Oliffe, J. L., Ferlatte, O., Bottorff, J., Broom, A., & Jenkins, E. K. (2018). Photovoice ethics: Critical reflections from men's mental health research. *Qualitative Health Research*, *28*(3), 446–455. https://doi.org/10.1177/1049732317729137

Denzin, N. K., & Lincoln, Y. S. (2011). *The SAGE handbook of qualitative research*. SAGE.

Diehl, K., Zauberman, G., & Barasch, A. (2016). How taking photos increases enjoyment of experiences. *Journal of Personality and Social Psychology*, *111*(2), 119–140. https://doi.org/10.1037/pspa0000055

Edmondson, A. J., Borthwick, R., Hughes, E., & Lucock, M. (2022). Using photovoice to understand and improve healthy lifestyles of people diagnosed with serious mental illness. *Journal of Psychiatric and Mental Health Nursing*, *29*(5), 676–687. https://doi.org/10.1111/jpm.12863

Feng, X., & Astell-Burt, T. (2022a). Lonelygenic environments: A call for research on multilevel determinants of loneliness. *The Lancet Planetary Health*, *6*(12), e933–e934. https://doi.org/10.1016/S2542-5196(22)00306-0

Feng, X., & Astell-Burt, T. (2022b). Perceived qualities, visitation and felt benefits of preferred nature spaces during the COVID-19 pandemic in Australia: A nationally-representative cross-sectional study of 2940 adults. *Land*, *11*(6), 904. https://www.mdpi.com/2073-445X/11/6/904

Glover, H. (2012). Recovery, lifelong learning, empowerment and social inclusion: Is a new paradigm emerging? In P. Ryan, S. Ramon, & T. Greacen (Eds.), *Empowerment, Lifelong Learning and Recovery in Mental Health: Towards a New Paradigm* (pp. 15–35). Palgrave Macmillan.

Jo, H., Song, C., & Miyazaki, Y. (2019). Physiological benefits of viewing nature: A systematic review of indoor experiments. *International Journal of Environmental Research and Public Health*. *16*(23). https://doi.org/10.3390/ijerph16234739.

Johnston, G. (2016). Champions for social change: Photovoice ethics in practice and "false hopes" for policy and social change. *Global Public Health*, *11*(5-6), 799–811. https://doi.org/10.1080/17441692.2016.1170176

Keating, F. (2021). Black men's conversations about mental health through photos. *Qualitative Social Work*, *20*(3), 755–772. https://doi.org/10.1177/1473325020922293

Middleton, R., & Astell-Burt, T. (2023). Nurses and nature: Does green space make a difference? *Journal of Clinical Nursing*, *32*(15–16), 4214–4216. https://doi.org/10.1111/jocn.16697

Migliorini, C., Fossey, E., & Harvey, C. (2022). Self-reported needs of people living with psychotic disorders: Results from the Australian national psychosis survey [Original research]. *Frontiers in Psychiatry*, 13. https://doi.org/10.3389/fpsyt.2022.1013919

Nguyen, P. Y., Astell-Burt, T., Rahimi-Ardabili, H., & Feng, X. (2021). Green space quality and health: A systematic review. *International Journal of Environmental Research and Public Health*, *18*(21). https://doi.org/10.3390/ijerph182111028

Nguyen, P.-Y., Astell-Burt, T., Rahimi-Ardabili, H., & Feng, X. (2023). Effect of nature prescriptions on cardiometabolic and mental health, and physical activity: A systematic review. *The Lancet Planetary Health*, *7*(4), e313–e328. https://doi.org/10.1016/S2542-5196(23)00025-6

Olcoń, K., Destry, P., Astell-Burt, T., & Allan, J. (2023). "I can get to a happy place by visiting nature": The benefits of implementing nature walking groups within mental health services. *Environmental Advances*, *13*, 100393. https://doi.org/10.1016/j.envadv.2023.100393

Russinova, Z., Mizock, L., & Bloch, P. P. (2017). Photovoice as a tool to understand the experience of stigma among individuals with serious mental illnesses. *Stigma and Health*, *3*, 171–185.

Simons, G., & Baldwin, D. S. (2021). A critical review of the definition of "wellbeing" for doctors and their patients in a post Covid-19 era. *International Journal of Social Psychiatry*, *67*(8), 984–991. https://doi.org/10.1177/00207640211032259

Tambyah, R., Olcoń, K., Allan, J., Destry, P., & Astell-Burt, T. (2022). Mental health clinicians' perceptions of nature-based interventions within community mental health services: Evidence from Australia. *BMC Health Services Research*, *22*(1), 841. https://doi.org/10.1186/s12913-022-08223-8

Tippin, G. K., & Maranzan, K. A. (2022). Photovoice as a method to reduce the stigma of mental illness among health care students. *Health Promotion Practice*, *23*(2), 331–337. https://doi.org/10.1177/15248399211057152

Tsang, K. K. (2020). Photovoice Data Analysis: Critical Approach, Phenomenological Approach, and Beyond. *Beijing International Review of Education*, *2*(1), 136–152. https://doi.org/10.1163/25902539-00201009

Ulrich, R. S. (1984). View through a window may influence recovery from surgery. *Science (New York, N.Y.)*, *224*(4647), 420–421. https://doi.org/10.1126/science.6143402

Vansteenkiste, T., Morrens, M., & Westerhof, G. J. (2020). Images of recovery: A photovoice study on visual narratives of personal recovery in persons with serious mental illness. *Community Mental Health Journal*, *57*, 1151–1163.

Wang, C., Burris, M. A., & Ping, X. Y. (1996). Chinese village women as visual anthropologists: A participatory approach to reaching policymakers. *Social Science & Medicine*, *42*(10), 1391–1400. https://doi.org/10.1016/0277-9536(95)00287-1

World Health Organization. (2022). *World mental health report: Transforming mental health for all*. https://www.who.int/publications/i/item/9789240049338

Wren-Lewis, S., & Alexandrova, A. (2021). Mental health without well-being. *Journal of Medicine and Philosophy*, *46*(6), 684–703. https://doi.org/10.1093/jmp/jhab032

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 20
Taking the Group Seriously



Martin Ringer

Sociocultural Positioning

I spent the first 7 years of my schooling in a single-room classroom that included children from the ages of 5 to 13 years. The only way the teacher could function was to run it as a collaborative learning group, where the older pupils helped the younger ones. Later in life, I understood that from this experience, I absorbed a strong intuitive understanding of how groups are essential for supporting learning and growth. However, I have also experienced in Western European culture a seemingly relentless focus on the individual, paralleled with the denial of the importance of groups. One of the reasons it is difficult to "take the group seriously" is the way we see the world. For example, imagine sitting around a fire at the end of a day of bushwalking and you're holding a group discussion about the experience of the day. Each participant speaks in turn, and you and possibly other group members respond to what each person says. That is, this reviewing session for the day appears to be a series of one-to-one conversations. As you choose your words, you are probably thinking about what a useful response might be to the participant who is talking. What is more difficult is to simultaneously think about which response might help to build the group atmosphere as a safe container for learning, growth, and healing. You are aware, no doubt, of the presence of other group members while each of these one-to-one conversations occurs, but in real time, it is difficult to experience this as a group-as-a-whole conversation.

Hence, the key question at the heart of this chapter is "How can I respond to this participant in a way that's helpful to both the participant and the group climate?"

Fortunately, many outdoor healthcare practitioners have for some time acknowledged the central role of groups in their practice and continue to do so. For example, in the proceedings of the first international Adventure

M. Ringer (✉)
International Society for the Psychoanalytic Study of Organizations, Perth, Australia
e-mail: martinringer@groupinstitute.com

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_20

Therapy Conference (Itin, 1997), the word "group" appears on over half the pages of the document. Nevertheless, much of the overall outdoor healthcare literature appears to describe what happens in outdoor healthcare practice without delving into the underlying science of group dynamics—that is, without exploring what we might call the therapeutic factors of groups and group work.

In this chapter, I seek to dive beneath the directly observable group-level phenomena to offer observations about some of the less obvious common factors that make groups powerful vehicles for learning, development, and healing. I draw on my personal experiences (presented here in italics) gained from having led and facilitated dozens of 10- and 12-day experiential learning groups in the outdoors and from having facilitated experiential training groups for outdoor healthcare practitioners in more than 15 different countries. It is hoped that some of these ideas will resonate with readers and help inform practice.

Human Beings Are Social Beings—Group Animals

Many evolutionary biologists believe that Homo sapiens evolved to be the dominant mammal primarily because of our capacity to collaborate—that is, work in groups—and not so much because of our individual intelligence (e.g., Graziano, 2014). Developmental psychologists posit that development from baby to functioning adult occurs almost entirely through the process of interacting with other people (Tomasello, 2021). Very early in life, our significant others are parents, but our social, emotional, and intellectual development continues as we interact with a wider network of family, with peers, and with the world. Outdoor healthcare groups contribute to the lifelong emotional and intellectual development of their participants and, in many cases, also to their social–emotional healing. It makes sense, then, to understand how growth, learning, and healing are supported by interactions within and between groups and the complexities of group dynamics that inevitably occur.

Factors That Make Groups Suitable Contexts for Learning Growth and Healing

> It is an evening during a 10-day back country hike with alienated adolescents. The group has been reflecting on the day's walk and most participants have shared, including some moving and insightful moments. Jacob, the youngest boy in the group sees a cockroach crawling over a log near to him. Out of the blue, he picks it up and throws it into the fire. The cockroach explodes with an audible "pop" and Jacob laughs.

> The facilitator scolds him "Jacob, there is no need for such unnecessary cruelty! That cockroach did nothing to harm you so there was no need to put it to such a horrible death. Go to your tent now and stay there until the morning."

At one level, this was a legitimate sanction on Jacob's cruelty. However, other group members also understood this to be a signal from the facilitator that if they stepped out of line they would be punished. Within a moment, the reflective nature of the group was shattered, and it became a fearful and withdrawn group.

Perhaps a more group-oriented response from the facilitator would have been "Wow, Jacob, I'm shocked! How come you felt like you had to throw the cockroach into the fire?" This could even have led to a group-level conversation about how participants reacted to people they did not like, and the reflective atmosphere may have been preserved. This still would have signalled to Jacob that his behaviour was seriously questionable, and furthermore, it may have led him to reflect on what circumstances provoked cruelty in his behaviour.

This example speaks to the fundamental characteristics of groups that provide the context for learning, growth, and healing: safe, secure, responsive, purposeful, bounded, and connected (Ringer, 2023). By spaces, I mean psychological, social–emotional, and physical spaces. To elaborate on each of these characteristics briefly:

- **Safe** means that participants develop an expectation that they are unlikely to be emotionally, psychologically or physically attacked or damaged.
- **Secure** means that participants have a reasonable expectation of the continuity of the space and of their being retained within it.
- **Responsive** means that participants have a durable expectation that when they contribute something to the group, there will be some form of response—as distinct from having the sense of shouting into an empty room.
- **Purposeful** means that participants and facilitators have a shared understanding of the reason for everybody being there and doing what they're doing.
- **Bounded** means that there is reasonable clarity about the physical space, who are members, and who are not members and what role each member of the group takes up—for example, leader, facilitator, or participant.
- **Connected** means that over time, participants have a sense of relating as human beings to other participants, to the leaders, and to the purpose of the group. This also applies to the leaders and facilitators.

But the question remains: "Why are these important elements in the formation and management of groups in outdoor healthcare?" I now outline some of the theoretical concepts that I have found useful in helping me to understand and work with the therapeutic power of groups.

What Makes a Group?

> In my youth my parents had what we called a wringer washing machine which had an open topped washing tub with a vertical agitator that oscillated from side to side. When the water was soapy and hence opaque, one could see various garments as they rose to the top of the water, they became visible momentarily and then descended back out of sight. It was impossible to predict which garment would become visible at any particular moment.

We could use this as a very approximate analogy for the group-as-a-whole in that all of the garments were immersed in the same water, in the same physical space, and engaged in the same pattern of movement. However, each garment had its own specific trajectory and could move not entirely independently of the other garments but nonetheless followed a unique pattern of movement. At times, some garments would become entangled and move together until they became disentangled, only to then perhaps become re-entangled in other combinations. We can think of the garments in the washing machine as an analogy for the individuals in the group and the whole contents of the washing machine as the group-as-a-whole.

In order for participants to have the sense that they are involved in the same group, first, they need to be aware of the presence of others in the group. Second, it's usually necessary for participants to engage in some way with a number of other group members to get a sense of social or interpersonal contact with those members. Third, in most cases, participants need to have a shared understanding of why they are in that group, which is the purpose for which they meet. Finally, there needs to be some lived experience of shared language, culture, tone, or belief systems, or what Rob Gordon refers to as "nous" (Gordon & Ringer, 2017).

Patterns in the "Group-as-a-Whole"

Patterns in the group-as-a-whole emerge and become visible, not only through physical movement, but also through language, voice, tone, emotion, mood, and symbolic communication. Every statement made and action taken in a group sets up waves of influence on some or all group members. Each person will have a different response to each of the statements and actions taken in a group, but nonetheless, patterns will emerge that permeate the group tone, mood, and thinking. In other words, the notion of group-as-a-whole does not mean that all group members think and feel the same. Rather, it implies that there will be constantly evolving streams of mood, tone, feeling, and thinking that permeate the group to create trends and patterns. The group-as-a-whole is not uniform, nor is it static. It can be helpful to consider the group-as-a-whole as a patchwork of dynamic subgroups through which trends and patterns swirl over time (Agazarian, 1997). The group-as-a-whole is brought to life by powerful patterns of mutual influence among group members. Each member retains their individuality but is immersed in the waves, caused by statements and actions, as they course through the group (Gordon, 2022).

Whenever anyone does or says anything in a group, there are many distinct effects: factual, meaning generation, emotional impact, and imagining of motivation—referred to in the literature as "theory of mind" (Liebermann, 2013). In summary, even if a group leader or participant intends to talk only to one other person in the group, their words and actions impact everyone in the group. That is why, when we talk in a group, we need to hold in mind two key questions: (1) What might my statement evoke in the person I am talking to directly? and (2) What might my statement evoke in the group-as-a-whole?

Hidden Motivations in Groups

I was working with a group of senior high school students on a high ropes course. Their class teacher (Samuel) was with them for the whole day. It was explained to me that his presence was important "so as to build better rapport with the class."

After an intensive day of activities, we conducted a round of reflections as we sat around the fire pit at the venue. To me the conversation felt guarded, stop-start and unnatural. After one particularly long silence, Samuel said "We've all been working hard all day, so let's relax a bit and just chat together." I felt uneasy and for no apparent reason I also felt unsafe.

There was a pause and then slowly small group conversations started up. Soon, however, the small groups converged back into the larger group. One person spoke at a time and everyone else listened. As the conversation evolved, it kept returning constantly to topics like shark attacks, death by crocodile, snakebites and other dangerous misadventures. I was struck by the consistent theme of danger and attack, but I made no comment or interpretation given Samuel's request to stop working for the night.

The next morning we had a check-in, and again the conversation felt very guarded. I said that I had noticed that the "free" conversation the previous night had been mostly about crocodiles, sharks, snakes and dangerous animals. I asked "If for example there was a shark in the life of this group, what might that be?"

I could almost feel the collective intake of breath. After some time of uncomfortable silence one participant spoke loudly and aggressively. "It's no secret that the main reason we are here is because two of us have laid complaints about bullying against another teacher and Samuel was sent along with us to make us all happy and convince us that the school is a great place—hoping we will withdraw the complaint. This camp feels false. It's just not safe here."

I asked Samuel's and the group's permission to talk about how we might work together for the rest of the camp, and gradually the group opened up and we had an engaging and productive time together. I did not try to resolve the question of the complaint, but once it had been named the tension eased. Later in the day, the group had a candid conversation with Samuel, who agreed that it was unhelpful for him to try to influence the students in relation to the complaint.

Because most of the important patterns of sentiment, mood, and concerns occur outside the direct awareness of both participants and group facilitators, we need to look and listen for subtle cues about what is really going on in the group. András

Gelei writes eloquently about the importance of using one's own felt sense and emotions as a way of sensing what is going on under the surface in the group (Gelei, 2022). For instance, we can ask ourselves, "What at this moment seems to be the motivating drive for behaviour and interaction in this group?"

Members of groups that meet in outdoor healthcare programs often carry unspoken anxiety that ranges between two different poles. At one pole is the desire to learn, grow, or heal. At the other is the fear of looking weak, needy, incompetent, or stupid. If we listen carefully to what is said in the group, we can discern what Whittaker and Liebermann (1964) described as the disturbing motive and the reactive motive. In a learning group, participants who are enacting the reactive motive will tend to avoid entering the active learning process, perhaps by asking many and detailed questions about the program, the written resources that will be made available, times for breaks and meals, and other questions that do not directly lead into the learning process, and can even be quite effective at impeding the learning process. In contrast, participants who carry the disturbing motive will work actively to support the facilitation of the learning process. For example, a participant may start to talk about her experience of a previous workshop where she felt confused about this topic and express concern that she might not understand the current workshop either. The group focal conflict can also be sensed by the facilitator at the level of their own feelings and intuition because if we take the group-as-a-whole seriously, the facilitator is actively engaged in the group and is not an outsider. Hence, the patterns, ripples, and swirls of feelings that occur among participants will be picked up in the feeling state of the facilitator.

Patterns can be hidden under the surface of the narratives and discourse in the group, but if you know what you are looking for, you can bring them to the surface. What is needed is a thorough observation of patterns in language, the willingness to follow your intuition, and close attention to your own state of feelings and mood.

Groups Behave as if *Something* Is True

There are different points of view and models that we can use to help our understanding of the group-as-a-whole (Ringer, 2002). The underpinning assumption involved in most theories of the group-as-a-whole is that groups act as if *something* is true. If logic prevailed, then the "truth" that groups would act upon would simply be the task for which they have agreed to meet. However, as articulated by the theories of the group-as-a-whole (Hinshelwood, 2022), many groups act as if they are there to achieve some purpose other than that to which they have previously agreed. This becomes apparent through the actions of the group rather than through their language. This "something" is not specified and rarely enters the consciousness of the group members. That is, unconscious motivators, usually triggered by anxiety, drive actual behaviours. The significance of those actual behaviours escapes the awareness of group members. For example, some groups act as if the most important thing is to be harmonious, even if this impedes

learning. Adventure therapy groups can tend to act as if the most important thing is to complete the physical challenge set for them—like climbing to the top of a mountain—rather than making the most of the therapeutic community in which they are immersed. Some groups act as if the only opinions of any value come from the leader or facilitator and that other participants have little of value to offer. It is not important to learn a list of "as if" group behaviours, but it is very useful to regularly ask yourself, as a group leader, "What do the actions of this group tell me about what they are really seeking to achieve?"

Permeability—Anxiety and Hostility as Blockers

When people are anxious, most of their attention is focused on how to deal with that anxiety, and this reduces the mental and emotional resources available for learning growth and healing (Lucey, 2022). Anxiety is a blocker, which means that in our groups, we need to do all that we can to assist participants to reach low enough levels of anxiety to be open to learning from their experience in the group in the moment. Among other reasons, anxiety is provoked by a lack of safety, security, responsiveness, and/or adequate boundaries. As noted earlier, this is why each of these elements is so important.

There is a paradox inherent in the process of learning growth and healing. On one hand, in order to learn to grow and to heal, we need to be able to take into ourselves new ideas, new values, and new thoughts, and often to relate to new people. On the other hand, to maintain our core sense of identity, we need to be able to hang onto the central thoughts, values, feelings, and relationships that make us who we are. So, we need to be able to refuse to accept some ideas, thoughts, and values that are put forward to us, while remaining open to others (Nemeth, 2018). We could think of letting new material into our psyche as having a permeability to the external world. But what conditions enable us to be permeable? And a further important question is: What group-level conditions enable participants to be permeable enough to grow, learn, and heal?

To answer these questions, it helps to understand that we sort the people in our world into two crude categories. One is "my people" and the other is "not my people." This can also be described as "us" and "them." Close friends are automatically considered to be my people and, in many cases, so are family members, but not always. It has been shown that teenagers unconsciously adopt ideas from their peers—that is, without being aware that they have done so (Graziano, 2014). So particularly during the teenage years, there is a huge unconscious permeability towards peers. This is partly why thoughtful and reflective peer group conversations are so powerful. However, in the example above, the facilitator barks at a participant for throwing a cockroach into the fire, and that participant immediately and intuitively allocates the facilitator into the category "not one of my people." Hence, that participant's permeability to the ideas offered by the facilitator is immediately and radically reduced. But this is not only true for the participant

who was criticised; it is also true for other group members who perceive the facilitator to be punitive.

Also, when the climate of a group starts to feel hostile to a participant, that participant will shut down the permeability to any ideas offered by any of the group. This is partly why the safety and security of a group is vital to the creation of an effective container for learning growth and healing.

Unconscious Group Affiliation—Incorporation

As a broad generalisation, we learn and relearn constantly who we are through reflection from people in the world around us (Graziano, 2014). When we are treated with affection, acceptance, and generosity, we learn that we are good people. When we are treated with hostility and abuse, we learn that we are bad people. Any outdoor healthcare group provides the kind of mirroring that helps us to learn who we are. First, we absorb, usually beyond our awareness, the overall tone of reflections that we receive from other group members and from facilitators. Second, a trusting group enables us to reflect deeply or look deeply into our own emotional and cognitive experiences and to learn from that reflection.

One task of the facilitator, then, is to help the group coconstruct a durable group-level experience that, when incorporated into the participant's being, will result in learning, growth, and/or healing. This is relatively easy with calm and cooperative groups but extremely challenging with groups of alienated and acting-out participants.

Procedural Learning

My personal observation is that much of the literature on outdoor healthcare is based on the assumption that human beings learn mainly through conscious processes. However, there is significant evidence that a lot of what we learn occurs directly through our unconscious processes, much of which is implicit rather than verbal (Damasio, 2018). In brief, we are not aware of what we are learning or even necessarily that we are learning. The classic examples of embodied learning are riding a bicycle or learning to chop wood. In these cases, while we might be aware that we are learning, the nature of the learning is embodied in our muscles, or to be more scientifically accurate, it is directly incorporated into our procedural (implicit) memory (Donahue, 2024).

So, in theory, the more time that a participant is engaged in a group that is safe, secure, and responsive, the more likely that that participant will start to view groups and hence the wider world as a safe, secure, and responsive place to be. And the kind of thinking, feeling, and behaviour that is evoked when someone thinks they are safe, secure, and in a responsive environment is

much more generative and much less hostile and destructive than when that same individual perceives that they are in an unsafe, untrusting, and unresponsive environment. So simply by cocreating with our participants a safe, secure, responsive, interesting environment, and by inhabiting that space for a long period of time, we provoke an embodied learning for them that results in learning growth and healing.

How to Take the Group Seriously

Working effectively with groups means keeping a conscious awareness that you are a group facilitator, as well as all the other aspects to which you need to pay attention. We might call this "having a group attitude." This is particularly true for people who have been trained in one-to-one therapy or counselling.

It is easy to get fully focused on interaction with one participant at a time, particularly when there is strong emotion involved in the interaction. But as stated earlier, everyone in the group is affected by all conversations in the group that they hear. So, the art is to remember that when you are talking with a participant, you are having two simultaneous conversations. One is the obvious one—with the individual participant—but the other less obvious one is that your words will evoke responses in all group members. It is also true that when one participant is talking directly to another in the presence of the group, all group members will be affected by that conversation. For example, aggressive and unsafe interaction between two participants influences the whole group to feel unsafe and possibly aggressive (or afraid).

Most of the factors that influence the psychological and emotional life of groups occur outside conscious awareness. It is important to be aware that when we talk only in rational and logical ways, we are not addressing the key drivers in the group's life. Instead, we need to pay attention to emotions, intuition, and symbolic factors. One way of summarising this is to pay attention to the meaning that is evoked in groups, in members, in subgroups, and in the group-as-a-whole.

We can't be directly aware of what occurs in our own unconscious because by definition it is unconscious. But we can look for evidence of what thinking, feeling, communication, and actions are evoked as a result of what is occurring in unconscious processes. For example, how and where people sit in a group is often influenced by factors outside their own awareness. A participant might consistently sit next to the facilitator. We can ask ourselves, "What might this signify?" Many possibilities come to mind in this case. For example, the person might feel vulnerable to teasing from bullying from group members and be seeking protection from an authority figure; or the person may have a strong need for attention from authority figures. Feel free to suggest your own ideas, keeping in mind that these ideas must remain as possibilities and not certainties because we can't read the other person's mind.

Shuttle Attention in the Group—Five Zones

As stated at the start of this article, there are five main elements that demand the attention of the outdoor healthcare group leader. They are (1) the physical environment—usually the natural environment, (2) the emotional and psychological state of each individual, (3) the fit between the activity being conducted and the participants, (4) the mood, climate, and level of engagement of the group-as-a-whole, and (5) our own sense of "being good enough in our skin" to be able to access our competence in the role.

While there is no magic formula for ensuring that you pay adequate attention to each of these elements, it is worth reminding yourself from time to time that they are all important and attempt to pay adequate attention to each.

Because so much of the important emotional and psychological patterns in the group occur outside everyone's direct awareness, it is important to pay attention to all forms of communication and interaction in the group. Some examples are:

- how quickly participants move into the group space at the start of a session;
- how quickly they leave at the end of a session;
- patterns of interaction: who sits with whom, who talks with whom, who avoids whom etc.;
- topics that capture the attention of the group (like the sharks and snakes in an earlier example) and topics that are actively avoided by the group.

This is far from an exhaustive list, but it is intended to encourage you to closely observe every possible observable phenomenon that occurs in the group. The more experience you have with this form of observation, the better you will get at assessing the meaning and significance of patterns in the group. A saying that I think can help is "Everything that occurs in a group is relevant, but not everything is significant."

Pay Attention to Your Own Thinking, Feeling, and Intuition

As leaders and facilitators, we are in the wringer washing machine with all the participants. We cannot isolate ourselves from the unconscious, emotional, and intuitive tides that swirl around the group. Rather than this being a disadvantage, it is an advantage because it means that we pick up feelings that are present in the group-as-a-whole. In brief, our bodies act as sensory instruments that take the "temperature" of the group.

If, when in the midst of a group we feel strong emotion or have strong intuition, the key question is "Is this just something about me or am I picking up something from the group 'field'?" It is never possible to answer this question with certainty, but a guideline is to ask yourself if the feeling or intuition is unusual in your experience. Over time, as a facilitator, you will build up experience of the usual

sorts of emotions that you feel when you are at work, so pay attention to emotional experiences that are unexpected. These are likely to be information about the state of the group and can guide your actions as a facilitator. For a rich explanation of this idea of "self as instrument," see András Gelei's (2022) chapter on self as instrument in "The Collective Spark."

Apply Unfocused Attention

Working with the group-as-a-whole requires a certain perspective that is not commonly taken by those accustomed to working with individuals. Often when working with groups, facilitators tend to listen to and respond to individual group members. However, when working with the group-as-a-whole, we need to have unfocused attention rather than the focused attention that is required when working with individuals within the group. As an example, when I'm particularly focused on working with the group-as-a-whole, I will often fix my gaze in an unfocused way on the ground (or maybe the campfire) at the centre of the group rather than scanning group members with my gaze, as I would do if I was working with individuals.

Unfocused attention is a little bit like Wilfred Bion's notion of reverie, which is a sort of conscious state of dreaming while still being attentive to patterns that occur as distinct from specific individual events (French & Simpson, 2014). Unfocused attention on the central part of the group enables the facilitator to notice the physical movement of participants. For example, in a group exhibiting high anxiety, there is likely to be a lot of small movements of arms, legs, and posture, sometimes relatively jerky and frenetic. In contrast, a group that is deeply focused, and perhaps partly in reverie itself, is likely to demonstrate slow movement, or very little movement. Another way of observing group-as-a-whole behaviour is to pay attention to what happens when a break is announced. Sometimes, group members will stay around, talking among themselves, as though reluctant to leave the container of the group. At other times, participants will move quickly away from the group space as though there is something there to avoid or escape. Participant behaviours outside formal group times can also be very informative.

Conclusion

Groups in outdoor healthcare provide a container for learning, growth, and healing as long as the leader or facilitator works effectively with the group dynamic, including paying attention to unconscious processes in the group. In order to be effective social, emotional, and psychological containers, groups need to be adequately safe, secure, responsive, purposeful, bounded, and connected. Good quality group facilitation calls upon a wide range of

skills and perception and, in particular, calls for the facilitator to regularly shuttle attention back to the group-as-a-whole. In summary, it is important to take the group seriously.

References

Agazarian, Y. M. (1997). *Systems-centered therapy for groups*. Guilford Press.
Damasio, A. (2018). *The strange order of things: Life, feeling, and making of cultures*. Vintage.
Donahue, S. (2024). Collective procedural memory. *Philosophical Studies*, *181*(2–3), 397–417.
French, R., & Simpson, P. (2014). *Attention, cooperation, purpose: An approach to working in groups using insights from Wilfred Bion*. Karnac.
Gelei, A. (2022). Self as instrument: Treating oneself as a possible instrument of diagnosing and transforming groups. In M. Ringer, R. Gordon, & B. Vandenbussche (Eds.), *The collective spark: Igniting thinking in groups teams and the wider world* (pp. 155–169). Grafische Cel.
Gordon, R. (2022). The collective mind in groups and teams. In M. Ringer, R. Gordon, & B. Vandenbussche (Eds.), *The collective spark: Igniting thinking in groups teams and the wider world* (pp. 69–82). Grafische Cel.
Gordon, R., & Ringer, M. (2017). Nous and the social fabric of the human mind: Towards a viable theory of collective thinking. *ARGO: Gruppo: Omogeneità E Differenze* (1), 11–38. Special Issue.
Graziano, M. S. A. (2014). *Consciousness and the social brain*. Oxford University Press.
Hinshelwood, B. (2022). Thinking together (or not). In M. Ringer, R. Gordon, & B. Vandenbussche, *The collective spark: Igniting thinking in groups teams and the wider world* (pp. 114–124). Grafische Cel.
Itin, C. (Ed.). (1997). *Proceedings of the first international adventure therapy conference: Exploring the boundaries of adventure therapy: International perspectives*. Association for Experiential Education: Council for Outdoor Education of Western Australia.
Liebermann, M. D. (2013). *Social: Why our brains are wired to connect*. Oxford University Press.
Lucey, A. (2022). Suffering at meaning: Containment in crisis. *Organisational and Social Dynamics*, *22*(1), 15–27.
Nemeth, C. (2018). *In defense of troublemakers: The power of dissent in life and business*. Basic Books.
Ringer, M. (2023). Creating containers for healing and growth. *Proceedings of the International Journal of Adventure Therapy Ninth International Adventure Therapy Conference and Third Gathering of Adventure Therapists of Europe*, *1*, 1–8.
Ringer, T. M. (2002). *Group action: The dynamics of groups in therapeutic, educational and corporate settings*. Jessica Kingsley Publishers.
Tomasello, M. (2021). *Becoming human: A theory of ontogeny*. Belknap Press.
Whitaker, D. S., & Lieberman, M. A. (1964). *Psychotherapy through the group process*. Aldine Publishing.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Part IV
Re(Centring) Nature

Chapter 21
Aboriginal-Informed Outdoor Therapy: Values, Principles, and Practitioner Training in Australia

Clare Raffety, Luke Mabb: Wakka Wakka Aboriginal Man, and Anita Pryor

Sociocultural Positioning

The authors represent diverse sociocultural perspectives, including Aboriginal cultural worldviews, Anglo-European and Celtic-Kernow heritages, and immigrant settler backgrounds. Collectively, they identify across male (he/him) and female (she/her) genders and include both heterosexual and queer sexualities. Their professional experience spans environmental and park management, embodied health and healing practices, outdoor education and deep ecology, and multiple therapeutic modalities. Together, they offer cultural-informed, nature-based, and evidence-informed embodied practices. Their approach to outdoor and adventure therapies actively challenges the status quo, seeking to advance decolonising approaches to mental health care in Australia and beyond.

C. Raffety (✉)
Aligned Living Tasmania, Hobart, TAS, Australia
e-mail: clare@alignedlivingtasmania.com

L. Mabb: Wakka Wakka Aboriginal Man
Adventure Works Australia, Hobart, TAS, Australia
e-mail: luke.mabb083@gmail.com

A. Pryor
Adventure Works Australia, Hobart, TAS, Australia;
Outdoor Health Australia, Templestowe, VIC, Australia;
International Association for Adventure and Nature-based Therapies, Hualien City, Taiwan
e-mail: anita@adventureworks.org.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_21

Introduction

"Being on Country, healing yourself and healing Country, it's intrinsic, it goes hand in hand … that's what Outdoor Health is" (Mabb cited in Adventure Works Australia, 2025, p. 3). Ngunnawal Elder Jude Barlow stated, "Country is everything. It's family, its life, it's connection" (Australian Institute of Aboriginal and Torres Strait Islander Studies, n.d.). This chapter recognises the central importance of Country to Aboriginal people, and the influence of Country on Aboriginal ways of being, perceiving, and doing (McKnight, 2016). It explores the benefits of Aboriginal-informed approaches to outdoor therapy, noting that Aboriginal guidance needs to be respected and not appropriated (Moreton-Robinson, 2020). While immersion in nature is already understood to have intrinsic therapeutic benefits for both Aboriginal and non-Aboriginal people (Buckley et al., 2018) and Aboriginal knowledges are acknowledged as providing important guidance for the provision of nature-based therapies (Carpenter & Pryor, 2021; Hyvönen et al., 2018) the benefits of Aboriginal-informed outdoor therapies are as yet, largely unexplored (Steffensen, 2020). According to Cooley and colleagues (2020), outdoor therapies are "semi-structured activities in natural environments led by accredited practitioners" (p. 40); this chapter explores the merits of training accredited practitioners in Aboriginal values, principles and practices. Harper and Doherty (2021) stated, "Outdoor therapies [also] have a different *neuropsychology*; we know that being active in stimulus-rich natural environments affects our brains and bodies differently than a sedentary and office-bound experience" (p. 3); this chapter explores embodied Aboriginal values, principles and specific practices that may support outdoor therapy training. The authors agree with Harper and Doherty who stated that common influential factors across diverse outdoor therapy practices include the physical, place-based location, bodily engagement in activities, and the acknowledgement of human–nature kinships available outdoors (Harper & Doherty, 2021); this chapter provides stories of Aboriginal-informed practice that appear to have deepened these relationships for participants and practitioners alike.

Outdoor Health Australia (OHA, n.d.-a), formerly the Australian Association for Bush Adventure Therapy (AABAT, n.d.), emphasises that all outdoor therapeutic practices occur on unceded Aboriginal and Torres Strait Islander land and sea Country. Respecting Aboriginal custodianship honours millennia of care and wisdom. Based on practice-informed evidence, AABAT (2022) named common "active ingredients" that underpin diverse outdoor health practices as including: nature contact, small groups, healthy adventures, and therapeutic frame. The authors view outdoor therapy and nature-based adventure therapy as a bio–psycho–socio–cultural–ecological (BPSCE) approach to health, wellbeing, and healing (Pryor et al., 2018, 2023). Reported benefits include increased self-esteem, confidence, positive affect, stress reduction, social connection, and resilience (Roberts et al., 2020). When such practices are informed by Aboriginal ways of being, knowing and doing, the benefits may be multiplied.

This chapter draws on experiences and learnings from the Foundations of Outdoor and Adventure Therapy (FOAT) practitioner training courses delivered

by Adventure Works Australia (AWA) between 2021 and 2025. The FOAT courses build on three decades of practice and training experience, enriched by the wisdom of Aboriginal cultural knowledge holders, Elders, mentors, colleagues and friends.

Embedded Intentions and Values Within the Training Course

The AWA FOAT training courses immerse participants in outdoor and adventure therapies, offering opportunities to explore Aboriginal-informed therapeutic practices and their relevance for nature-based therapeutic practices for both Aboriginal and non-Aboriginal practitioners. The pedagogical approach encourages participants to experientially develop a "Personal Practice Framework" (PPF), consolidating their own nature-based therapeutic approaches for their chosen cohorts and settings. Embodied experiences and trauma-informed ways of being nurture core values of respect, responsibility, reciprocity, and interconnectedness. As Nahua and Maya scholar Celidwen (2024) noted, such values-driven practices can evolve into an "ethical commitment of being and action to benefit collective flourishing" (p. 56).

Because all landscapes and seascapes on the Australian continent are Aboriginal Country, cared for over millennia, Aboriginal cultural knowledge holders are central to AWA's on-Country training programs. Without their in-situ cultural leadership and knowledge, an Aboriginal-informed program would be considered by AWA as cultural appropriation or tokenism. By acknowledging the ongoing structures and impacts of colonisation, AWA recognises the importance of continually strengthening relationships with local Aboriginal communities, the ongoing project of decolonising therapeutic practices and mental health care, and the daily work of decolonising ourselves. Cultural safety is fostered, established, and maintained by cultivating genuine mutual respect, deepening relationships over time, committing to learning and unlearning, and the active intent of giving back to Country and to communities. Guidance from Aboriginal cultural knowledge holders underpins this cultural safety. Centring Aboriginal facilitators creates space for reflective listening, identifying unconscious biases, and engaging in critical personal inquiry into assumptions, histories, relationships, and practices. Building these relationships remains a continual "work in progress," and AWA acknowledges there is more to do to strengthen place-based connections with local Aboriginal communities.

This chapter examines the elements that foster a learning environment conducive to reflection, growth, decolonisation, and transformation. Intentional approaches aim to provide a safe space for learning, while challenging participants and facilitators to engage in the ongoing work of liberating themselves and their practices from the ongoing structures and impacts of colonisation. Course elements reinforce relationality and a felt sense of interconnectedness with the world, reflecting a shared aspiration among facilitators to support sustainable practices, and a future in which humans and all beings can flourish.

Overview of the Training Course

The FOAT trainings encourage participants to view outdoor and adventure therapies through multiple lenses, spanning from the macro (planetary and sociocultural) to the micro (physiological and personal). The trainings prioritise Aboriginal-informed practices and nature as cofacilitator a "safe enough" sociocultural environment to support learning and development, decolonisation of mental health practices, valuing of the interface between personal and professional growth, and ultimately, strengthening the health of people and planet.

The FOAT 10 elemental modules were codeveloped by a cross-disciplinary team of experienced outdoor and adventure therapy practitioners. Theory, evidence, experiential sessions, reflections, and resources support each module. The content of each module is interwoven throughout the course. Whatever the lived experience, training, qualifications, and existing practice wisdom of participants, the 10 modules invite development of foundational knowledges, skills, and experiences to support the consideration and consolidation of participants' PPF.

By presenting an overview of the 10 modules in a circular format (Fig. 21.1), participants are invited to begin wherever they feel most drawn to, and to circle the modules in any direction or order, perhaps returning at different times to various



Fig. 21.1 Ten elemental training modules of the Adventure Works Australia Foundations of Outdoor and Adventure Therapy practitioner training course (This Figure is shared with permission from Adventure Works Pty Ltd.). *Note* BPSCE = bio–psycho–socio–cultural–ecological

modules to deepen their knowledges and embodied understandings of that practice element over time.

The "Humans as Nature" module recentres Aboriginal-informed values of respect, responsibility, reciprocity, and interconnectedness. As Siegal (2022) observed,

> By understanding the true nature of ourselves and how our identities and belonging actually can be expanded beyond the body as a center of sensation, perspective, and agency, we come to a wider view of how we are in fact connected with one another as human beings and within nature as members of a broader belonging, an identity that is integrated with more of the world than the body alone, a self that is a part of a synergy of systems much bigger than the individual (p. 10)

The "Trauma-Informed Ways of Being" module offers embodied practical experiences informed by contemporary theoretical and empirical understandings of nervous system function (Porges, 2009). The "Supporting Reflexive Practices" module fosters bio–psycho–sociocultural self-awareness and insights into interrelationships with ecological systems (nature). Increasing reflexivity supports "safe enough" therapeutic practice, shifting participants' understanding of themselves within their broader socioecological systems.

Each of the 10 modules is interwoven throughout the course, with content layered in over time with increasing depth and detail. Anecdotal evidence suggests that participants experience the combination of these 10 modules as a generative set of content areas that serve to help individuals, and the group, explore liminal states of not-knowing, expand their frames of reference, consider how to authentically "cofacilitate with nature" in their practice, and experience transformation.

Structure of the Training Course

The AWA FOAT trainings comprise a series of components designed to support participant safety, informed consent, voluntary engagement, and agency: an information session, a one-to-one planning discussion, two 2-hour preparatory online group sessions, a multi-day (4-day or 5-day) residential on-Country immersion, two 2-hour follow-up online group sessions, and a final one-to-one review discussion. Participants also have access to an online learning portal with comprehensive resources for 1 year after the course.

A FOAT coursebook guides participants through the training, offering templates for developing an individualised PPF, along with reflective practice prompts, considerations for practitioner decision-making in relation to bio–psycho–sociocultural–ecological dimensions, session planning tools, and a site risk assessment matrix. It is described as a "living document," recognising that "just as Country, culture, and individuals are continually changing and evolving, this Book too will change and evolve as our thinking and experiences evolve" (Adventure Works Australia, 2025, p. 3). Participants are invited to cycle, weave, sketch, and

spiral through the book's prompts before, during, and after the course, reflecting the view that learning is a lifelong, creative, and generative journey, with reflective practice being intrinsic to healthy outdoor and adventure therapies.

The multi-day on-Country immersion is the heart of the training. Participants are invited to inhabit Aboriginal land in Aboriginal-informed ways of being and doing, guided by cultural mentors who model "right way" practices on Country. Participants report that the immersive experiences challenge their personal awareness, deepen their professional practices, stretch their welcoming of diversity, strengthen and clarify their inner values and ethics, and enhance their motivation to decolonise their practices. Critiquing practitioner power and privilege, and relationships with place, as well as adopting more egalitarian and generative approaches to learning and time, is prioritised. The immersion also emphasises collaboration, grounded in core Aboriginal values of respect, responsibility, reciprocity, and interconnectedness (Fig. 21.2).

The FOAT training adopts a heutagogical (learner-centred) approach, encouraging participants to test and question their own values and assumptions through experiential and reflective practice (Blaschke, 2012). Anecdotal evidence from facilitator observations, participant comments, and self-report surveys within the

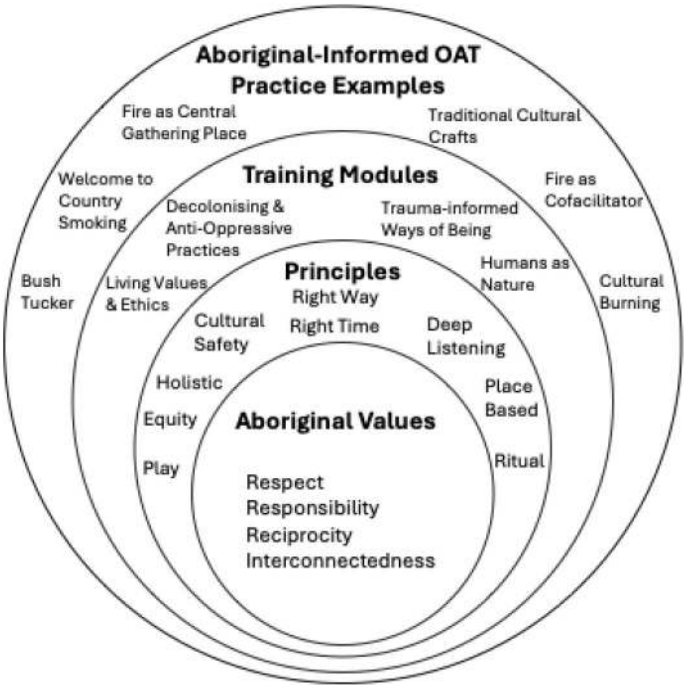


Fig. 21.2 Aboriginal-informed values, principles and practices centred within the Adventure Works Australia Foundations of Outdoor and Adventure Therapy practitioner training course (This Figure was developed by the authors.). *Note* OAT = Outdoor and Adventure Therapy

in-house evaluation of the trainings suggests that this intentional mix of elements can be transformative.

Aboriginal-Informed Principles and Practices

Aboriginal-informed principles (Fig. 21.1) include place-based learning, cultural safety (showing respect and asking permission), deep listening (to self, others, and Country), "right way, right time" (practising patience and respect), equity and nonhierarchical relationships, holistic awareness, ritual (repeated actions that influence individuals, groups, and environments), and play. Aboriginal-informed cultural fire practices are central, used for holistic Welcomes, as a gathering and yarning place, in caring for Country, and to honour both Aboriginal cultural knowledge and the collective knowledge of the group.

Other cultural practices include sharing of bush tucker, making and using clapsticks and spears, weaving grass baskets and jewellery, fire-carrying, and building of cultural shelters. Such practices are not only educational but also relational, serving as gateways to a deeper connection with Country and reflecting thousands of years of cultural practice in caring for Country. Aboriginal cultural cofacilitator Luke Mabb explains, "In caring for Country, we are caring for ourselves, our families and our communities. Care for Country, and Country cares for us" (L. Mabb, personal communication, April 8, 2021).

Embedded Principles

The FOAT trainings are guided by a set of embedded Aboriginal principles that have informed AWA's values and philosophy, with practical applications in practice. The holistic approach is supported by the Bio–Psycho–Socio-Cultural–Ecological (BPSCE) Framework, which promotes interconnected intentions for health, wellbeing, and healing. Deep listening encourages participants to attune to self, others, and Country, fostering intuitive awareness and relational respect. Establishing a safe enough BPSCE environment enables participants to explore new experiences while balancing personal–professional safety. The trainings are firmly grounded in place-based practices, honouring local cultural knowledge, histories, and custodianship of Country. Play and humour are intentionally used to build connection, joy, and egalitarian relationships, while intentional rituals mark transitions, strengthen respect, and deepen relational bonds. A focus on equity and nonhierarchical community structure models reciprocity, shared learning, and flattened power dynamics. Finally, the principles of right way, right time and embedded cultural practices ensure that all activities are rooted in Aboriginal cultural knowledge, relational ethics, and practices that nurture people and Country.

Holistic Framework

The BPSCE framework (Fig. 21.3; McLean, 2021; Pryor et al., 2018, 2023) is embedded throughout AWA trainings, guiding both content and pedagogy. Training addresses all five dimensions, spanning from macro (planetary and socio-ecological systems) to micro (individual physiology). With Aboriginal guidance, spiritual dimensions are woven through all five and are most closely aligned with the ecological sphere (Sveiby & Skuthorpe, 2006).

Key

B—Bio	**Biological**—physical, kinaesthetic, somatic, physiological, neural pathways, etc.
P—Psycho	**Psychological**—mental, emotional, cognitive, mindfulness, behavioural, etc.
S—Socio	**Social**—relationships encompassing interpersonal, relational, family, peer, and cohort interactions, among others.
C—Cultural	**Cultural**—communities, beliefs/ languages/ traditions, societies, geopolitics, etc.
E—Eco	**Ecological**—the whole, all beings, natural environments, spiritual, the planet, etc.

While separating these dimensions is a reductionist act, the BPSCE framework (Framework) helps to clarify practitioner rationale (*why*) and practice decisions (*how*) underpinning practice approaches and intentions within nature- and adventure-based therapies (*what*). Emerging from outdoor therapy research and practice,

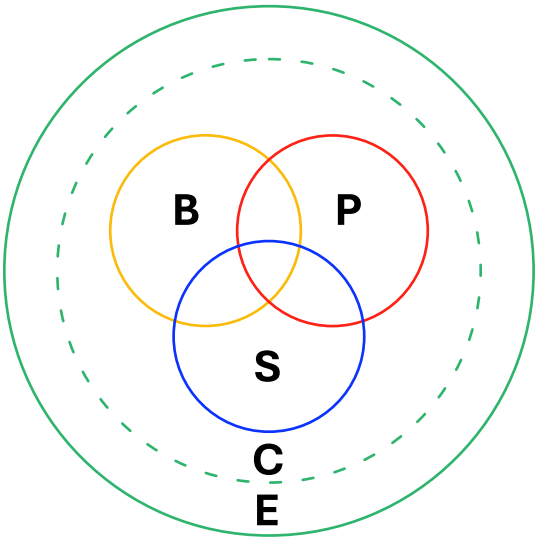


Fig. 21.3 The BPSCE bio–psycho–socio-cultural–eco framework [Adventure Works Australia, 2025 (This image is shared with permission from Adventure Works Pty Ltd.)]

the Framework assumes all parts are interconnected, including unnamed and as yet unidentified dimensions. Identifying discrete dimensions within complex contexts increases practitioner clarity about which dimension/s they are centring (*what*), why they are doing so (*why*), and how this informs practice decisions (*how*), while recognising that all dimensions are present all of the time.

AWA acknowledges that Aboriginal healing practices strongly centre the social and ecological dimensions, recognising individuals as both part of a family or social group and inseparable from ecological systems or Country (Laudine, 2009). Outdoor and adventure therapies integrate all five dimensions, offering holistic benefits (McLean, 2021; Pryor et al., 2018, 2023). Time and space for contemplation, reflection, and connection with self, others, and Country deepen awareness of these multiple dimensions in practice. Celidwen (2024) suggested that contemplative practices stimulate social–emotional–ethical–spiritual learning and that many Indigenous cultures share the belief that Country gives life, with human health emerging from a healthy environment.

Deep Listening

AWA approaches practice with the understanding that humans are Country—"We are Country"—and that Country encompasses land, waterways, animals, plants, climate, skies, and spirits (Martin & Mirraboopa, 2003). Trainings intentionally create space to "let Country in," recognising Country as a valued cofacilitator in immersions and a potential cotherapist in on-Country therapeutic practice. Deep listening to Country is introduced early as a core practice, shaping how the immersion unfolds. AWA has permission from Miriam Rose to share her writing and video on *Dadirri*, which supports participants and facilitators in entering a space of quiet, still awareness. Sharman (2023) described deep listening as a spiritual skill grounded in respect for the environment. Participants are encouraged to listen *to* nature, fostering intuitive practices and wisdom, and contributing to decolonising therapeutic approaches. As cultural cofacilitator Luke Mabb explained, "You feel the 'right way' in your belly, and you feel it in your breath. It is intuitive to pick up on what my belly and breath are saying, deep listening to that" (Personal communication, 2021).

"Safe Enough" Practice

OHA highlights the ethical principle of providing "safe experiences across physical, psychological, social, cultural and ecological dimensions" (OHA, n.d.-b). Creating a context that feels safe enough is foundational to AWA trainings. Safety is planned across holistic dimensions: physical and psychological (personal), social (within the training group), cultural (on Country and with each other in the "right way"), and ecological (safe on, with, and as Country). Importantly, safety is recognised as neither constant nor absolute.

Pryor et al.'s (2019) review of outdoor adventure interventions highlights that practitioner training can enhance safety and effectiveness by fostering clear values, skills, and self-awareness. Respecting and celebrating diverse cultures, languages, genders, and sexualities supports participant safety and more effective therapeutic practice. Building relationships with local Traditional Custodians and seeking permission before accessing natural places is also critical for the cultural safety of both Aboriginal and non-Aboriginal participants (Pryor, 2009a, 2009b).

The FOAT coursebook reinforces this principle (AWA, 2025):

> Good practice is attuned, intentional, tailored, and "safe enough". Neuroscience tells us that safety is a basic human need for wellbeing, growth, and development, but it is never constant or inevitable. Safety should never be assumed or taken for granted … The experience of "safe enough" is fundamental to therapeutic outcomes, providing the basis from which to explore new experiences, ways of relating, and healthy risks. (p. 14)

Place-Based Practice

Communities living in sustainable reciprocity with their environments develop practices that are deeply place based (Carpenter, 2009). Aboriginal peoples, through millennia of continuous relationships with Country, have cultivated attuned, integrated, and nuanced place-based knowledges. Cultural practices evolved in alignment with natural lore, creating robust, spiritual knowledge systems. As Steffensen (2020) noted, Aboriginal people learn not only from teachers but also from Country itself.

OHA's ethical framework emphasises seeking "mutually healthy relationships with cultural custodians of Country, and with all Aboriginal, Torres Strait Islander and Indigenous peoples" (OHA, n.d.-b). Respectful practice involves seeking permission from cultural custodians, learning about local cultural histories, and understanding contemporary practices that are respectful and appropriate. Harper and Doherty (2021) add that by honouring First Nations relationships with land, outdoor therapists discover what truly place-based, nature-connected practice looks like.

AWA Aboriginal cultural mentors and cofacilitators model these principles by generously sharing their knowledge of history, culture, and Country. When Aboriginal cultural cofacilitators are not from the specific geographic area, they explicitly acknowledge this and seek appropriate permissions whenever possible. Stewart (2008) emphasised the importance of introducing participants to the "stories" of the land, including its ownership and the changes it has undergone over time.

Play

Throughout the immersion, there are opportunities to engage in play, either solo or in small or large groups. These moments often bring joy, a welcoming group atmosphere, and a sense of egalitarianism. Aboriginal mentors naturally integrate

humour and play, drawing on lived experiences where playfulness has long served as an antidote to grief, loss, and trauma, as well as a powerful tool for improving mental health. Gray (2009) observed that in many hunter-gatherer societies, play supports egalitarianism, sharing, and peacefulness—qualities essential for group survival. Key characteristics of "healthy play" include voluntary participation, autonomy, equality, sharing, and consensual decision-making.

Play therapy has long been recognised in mental health care as a valid therapeutic modality (Axline, 1947), based on the principle that play is a natural medium of expression. Axline's eight principles centre acceptance, autonomy, permissiveness, respect, and gradual therapeutic progression. These principles offer useful guidance for incorporating "safe enough" guided play and/or nondirected play into outdoor and adventure therapy contexts. Anecdotal evidence suggests that the playfulness experienced in training immersions influences professional practice, with some participants reporting that their therapeutic work now more deliberately invites light-hearted play and relaxation with nature or Country. Play is offered gently, with lightness, humour, and a sense of possibility.

Rituals

Indigenous approaches prioritise relationships over transactions, with rituals and storytelling being central to marking significant events, transitions, and relationships (Celidwen, 2024). Rituals—repeated, intentional actions—foster connection, contemplation, and respect. As Aboriginal cultural cofacilitator Luke Mabb explained, "Experiencing rituals together helps us honour each other and Country in the right way" (L. Mabb, personal communication, April 12, 2025). Although many Aboriginal place-based rituals were disrupted by colonisation, AWA Aboriginal mentors incorporate culturally grounded practices where appropriate. Fire is used ceremonially, including smoking rituals for Welcome and cleansing, while gathering around campfires in the morning and evening naturally forms circles for yarning and storytelling, encouraging respect and reflective listening.

AWA facilitators also weave in respectful, emergent rituals to deepen self-awareness, social connection, and reflexive practice. The "Supporting Reflexive Practice" module highlights how clear intentions, self-awareness, and in-the-moment reflexivity enhance therapeutic safety and effectiveness. Many participants report that these shared practices foster a profound sense of belonging, strengthening both personal insights and relational connections with others and with Country.

Equity and Nonhierarchical Community Structure

Aligning with OHA's ethical principle to "attend to issues of power, privilege, coercion and oppression" (OHA, n.d.-b), the FOAT trainings intentionally model

equity and reciprocity. While it is acknowledged that facilitators inherently carry privilege and power in training settings, they intentionally seek to share power and nurture nonhierarchical relationships. Facilitators actively participate as mutual learners, openly sharing new insights gained during the course, and modelling reciprocity in learning.

Gray (2009) noted that mental attitude can reduce dominance and foster reciprocity. Key AWA practices that support an equal and flat power structure in FOAT trainings include

- providing clear information and opportunities for questions before participants commit to the training, supporting agency and informed decision-making;
- treating informed consent as an ongoing, circular process, with participants free to opt out or in at any time;
- maintaining a cross-disciplinary facilitator team that uses collaborative decision-making and flattens hierarchies to value diverse perspectives;
- encouraging participants to share embodied responses and personal insights alongside professional reflections, fostering group learning in a circular rather than top-down way;
- holding circle conversations, often around a fire, to create egalitarian spaces where everyone sits at the same level rather than looking up to "teachers";
- using yarning—an Aboriginal-informed, relaxed, generative style of conversation—to remove control from facilitators and allow participants to explore topics they value;
- sharing tasks equally between facilitators and participants, modelling reciprocity and community;
- inviting playfulness—both overt and tacit;
- inviting participants to clarify their own evidence base, values, and privileges through reflective exercises in the FOAT coursebook;
- emphasising diversity in practice—"Don't do it our way, do it your way"—to strengthen rich diversity within the outdoor health field.

Taylor's (2007) review of transformational learning theory highlighted authentic relationships and equalising power as key to transformational change.

Sveiby and Skuthorpe (2006) described how the Nhunggabarra people of northwestern New South Wales organised knowledge and leadership contextually, with leadership shifting to whoever held expertise in a given area. As Aboriginal cofacilitator Luke Mabb explained, "It is about different roles, not better" (L. Mabb, personal communication, April 10, 2023). Aboriginal-informed pedagogies reflect this approach, with learning emerging through stories and experiences, allowing participants to draw their own lessons and apply them to family and community relationships, their work, and their place or Country. This heutagogical, experiential learning model values diversity and complexity, much like the ecological systems it seeks to emulate. Tex Skuthorpe described this process: "There is a question and an answer, and we should spend our time in the middle" (T. Skuthorpe, personal conversation, Sept 12, 2010).

FOAT trainings celebrate the diversity of identities and experiences participants bring, recognising these as essential to collective learning. These features support participants and facilitators alike, describing the training as nourishing, stimulating, and transformational.

Right Way

For Aboriginal cultural mentors, practising "right way" is grounded in reciprocity with people and Country. It involves approaching Country with a respectful and open heart, free of judgement, and attuned to the body's intuitive responses—felt through breath, belly, and senses. Rosemary Wanganeen said that trusting intuitive intelligence supports healing for self, others, and Country, and this way of being requires humility and a readiness to give, receive and learn (R. Wanganeen, personal communication, October 23, 2023).

Laudine (2009) emphasised that humans have reciprocal responsibilities to Country, just as Country provides for and nurtures us. This responsibility extends beyond the individual to encompass care for self, family, and community (Sveiby & Skuthorpe, 2006). Seeing oneself as part of Country dissolves the separation between subject and object, recognising that natural elements and organisms are sources of knowledge that inform human actions (Laudine, 2009).

These connections often emerge during immersions. For example, when an eagle circles overhead while a cultural mentor speaks, it is understood as an affirmation from Country that the group is acting in alignment with "right way." Such moments are met with a quiet, intuitive acknowledgment, reflecting a relational exchange with Country. McKnight (2016) highlighted that Country itself is a teacher, offering lessons through trees, mountains, animals, rocks, and weather, creating spaces for reflection, challenge, and connection. Practising "right way" means letting go of predicted outcomes and certainty, trusting intuition, and approaching Country with respect, humility, and a commitment to give as much as one takes (R. Wanganeen, personal communication, October 23, 2023).

Right Time

While the multi-day practitioner training immersion follows a structured plan, the schedule is held lightly and guided primarily by the facilitator team's shared intention to enable appropriate timing and sequencing. This naturalistic and generative approach to time (Carpenter, 2009; Pryor, 2009a) draws on intuitive prompts —"right way", as felt by Aboriginal cultural mentors, along with signs and signals from nature, changing weather conditions, and the embodied intuitive knowledge of participants. Working towards the "right time" is inseparable from practising "right way" and is best led by Aboriginal mentors. It requires balancing the tension

between fixed schedules and flexibility, inviting openness to ancestral knowledge accessible in the present. Facilitators acknowledge they do not always get it right, but the intention to work this way remains strong and clear.

The AWA approach to time and timing relates to *Chronos* and *Kairos* time, terms drawn from Greek etymology (Pryor, 2009b). Chronos refers to measured, predictable, and linear time—dominating Western, colonised contexts through clock- and calendar-based schedules. Kairos, by contrast, is qualitative and intuitive, attuned to natural rhythms and cycles (Carpenter, 2009; Smith, 1969). By privileging Kairos timing, facilitators prioritise appropriate time and processes over predicted or rigid outcomes, aligning with the ebb and flow of Country rather than content-driven agendas (Tudor, 2001). Indigenous temporalities resonate strongly with this orientation. Celidwen (2024) described Indigenous time as cyclical and relational, grounded in reverence for all life. De Vos (2020) called this "spiralic temporality," which honours responsibilities to both ancestors and future generations, allowing the past to return and inform the future. By centring Kairos and Aboriginal temporalities, AWA facilitators actively engage in decolonising time—an intentional use of leadership power that is inherently political.

Luke Mabb described this approach as holding schedules loosely, staying fluid, and responding to what is meant to unfold. "Deep listening to Country guides decisions about when to act" (L. Mabb, personal communication, April 8, 2003). This is not merely coincidence or synchronicity but rather an acceptance of being part of larger, interconnected systems. Such an approach differs significantly from contemporary Western norms, where every hour is accounted for and progress is expected, regardless of emerging conditions. Gardner et al. (2022) argued that settler societies are reaching the limits of their current relationship with nature, calling for "a radical reimagining of the elementary concepts of time and place on which our relationship to the land is based" (p. 43). For non-Indigenous participants, experiencing "right time" offers a profound shift in perspective, prompting reflection on deeply ingrained assumptions about time, progress, and relationality with Country.

Embedded Cultural Practices

Aboriginal-informed cultural practices are woven throughout the multi-day immersion, fostering deep connection with and care for Country. These practices draw on the histories and cultural knowledges of Aboriginal mentors, in some cases, shared on the very lands and sea Country where they originated. Participants may prepare traditional foods, make and use clapsticks and spears, and create grass baskets and jewellery. In some AWA trainings and therapy programs, cultural canoes and bark huts have also been built, supporting the health and healing of people and Country. Such practices, sustained for thousands of years, offer participants an embodied experience of relationality with Country.

Within the AWA FOAT trainings, Aboriginal-informed knowledge and cofacilitation with fire are often central. Fire has been used for tens of thousands of years by Aboriginal peoples to sustain the wellbeing of land and people. In the trainings, fire is both a cultural practice and a therapeutic tool. Use of fire includes fire for ceremonial Welcome and cleansing, as a central gathering and yarning place, for healing, in cool burns to care for Country, and firestick carrying as a traditional practice in Lutruwita. For cultural mentor Luke Mabb, fire helps to regulate and ground himself, coregulate with individuals and groups, and cleanse and heal Country. Careful use of fire demonstrates respect for Country, Ancestors, and community. Three important ways fire is woven into the multi-day immersion are explored below: Welcome to Country Smoking Practices, Experience of Cultural Burning, and Fire as a Central Gathering Place.

"Welcome to Country" Smoking Practices

The Aboriginal "Welcome to Country" smoking ceremony invites participants to cleanse themselves in the smoke, signalling to Country, and all beings, that they are present. The smoke is understood to help clear, clean, and prepare participants to contribute in the "right way" to both Country and the sociocultural space. It symbolically encourages letting go of the mental and emotional clutter of daily life, old stories, negative thoughts, and unhelpful behaviours, while also fostering goodwill and contributing to the safety of the land while the group is present. This process supports the "right way" by inviting participants to be with and as part of Country, entering a sacred immersive space with humility, respect, and openness.

Many participants report that the smoking ceremony creates a profound sense of belonging to Country. They describe feeling genuinely welcomed into the space, the land and the group, and invited into a "way of being" that includes both explicit and implicit responsibilities to remain humble, present, and sensitive to others. For many participants and facilitators alike, the experience fosters cultural humility, a deeper appreciation of humans as part of nature, and an acceptance of themselves, their ancestors, and what they bring to the space. Cultural fire practices are often experienced as deeply therapeutic. Fire grounds and centres people, providing a warm, reflective, and reciprocal environment. In this way, traditional smoking ceremonies invite participants into Country the "right way" and introduce outdoor and adventure therapy through a distinctly decolonising lens.

Experience of Cultural Burning

Early in the multi-day immersion, when conditions allow, participants may walk on Country with Aboriginal mentors to an appropriate site for cultural burning. The use of cool, low-intensity fires as a holistic method of caring for Country reflects

highly sophisticated and complex cultural knowledge developed over tens of thousands of years (Lindenmayer & Bowd, 2022). Beyond its ecological value, cultural burning carries profound cultural and ethical significance (Gardner et al., 2022). In appropriate places, these practices stimulate seed germination, promote healthy vegetation growth, revitalise habitats for birds and insects, and clear corridors for animals and hunting. Caring for Country through cultural burns is understood as a reciprocal act—nurturing the land as it nurtures people. Research links participation in caring-for-Country activities to improved health outcomes for Aboriginal people (Berry et al., 2009).

For many FOAT participants, witnessing or taking part in cultural burns challenges colonised, fear-based narratives of fire and introduces an Aboriginal-informed understanding of fire as a method for healing Country. This tangible act of caring and "giving back" fosters a sense of shared healing, yet it can also evoke internal dissonance as long-held assumptions about fire are questioned. Participants often describe initial apprehension giving way to trust as they observe the grounded confidence and attunement of Aboriginal mentors tending the fire. The experience frequently shifts perceptions of fire from danger to care, reinforcing its role in maintaining healthy landscapes. Cultural burning is regarded as essential for regenerating land, restoring habitats, and bringing animals back to Country.

For participants, cultural burning is often both confronting and transformative, described as a rare and deeply memorable experience. It embodies the revival of practices that have sustained Country for millennia but were disrupted and almost destroyed by colonisation, now recognised as essential for the health of both land and people. As an embodied, active form of decolonisation, cultural burning invites healing not only for Country but also for the body, mind, and community, offering a powerful therapeutic experience.

Fire as a Central Gathering Place

During the multi-day immersion, fire serves as a central gathering place, both at the base camp and within shared living spaces for facilitators and participants. Sitting in circles around the fire continues a cultural practice that has been sustained for thousands of years (Spillman, 2017). The fire provides warmth, light, and a sense of home, evoking a deep sensory connection to Country and reinforcing feelings of belonging and spiritual grounding. Participants often describe the experience as a return to self and a sense of oneness, with the fire acting as a sacred presence that supports personal reflection and healing. This connection creates an environment where individuals feel more attuned to themselves, to others, and to Country, opening them to deeper awareness and learning.

The fire circle also symbolically and practically affirms equality. In Indigenous process, circles are understood as spaces where everyone has an equal right to speak, be listened to, and be heard (Clarke & Fewquandie, 1998). Such circles embody a way of being, doing, and knowing together, where diverse experiences,

knowledge, and aspirations are valued equally, fostering reciprocal relationships and balanced power dynamics (Spillman, 2017). Research on transformative learning emphasises that trust and equal power relations are essential for both personal and collective change (Taylor, 2007). Within this context, the yarns (conversations) shared around the fire are recognised as a powerful form of healing, allowing participants to feel grounded, present, and receptive. Many describe these moments as opportunities to connect deeply, listen fully, and learn in ways that align with being "right way" on Country.

Discussion

Do the Practitioner Training Courses Support Decolonising Of Therapy Practice?

Indigenous worldviews prioritise relationships and interconnected systems, including Country, rather than focusing solely on individual experience (Celidwen, 2024). McKnight (2016) argued that when non-Indigenous academics and practitioners engage with Aboriginal ways of knowing, learning, and behaving—under the guidance of Aboriginal people—they begin to disrupt colonial mindsets. Colonial thinking is rooted in a perceived separation between humans and the land, based on the belief that humans are a superior species with the right to own and control the natural environment (Machado de Oliveira, 2021). This worldview also entrenches hierarchies within humanity, privileging certain bodies and cultures as legitimate holders of reason and authority. Rejecting these colonial, individualistic perspectives, Celidwen (2024) called for pathways towards collective flourishing, while Wategо (2023) challenged educators and practitioners to critically ask what is genuinely different in their practice, who benefits, what power is being relinquished, and where their loyalties lie. Decolonising practice, therefore, is not a fixed outcome but an ongoing, complex, lifelong process requiring humble commitment.

The AWA FOAT trainings seek to respond to such challenges by grounding practice in Aboriginal-informed, place-based principles. Participants are invited to experience themselves as part of Country, guided by Aboriginal knowledge holders and cultural mentors. As McKnight (2015) noted, the colonisation of Country is inseparable from the colonisation of self; by experiencing self as Country and Country as self, respectful, reciprocal, and responsible relationships can emerge—relationships that are fundamental to decolonisation. Through direct engagement with Aboriginal cultural practices and the ecological wisdom embedded in Country, participants are encouraged to move beyond individualistic, human-centred perspectives and towards relational, interconnected ways of being.

Feedback indicates that many participants experience lasting personal and professional shifts as a result of the training. Several described becoming more attuned to being present on Country, more confident in their sense of belonging,

and more open to questioning existing structures. Some reported that their practice expanded beyond a narrow, one-way lens, opening up to new possibilities facilitated by nature and by listening deeply to Country. Others reflected that the immersion fostered a greater trust in embodied and intuitive knowing, allowing them to work with increased confidence and sensitivity. Many noted that Aboriginal cultural contributions to the course encouraged critical reflection on dominant systems and inspired them to consider alternative ways of being, grounded in the unity of mind, body, and environment.

By privileging Kairos time, practising the "right way" on Country, fostering nonhierarchical relationships through circle gatherings, and embedding deep listening to Country, AWA intentionally works towards decolonising therapy practice. Strengthening respectful and reciprocal human–Country relationships also supports ecological interconnection and healing. As Kimmerer (2024) argued, decolonising practice requires a shift from individual concern to collective wellbeing, from independence to interdependence, and from wounding to healing. These trainings aim to contribute to such transitions, encouraging facilitators and participants alike to continue their decolonising journeys and to support more relational, culturally grounded, and ecologically sustainable approaches to therapy.

Can the Aboriginal-Informed Practitioner Training Courses be Transformational?

Participant feedback consistently suggests that the FOAT trainings are experienced as deeply impactful, life affirming, and, in many cases, transformative. The Welcome to Country ceremony, for example, is frequently described as a robust foundation for the collaborative learning journey, setting the tone for meaningful connection with both people and Country. Participants commonly reflect that the immersion feels unlike other professional or personal development experiences, and for some, marks a turning point in how they understand themselves, others, and their relationship with the natural world.

Transformative learning theory highlights that genuine transformation occurs within relational and contextual environments, where critical reflection and new perspectives open pathways for new meaning-making (Taylor, 2007). Participant reflections strongly indicate that these conditions are present within the FOAT trainings. A key enabling factor is the creation of a "safe enough" environment—physically, psychologically, relationally, and culturally—on and with Country. Such environments facilitate entry into liminal spaces, where participants can release outdated or limiting ways of being, knowing, and doing, thereby making space for new insights and possibilities (Singer-Brodowski et al., 2022).

Many participants describe shifts in worldview and practice. Some report becoming more humble and less centred on their own expertise, recognising instead that nature, Country, and shared experiences are the true catalysts for

insight and learning. Rather than positioning themselves as the source of inspiration or change, participants speak of learning to act as facilitators, supporting others to connect with nature, Country, and the deeper relational themes that spark growth and realisation. This change in perspective represents a significant move away from practitioner-centred approaches, aligning more closely with decolonising and relational ways of working.

Facilitators, too, experience transformation through the training sessions. Aboriginal and non-Aboriginal facilitators alike have described profound shifts in their sense of belonging, connection, and everyday practice following the training immersions. These experiences suggest that the Aboriginal-informed FOAT trainings not only foster personal and professional transformation but also provide a rare opportunity to experience therapy as relational, embodied, and inherently decolonising. The combination of Aboriginal cultural guidance, deep listening to Country, and relational learning processes appears to nurture changes that extend well beyond the training itself, influencing how participants and facilitators live, work, and relate to the world.

Conclusions

Facilitator observations and participant reflections suggest that Aboriginal-informed FOAT training courses can be professionally beneficial and personally transformational, influencing not only individual therapeutic practice but also the wellbeing of participants, along with their families, communities, and Country. By incorporating more-than-human elements and practices of caring for Country, these trainings hold the potential to generate healing for humans, more-than-humans, and Country.

The AWA training approach does not position therapists, practitioners, facilitators or trainers as "experts who know best." It shifts away from hierarchichal and Chronos-driven mindsets, centring instead on generative Kairos processes and Aboriginal-informed understandings of the "right way" on Country. Loyalty lies with Country and with Aboriginal knowledge holders, whose wisdom guides the building of cultural safety and ensures that diverse voices and ways of knowing are valued. The guiding values of the FOAT training courses are strengthening with each offering, as facilitators continue to witness transformational change and healing for participants, and for themselves. These trainings aspire to contribute to healthy socioecological systems, modelling decolonising ways of caring for people and place and deepening their Aboriginal foundations over time. As Pereira et al. (2020) argued, transformative spaces generate ideas that challenge the status quo and change the systems that create existing problems.

Aboriginal knowledge holders, through their generosity, offer acceptance into Country and cultivate a sense of belonging and responsibility. Aboriginal-informed transformational learning supports the decolonisation of ways of being, perceiving, and knowing, fostering holistic health, wellbeing, and healing. Relational, nonhierarchical, and deeply connected to Country, Aboriginal ways of knowing and being

offer critical insights for responding to the grand challenges of our time (Watego et al., 2021). If outdoor and adventure therapy practitioners respect Aboriginal cultural knowledge holders, and actively seek guidance from local Aboriginal communities, outdoor therapeutic practices can better care for people, Country, and the planet. Practised with respect and reciprocity, these approaches hold significant potential to support individual and collective healing while contributing to the restoration of planetary health. We heal together.

Acknowledgements Our heartfelt thanks to the Aboriginal Elders, mentors, teachers, colleagues, and friends who have been so generous, respectful, and honest with us. Although only three Adventure Works (AW) facilitators authored this paper, the wider AWA facilitation team contributed to its development through long-term, trusted, mutual, robust collegiality, including Pete Rae, Ben Knowles, Amanda Smith, Kylie Peters, Robert Coller, Dassi Herszberg and Glenn Woods.

We extend our gratitude to the private family trust that owns and manages the Big River and Oyster Bay properties where the FOAT training has been delivered, and to the Tasmanian Aboriginal Centre for its outstanding work in reviving the *palawa kani* language and providing excellent cultural awareness courses. Deep thanks also to all training participants for your openness, full participation, and reflections, which have shaped the insights shared in this chapter.

References

Adventure Works Australia. (2025). *Healthy practices, healthy people: Foundations of outdoor therapy practitioner training course book* (5th ed.). Adventure Works Pty Ltd.

Australian Association for Bush Adventure Therapy Inc. (AABAT, n.d.). *Home*. AABAT. https://aabat.org.au/

Australian Association for Bush Adventure Therapy Inc. (AABAT, 2022). *Bush adventure therapy 101* Training course. AABAT Forum 2022. AABAT.

Australian Institute of Aboriginal and Torres Strait Islander Studies. (n.d.). *Welcome to Country*. https://aiatsis.gov.au/explore/welcome-country

Axline, V. (1947). *Play therapy: The inner dynamics of childhood*. Houghton Mifflin.

Blaschke, L. M. (2012). Heutagogy and lifelong learning: A review of heutagogical practice and self-determined learning. *The International Review of Research in Open and Distributed Learning*, *13*(1), 56–71. https://doi.org/10.19173/irrodl.v13i1.1076

Buckley, R., Brough, P., & Westaway, D. (2018). Bringing outdoor therapies into mainstream mental health. *Frontiers in Public Health*, *6*, Article 119. https://doi.org/10.3389/fpubh.2018.00119

Berry, H. L., Bailie, R. S., Burgess, C. P., Gunabarra, C., Johnston, F. H., McDonnell, J., Mileran, A., Joseph Mcdonnell, J., & Yibarbuk, D. (2009). Healthy country, healthy people: The relationship between Indigenous health status and "caring for Country. *Medical Journal of Australia*, *190*(10), 567–572.

Carpenter, C. (2009). Shaping spaces within place. In D. Mitten & C. Itin (Eds.), *Connecting with the essence: Conference proceedings of the 4th International Adventure Therapy Conference* (pp. 123–134). Association for Experiential Education.

Carpenter, C., & Pryor, A. (2021). Chapter 7: Adventure therapy. In N. J. Harper & W. W. Dobud (Eds.), *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives* (pp. 81–94). Routledge.

Celidwen, Y. (2024). *Flourishing kin: Indigenous wisdom for collective well-being* (p. 56). Sounds True.

Clarke, C., & Fewquandie, D. (1998, October). *Indigenous therapies: Old ways of healing, new ways of being* [Unpublished paper presentation]. Rural Mental Health Conference.

Cooley, S. J., Jones, C. R., Kurtz, A., & Robertson, N. (2020). "Into the wild": A meta-synthesis of talking therapy in natural outdoor spaces. *Clinical Psychology Review*, *77*, Article 101841. https://doi.org/10.1016/j.cpr.2020.101841

De Vos, L. M. (2020). Spiralic time and cultural continuity for Indigenous sovereignty: Idle no more and The marrow thieves. *Transmotion*, *6*(2), 1–42. https://doi.org/10.22024/UniKent/03/tm.807

Gardner, S., Couch, D., Bourke, M., Atkinson, A., & Komesaroff, P. (2022, December). Changing fire imaginaries: Walking together to reap the ethical and practical benefits of cultural burning. *Arena Quarterly, (12),*43. https://arena.org.au/changing-fire-imaginaries-walking-together-to-reap-the-ethical-and-practical-benefits-of-cultural-burning/

Gray, P. (2009). Play as a foundation for hunter-gatherer social existence. *American Journal of Play*, *1*(4), 476–522.

Harper, N. J., & Doherty, T. J. (2021). An introduction to outdoor therapies. In N. J. Harper & W. W. Dobud (Eds.), *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives*. Routledge.

Hyvönen, K., Törnroos, K., Salonen, K., Korpela, K., Feldt, T., & Kinnunen, U. (2018). Profiles of nature exposure and outdoor activities associated with occupational well-being among employees. *Frontiers in Psychology*, *9*, *Article 754*. https://doi.org/10.3389/fpsyg.2018.00754

Kimmerer, R. W. (2024). *The serviceberry: Abundance and reciprocity in the natural world*. Scribner.

Laudine, C. (2009). *Aboriginal environmental knowledge: Rational reverence*. Ashgate.

Lindenmayer, D., & Bowd, E. (2022). Cultural burning, cultural misappropriation, oversimplification of land management complexity, and ecological illiteracy. *Ecological Management & Restoration*, *23*(3), 205–208. https://doi.org/10.1111/emr.12564

Machado de Oliveira, V. (2021). *Hospicing modernity: Facing humanity's wrongs and the implications for social activism*. North Atlantic Books.

Martin, K., & Mirraboopa, B. (2003). Ways of knowing, being and doing: A theoretical framework and methods for indigenous and indigenist research. *Journal of Australian Studies*, *27*(76), 203–214. https://doi.org/10.1080/14443050309387838

McKnight, A. (2015). Mingadhuga Mingayung: Respecting Country through Mother Mountain's stories to share her cultural voice in Western academic structures. *Educational Philosophy & Theory and*, *47*(3), 276–290.

McKnight, A. (2016). Meeting Country and self to initiate an embodiment of knowledge: Embedding a process for Aboriginal perspectives. *The Australian Journal of Indigenous Education*, *45*(1), 11–22. https://doi.org/10.1017/jie.2016.10

McLean, J. (2021). *Outdoor health care—common elements: A limited systematic review* [Unpublished report]. Australian Association for Bush Adventure Therapy.

Moreton-Robinson, A. (2020). Incommensurable sovereignties: Indigenous ontology matters. In *Routledge handbook of critical indigenous studies*. Routledge.

Outdoor Health Australia (OHA). (n.d.-a). *Home*. OHA. https://outdoorhealth.org.au/

Outdoor Health Australia (OHA). (n.d.-b). *Quality framework*. OHA. https://outdoorhealth.org.au/quality-framework/

Pereira, L., Frantzeskaki, N., Hebinck, A., Charli-Joseph, L., Drimie, S., Dyer, M., Eakin, H., Galafassi, D., Karpouzoglou, T., Marshall, F., Moore, M.-L., Olsson, P., Siqueiros-García, J. M., van Zwanenberg, P., & Vervoort, J. M. (2020). Transformative spaces in the making: Key lessons from nine cases in the Global South. *Sustainability Science,15*(1), 161–178. https://doi.org/10.1007/s11625-019-00749-x

Porges, S. W. (2009). The polyvagal theory: New insights into adaptive reactions of the autonomic nervous system. *Cleveland Clinic Journal of Medicine*, *76*(Suppl 2), S86–S90. https://doi.org/10.3949/ccjm.76.s2.17

Pryor, A. (2009a). Does adventure therapy have wings? In D. Mitten & C. Itin (Eds.), *Connecting with the essence: Proceedings of the 4th International Adventure Therapy Conference 2006* (pp. 46–71). Association for Experiential Education.

Pryor, A. (2009b). *Wild adventures in wellbeing: Foundations, features and wellbeing impacts of Australian outdoor adventure interventions (OAI)* [Doctoral dissertation, Deakin University]. https://dro.deakin.edu.au/articles/thesis/Wild_adventures_in_wellbeing_foundations_features_and_wellbeing_impacts_of_Australian_outdoor_adventure_interventions_OAI_/21096667

Pryor, A., Pryor, R., & Carpenter, C. (2018, March). *A formative evaluation of the Gippsland Wilderness Program*. Adventure Works Australia Pty Ltd.

Pryor, A., Pryor, R., & Carpenter, C. (2019). *Outdoor adventure interventions—young people and adversity: A literature review*. Berry Street.

Pryor, A., Richards, K., Priest, S., Javorski, S., & Russell, K. (2023). Hills and gullies of international adventure therapy: Exploring common practice elements towards an international position statement. In A. Rose, C. Thiesen, & P. Wijnands (Eds.), *International Journal of Adventure Therapy (Special Edition). Proceedings of the 9IATC/3 Gate*, Norway 2022. https://journal-adventure-therapy.com/product/hills-and-gullies-of-international-adventure-therapy-exploring-common-practice-elements-towards-an-international-position-statement/

Roberts, A., Hinds, J., & Camic, P. M. (2020). Nature activities and wellbeing in children and young people: A systematic literature review. *Journal of Adventure Education and Outdoor Learning*, *20*(4), 298–318. https://doi.org/10.1080/14729679.2019.1660195

Sharman, A. (2023). *The future ancestor: A guide and journey to oneness*. Hay House UK.

Siegel, D. J. (2022). *IntraConnected: MWe (Me + We) as the integration of self, identity, and belonging* (pp. 10). W.W. Norton.

Singer-Brodowski, M., Förster, R., Eschenbacher, S., Biberhofer, P., & Getzin, S. (2022). Facing crises of unsustainability: Creating and holding safe enough spaces for transformative learning in higher education for sustainable development. *Frontiers in Education*, *7*, Article 787490. https://doi.org/10.3389/feduc.2022.787490

Smith, J. E. (1969). Time, time, and the "right time," "chronos," and "kairos. *The Monist*, *53*(1), 1–13. http://www.jstor.org/stable/27902109

Spillman, D. (2017). Coming home to place: Aboriginal lore and place-responsive pedagogy for transformative learning in Australian outdoor education. *Journal of Outdoor and Environmental Education*, *20*(1), 14–24.

Steffensen, V. (2020). *Fire country: How Indigenous fire management could help save Australia*. CSIRO Publishing.

Stewart, A. (2008). Whose place, whose history? Outdoor environmental education pedagogy as "reading" the landscape. *Journal of Adventure Education & Outdoor Learning*, *8*(2), 79–98. https://doi.org/10.1080/14729670802519266

Sveiby, K.-E., & Skuthorpe, T. (2006). *Treading lightly: The hidden wisdom of the world's oldest people*. Allen & Unwin.

Taylor, E. W. (2007). An update of transformative learning theory: A critical review of the empirical research (1999–2005). *International Journal of Lifelong Education*, *26*(2), 173–191.

Tudor, K. (2001). Change, time, place and community: An integral approach to therapy. In P. Lapworth, S. Fish, & C. Sills (Eds.), *Integration in counselling and psychotherapy: Developing a personal approach* (pp. 35–46). SAGE Publications.

Watego, C. (2023). *Can we decolonise health and community care?* [Lecture]. The Wheeler Centre, in partnership with Monash University. https://research.monash.edu/en/activities/chelsea-watego-can-we-decolonise-health-and-community-care and https://www.youtube.com/watch?v=7Q5w8pYkpbw

Watego, C., Whop, L., Singh, D., Mukandi, B., Macoun, A., Newhouse, G., Drummond, A., McQuire, A., Stajic, J., Kajlich, H., & Brough, M. (2021). Black to the future: Making the case for indigenist health humanities. *International Journal of Environmental Research and Public Health*, *18*(16), Article 8704. https://doi.org/10.3390/ijerph18168704

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 22
Back to Basics: The Benefits of Nature-Infused Learning for Children and Young People

Fiona Pigott and Tonia Gray

Sociocultural Positioning

For many Aboriginal people, it is customary on first meeting to ask other Indigenous peoples "Who's your mob?" Taking the time to orient each other to "where you come from, where you belong and who you belong to" provides a foundation for relational walking and working together (Bishop et al., 2021; Minmia, 2007). In the Celtic traditions (Fiona's ancestral heritage), it is customary to welcome in, feed, and warm a stranger before asking their business; an exchange of ideas begins by simply being with each other (Freeman, 2006; O'Donohue, 1997). The interaction between authors and readers is a dynamic and complex exchange of ideas and emotions; we, too, are beginning a relationship as you journey with us across the page. So, let's take a moment to be with each other: Where do we come from, and to whom do we belong?

Fiona Pigott is a non-Aboriginal woman born on the unceded Country of Wallumedegal Peoples. She descends from Scots, displaced during the Highland Clearances, who, in turn, displaced Aboriginal Peoples when emigrating to colonised Australia. Fiona has had the privilege of teaching and learning alongside Aboriginal educators, families, and students in a school embedding Indigenous curriculum throughout many aspects of school life. She is committed to contributing to the decolonisation and deindustrialisation of the education system. Fiona delivers professional learning, facilitates nature play experiences for children and their families, and is the educational advisor to a community-led nature-based school initiative. As a critical constructivist researcher, she contributes to the knowledge base that informs educational reform using relational organisational and pedagogical approaches.

F. Pigott (✉) · T. Gray
Centre for Educational Research School of Education, Western Sydney University, Western Sydney, NSW, Australia;
World Leisure Centre Excellence (WLCE), Western Sydney University, Western Sydney, NSW, Australia
e-mail: fionajmpigott@gmail.com
e-mail: t.gray@westernsydney.edu.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_22

Fiona connects with nature by watching the fish in the backyard pond and noticing the sun's patterns on the local escarpment.

Tonia Gray is a non-Aboriginal woman born on the unceded Country of the Yuin Nation. As a seventh-generation Australian from English and German descent, she is committed to making amends for the environmental destruction her forebears inflicted on the local lands while collecting red cedar for furniture and boat building where she continues to live. There is little doubt her ancestors also displaced Aboriginal and Torres Strait Islander Peoples in the 1820s when emigrating to the South Coast of NSW and they colonised Australia. Tonia was involved in an innovative school-based outdoor education program for young adolescents called Wilderness Studies in the 1980s as a secondary school teacher. Currently, Tonia is a senior researcher in the Centre for Educational Research at Western Sydney University where her research explores the intersection of outdoor experiential education, human–nature relationships, gender, and health/wellbeing. Over four decades, Tonia has remained committed to teaching and studying the impact of nature-infused pedagogies in her work. As the steward of a 25-acre (10 ha) property called "Dadirri," she attempts to live as sustainably as possible. Tonia coexists with nature through the local wildlife, horse riding on nearby beaches, hiking, and exploring wilderness areas both in Australia and overseas.

Throughout this chapter, we prompt you to reflect on what you're reading and ponder how it brushes up against your lived experience, beginning with Reflection Activity #1.

Reflection Activity #1

Where does your connection with outdoor health come from?

Where is it currently being expressed, and with whom?

Chapter Overview

Spinning the Compass and Going Rogue



"True enough, this compass does not point north." Jack said.
"Where does it point?" Elizabeth asked.
"It points to the thing you want most in this world." (Jack Sparrow, Verbinski, 2003)

This chapter represents a radical departure from the traditional Western academic style of writing. By "going rogue" (Gray & Bailey, 2022), we take the reader on a literary adventure. In essence, we are taking a risk and doing things differently, just like we ask our teachers and students to do when we encourage them to get out of the classroom and into the great outdoors (Bentsen et al., 2017; Gray & Bailey, 2022). The interactive structure and conversational tone of this chapter is an expression of our commitment to decolonising academia. We draw inspiration and guidance from our Aboriginal colleagues and scholars and invite readers to consider how they, too, can decolonise rationality. As authors, we acknowledge that whiteness is often the invisible norm, so we lead by example and take an approach to learning that values and makes visible Indigenous teaching practices.

Nature-infused learning provocations are woven throughout the chapter as intentional invitations for the reader to engage in experiences that stimulate thought or investigation. This approach to educational practice is as relevant for adult learners as in the early childhood settings it is often applied (Tur Porres, 2020). The reader will actively construct knowledge through interaction with their environment; it is on the journey, not at the destination, where learning occurs.

Our adventure begins by tracing the intimate and absolute relationship between human wellbeing, learning, and the natural world (Grinde & Patil, 2009). In modern times, many of us have experienced a disconnection from the natural environment (Kaplan, 1995; Pretty et al., 2017). Living, as we do, less aware of the weather from inside in our buildings, buffeted from the cycle of night and day by our lighting, removed from the ebb and flow seasons due to "always available" fruit and vegetable selection, a whole new language has been developed to describe the yearning we have for a connection to nature (Kellert, 2012). Terms have recently emerged such as *biophilia* (a love of nature)*, eco-anxiety, climate grief, solastalgia* (the distress felt when seeing harmful changes in our familiar natural spaces)*,* and *eutierria* (a deep feeling of oneness with nature) (Albrecht, 2019). Collectively, these terms represent aspects of our human emotional and cognitive experiences of being connected with, and responding to, the natural environment and the psychological distress that results from climate change.

We now have ample scientific evidence for what we have always known; there is a strong and reciprocal connection between human health and nature (Lauwers et al., 2020; Williams, 2023). Accepting this premise, we traverse the upsurge in interest in nature prescriptions as a response to the educational and health challenges inherent in our sedentary, often solo and screen-dominated lifestyles (Adewuyi et al., 2023). This trend has been exacerbated by the Covid-19 pandemic and the ongoing climate crisis (Davidson et al., 2020; Ye et al., 2020). Like all good healthcare approaches, preventative intervention is ideal. Ecostewardship begins early in life, when this sense of custodianship and awe is sparked. Young people can become warriors ready to respond to planetary crises and regenerate the world they inherit (Dozsa, 2024; Hohenhaus et al., 2023; Wallis & Loy, 2021). However, restoring and maintaining this connection involves young people having adventures and being immersed in nature—opportunities that are increasingly

limited, tightly controlled, or missing from the lives of children (Louv, 2008; Sturges et al., 2023).

We continue on and explore outdoor play in nature as a cost-effective remedy to augment physical, social, and mental health in children (McCurdy et al., 2010; Williams, 2023). We describe how nature-based interventions support students' wellbeing and academic outcomes, showing how these interventions are effective for children in educational settings (Bentsen et al., 2017; Mann, Gray, Truong et al., 2022). Despite extensive searches of the literature, we could locate no research indicating that time learning in nature has a detrimental effect on outcomes. We do acknowledge, however, that children's personal characteristics and lived experiences may be barriers to feeling safe or relaxed enough to learn in natural environments.

Finally, we conclude by presenting an implementation framework for seeding educational settings with nature. We offer practical recommendations for low-cost nature-based educational interventions within a classroom teacher's locus of control. We finish by advocating that connecting with and learning through nature are "basic skills" that need amplification in educational contexts.

Living Within the Natural World

The Intimate and Absolute Relationship Between Human Wellbeing and the Natural World



Humankind's connection with the natural world is complex and crucial to our existence. We are intelligent, adaptive, and innovative, and we are also animals. Like all animals, we are part of the biosphere and depend on the natural environment for survival. The relationship between human wellbeing and the natural world is intimate and absolute. Kingsley et al. (2013) defined *wellbeing* as "multi-faceted, involving physical, ecological, social, spiritual, cultural and economic health, and [its] impact upon people's quality of life" (p. 678). In our work, we consider *nature* to encompass nearby and human-influenced spaces, and wild and untouched spaces (Gray, 2005; Kingsley & Lawson, 2015). When we perceive ourselves to be "at one" with nature, we experience a sense of comfort conducive to our physical and mental health (Albrecht, 2016). Research into sustainable communities identifies connecting all Australians with nature as "essential to our long-term mental and physical health, economic prosperity and national identity" (Marsh et al., 2023, p. 3).



Fig. 22.1 Coastal Wattle in Bloom. Sydney Harbour, Australia [Photo Credit: Fiona Pigott (The lead author produced this image.)]

Physical and Mental Wellbeing

Studies demonstrate that increased time spent in nature is associated with health benefits, including a decreased risk of depression, anxiety, obesity, and diabetes symptoms, as well as improved sleep, immune function, cardiovascular health, connection with others, and sense of wellbeing (Marsh et al., 2023; Razani, 2021; Stryer, 2024; Williams, 2023), see Fig. 22.1. Exposure to nature can reduce the prevalence of illness by up to 9%, with even the mere presence of an urban tree canopy improving community-wide mental health outcomes (Stryer, 2024). Reassuringly, given our increasingly urbanised lifestyles, neurological research indicates that even just viewing images of nature has health benefits, calming our parasympathetic nervous system and increasing cognitive function (Cadogan et al., 2023; Van den Berg et al., 2015). There will be, of course, individuals whose life experiences or whose physical or mental wellbeing conditions result in the opposite effect (Frouz et al., 2022). As with all teaching, educators need to remain sensitive to students' individual needs and make adjustments to the learning environment and activities for students with disabilities, those from adverse childhoods, or those who have experienced trauma (Australian Parliament House, 2024). For students to experience the beneficial effects of nature-infused learning, educators will need to sensitively plan encounters with nature in response to students' developmental ages and stages.

Reflection Activity #2

What do you notice in your body and mind as you view Fig. 22.1*?*

Bring diffused attention to the horizon—can you feel the expansive out breath?

Now shift to focused attention on details on the foliage—what do you find yourself curious about?

Ecological, Social, and Economic Wellbeing

Nature not only provides essential resources for sustenance and livelihoods but also contributes to the overall resilience and stability of ecosystems, upon which human communities rely. Ecological systems theory accentuates the dynamic interactions between individuals and their environment across various nested systems, highlighting the intrinsic connection between human activities and the natural world (Bronfenbrenner, 1977). Gathering in natural environments, such as community gardens, fosters social cohesion and a shared sense of responsibility among residents, along with providing food security during times of increasing cost of living for vulnerable populations (Gray et al., 2024). Access to green spaces, parks, and natural landscapes facilitates social interactions, promotes physical and mental wellbeing, cultivates a common appreciation for the environment, and activates collective action (van Heezik & Brymer, 2018).

Nature plays a crucial role in fostering economic stability through the provision of shared resources and the impetus for regenerative and sustainable practices. Access to fertile land, clean water, and fresh air is essential for health, yet two billion people, 25% of the world's population, do not have access to safe drinking water (United Nations, n.d.). The increasingly volatile weather patterns of drought, flood, storm, and fire are having an enormous global economic impact. In 2016, 15 extreme weather events in the United States resulted in losses estimated to exceed US$1 billion (Bell et al., 2018). In 2023, there were 120 weather events with severe human impacts (World Weather Attribution, 2023). For humankind to be safe and well in both the present and the future, fundamental shifts are required for societies and economies to cultivate the connection with, understanding of, and adaptive uses for nature's resources.

Cultural and Spiritual Wellbeing

Globally, many cultures have strong connections to nature, viewing it as a source of inspiration, spirituality, and identity, with knowledge systems based on human interaction with, rather than separated from, the natural world (Calma et al., 2017; Kingsley, 2023). Access to natural spaces sustains cultural connections and promotes spiritual wellbeing (Anderson, 2002; Dudgeon & Bray, 2018; O'Donohue, 1997). Ngiyampaa/Wongaibon scholar Lovett (2016) proposed cultural determinants of

health and wellbeing that include "relationship with country, spirituality and rituals" (p. 216). Globally, Aboriginal and First Nation Peoples have maintained strong connections to traditional practices and knowledge systems despite the ongoing structure of colonisation; others are revitalising them, many are sharing them with those now living on custodial lands.

Aboriginal Australians view Country as a living system that includes cultural practices, law/lore, language, and identity tied together through kinship and place-centred narratives (Yashadhana et al., 2023). In traditional cultural practices, being connected to Country is a critical element of an individual's and community's health and wellbeing (Kingsley et al., 2013). Research demonstrates that successful healthcare interventions utilise the therapeutic physical, social, and symbolic characteristics of landscapes that support human wellbeing (Kincheloe et al., 2018; Marsh & Williams, 2023). Social, spiritual, symbolic, and cultural dimensions coalesce to create places that support our health (Yashadhana et al., 2023).

Other traditional and spiritual practices also build upon this understanding of nature as teacher and healer—for example, Japanese forest bathing, Nordic ice bathing, Celtic seasonal celebrations, Buddhist mindful meditation under Bodhi trees, Zen garden raking, Hindu flower offerings, and the Abrahamic religions' teachings of the sacred gift of creation. The World Health Organization (2022) identified spiritual wellbeing as one of four dimensions of health (p. 2). Spiritual care in healthcare settings is mandated by health systems around the world due to correlations with improved patient experiences and health outcomes (van Heezik & Brymer, 2018). Obold Eshleman and Varner Perez (2022) used photos of nature to engage patients in primary healthcare settings as probes for spiritual reflection, stating, "Spiritual care is an invitation to begin seeing that which draws us closer to an intuitive understanding of the world surrounding us" (p. 305). Nature crosses the divides of faith and speaks to something common in the human spiritual experience that brings emotional comfort.

Living with a Changing Natural World: Responding to the Climate Crisis



Along with supporting our biological functions, we rely on the natural world for our livelihoods. Degradation of these systems impacts human health and wellbeing and leads to economic instability and hardship. Humankind is increasingly aware of the changing planet, made obvious through increased extreme weather events impacting our homes and infrastructure, changes in weather cycles impacting our

crops, and disease patterns and uncertainty causing socioeconomic unrest (Bell et al., 2018). The changing climate will impact people's ability to access nature and, subsequently, impact their wellbeing meaningfully (Kingsley, 2023).

"The choices made in the next few years will play a critical role in deciding the future of our planet and the generations to come" (United Nations, n.d., para. 12). Many of us are making choices to adopt sustainable practices that prioritise conservation, responsible resource use, biodiversity protection, and regeneration. These practices require skilful individuals who can develop and enact mitigation and adaptive solutions. They require individuals with skills that the current education system cultivates—literacy, numeracy, critical and creative thinking, personal and social capabilities—but also pro-environmental skills and behaviours that many schools give only a cursory glance.

Skills and behaviours such as

- the capacity to advocate and collaborate in complexity,
- cultural sensitivity, knowledge and understanding,
- a sense of fairness and justice for vulnerable communities,
- understanding of biodiversity and ecosystem connectivity,
- strategies for personal and community resilience, and
- designing adaptive behaviours and technology for food production and economic systems.

These refined skills are built upon a foundation of "basic skills for wellbeing" often overlooked in syllabus outcomes: connection to self, other, and place (Haim-Litevsky et al., 2023). Initiatives, such as the Organisation for Economic Co-operation and Development's Learning Compass (n.d.) and the Inner Development Goals (n.d.), guide education systems towards a broader curriculum approach that equips students with the pro-environmental skills they need to thrive. It is with a sense of urgency that we are exploring how to cultivate young people's connection to place—the natural world on which they live and depend.

Learning Within the Natural World

Learning to Be Well: Nature-Infused Health and Wellbeing Interventions with Children and Young People



Emerging evidence offers promising indications of the effectiveness of nature-infused interventions in achieving positive health and wellbeing outcomes in children

and young people. Ernst et al. (2023) found a positive impact of immersion in nature at preschool on children's empathic and socially attuned behaviour and their cognitive and affective empathy with wildlife. Another study found that very young children with high parent-rated levels of connectedness to nature had higher scores in social and emotional health (Sobko et al., 2018). A study of high school students with disruptive behaviours found that a gardening program improved school attendance, responsible attitudes towards work, and academic success (Mann, Gray, Truong, Passy et al., 2022). Across different age groups, children with more opportunities to play in engage with and connect to nature tend to display better mood and mental health, greater self-esteem and better self-regulation and motor skills, more prosocial and creative play behaviours, and focused attention skills (Sahlberg & Doyle, 2019; Vella-Brodrick & Gilowska, 2022). Continued inquiry in this area is essential to inform policies and practices incorporating nature as an effective preventative and therapeutic tool for children and young people.

Reflection Activity #3

Practise connecting with nature—take a break from reading and open a window or go outside. Feel the air temperature on your skin, watch a cloud or plant move in the breeze.

Ponder on what you are observing in your community—are there nature-based programs that you know of that could be modified to include young people?

Learning to Know and Understand: Nature-Infused Academic Programs



The research supporting the cause-and-effect relationship between nature and learning is extensive. A brief integrative review of over fifty studies found converging evidence that strongly suggests nature-infused learning experiences enhance academic learning, personal development, and environmental stewardship (Kuo et al., 2019). Academic performance and social–emotional development are enhanced when nature is integrated into educational settings and children have regular access to green spaces (Mann et al., 2023; Vella-Brodrick & Gilowska, 2022). Exposure to nature has been linked to higher test scores, enhanced attention span, and executive function (Henley, 2010; Mann et al., 2022; McCormick, 2017). Additionally, spending time in green spaces promotes increased focus, reduced symptoms of attention deficit hyperactivity disorder, and improved concentration

(Donovan et al., 2019). Nature-rich environments foster positive social behaviour, teamwork, self-discipline, and conflict-resolution skills, leading to an increase in a child's social skills (Henley, 2010; Phenice & Griffore, 2003).

Unfettered and unregulated time in nature improves creativity. Research suggests being around green space supports learning by enhancing deep and open processing, intrinsic interest, and mastery-approach motivation (Lichtenfeld et al., 2012). The results of an early childhood nature intervention program indicate positive impacts on stress levels, involvement, physical activity, and creative play behaviour (Dowdell et al., 2011). The program stimulated more creative dramatic, constructive, and exploratory play behaviour, which contributes to the healthy development of emotional, cognitive, and social skills (Dowdell et al., 2011).

Many Indigenous cultures enact a worldview of learning within and among nature. Anishinaabe (First Nation Canadian) ways of learning involve bundling young infants so they look at, listen, and process their natural environment while being carried around the community (Anderson, 2002). From there, learning from nature through observation and interaction is carefully scaffolded:

> As our children grow older they have their "Walking Out" ceremonies to honour the fact that they are now able to move about on their own, that they are becoming independent. Children continue to learn by watching and listening but are now able to investigate using their hands and feet … As toddlers, they have ideas about how things around them and how people around them work. Young children will validate their understanding by doing, which either confirms their understanding or leads them to further observation. This scaffolding process enables children to confirm their observations about how things work. In this manner, the traditional process for learning is demonstration, observation, processing and then manipulation, which leads to understanding. In schools today the process is different. Students are encouraged to manipulate materials, then observe the results, process the information and demonstrate their understanding through manipulation. These very different processes lead to different ways of understanding the world. (Anderson, 2002, p. 293)

Australian Aboriginal cultural teaching practices emphasise hands-on learning experiences where active participants in the experiences are encouraged to explore and experiment in collaboration with their peers, teachers, and Elders (Jackson-Barret & Lee-Hammond, 2018). In order to decolonise learning, we must provide experiences for students to discover, test, and feel their intimate and absolute connection with nature (Bishop et al., 2021; Korten, 2006; Landry & Chamberlin, 2014; Morrison et al., 2019).

Learning to Care: Connection-Based Agency in Times of Climate Crisis



> For children to learn, they must strive "to discover what it means and how it is to be attained on the basis of experience." (Dewey, 1986, p. 245)

Empathy is an emotional state that arises from our ability to perceive and care about the experiences of another (Brown, 2021). Teaching and learning begins and ends, with relationships—relationships that come from authentic, reflective, and embodied shared experiences (Gray, 2018). Children and young people's empathic relationship with the natural world motivates them towards caretaker roles and conservation behaviours (Dozsa, 2024). The Inner Development Goals (n.d.) project draws attention to the need to support growth in people's ability to contribute to a more sustainable global society. Figure 22.2 illustrates how support the development of these relational skills, teaching and learning experiences must involve the affective domain (Gray, 2018).

When provided with experiences in preserving, protecting, and regenerating nearby and faraway, human-cultivated and wild spaces, students are empowered to positively impact a changing natural world they rely on for healthy and well futures (Hohenhaus et al., 2023). Education systems have a role in preparing informed citizens that can contribute to individual and collective climate actions (Anderson, 2002). Beaver and Borgerding (2023, p. 4) stated a strong case for climate change action being addressed in schools:

- Children demonstrated sophisticated reasoning about environmental problems.
- Children developed pro-environmental solutions.
- When taught in developmentally appropriate ways, children felt empowered to be part of a solution.
- Children and young people will be impacted by climate change and required to take adaptive action—they need this knowledge.

Nurturing ecostewardship attitudes and behaviours develops children and young people's sense of agency in responding to planetary crises, reduces their experience of eco-anxiety, and increases the likelihood of their lifelong connection to nature (Dozsa, 2024; Hohenhaus et al., 2023; Wallis & Loy, 2021). Regular and routine, novel, and awe-inducing experiences in nature deepen our relational connection with Country and place and contribute to valuing Aboriginal and Torres Strait Islander Peoples and their worldviews (Kingsley & Lawson, 2015). When we engage in place-based learning, we value learning in local phenomena and build on students lived experiences (Smith, 2002). Figures 22.3 and 22.4 illustrate moments of place-based education where adults facilitated meaningful opportunities for children to strengthen their relationships with local wild nature and encountered the more-than-human world. Education systems need to Indigenise the curriculum and actively encourage shared experiences in nature that translate into connection-based adaptive responses to climate change and environmental regeneration (Anderson, 2002; Bishop et al., 2021; Morrison et al., 2019).

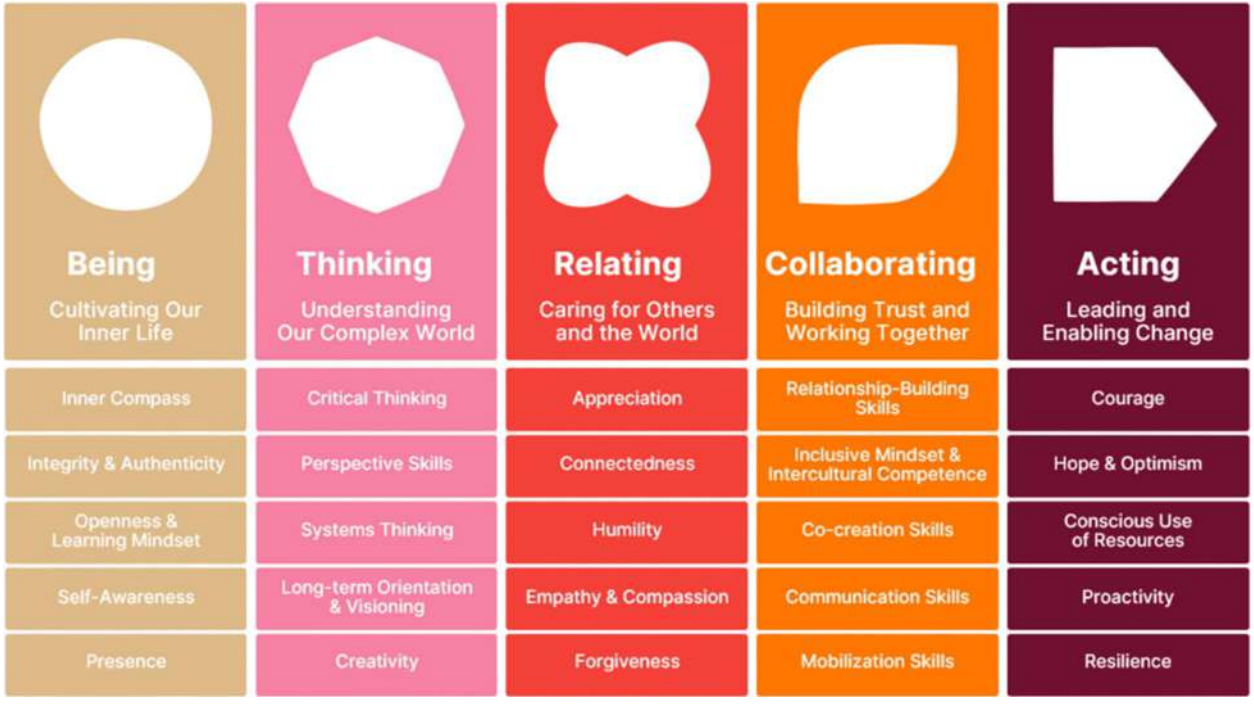


Fig. 22.2 Inner Development Goals (https://docs.google.com/presentation/d/1dEnAv1_z-WtXlSR2k-KZTNeYMddGwLpV/edit?slide=id.G3b9431c067b_0_2459#slide=id.G3b9431c067b_0_2459)



Fig. 22.3 Children of different ages explore and observe Sydney Harbour rock platform [Photo Credit: Fiona Pigott (The lead author produced this image that includes unidentifiable participants.)]



Fig. 22.4 Satisfied ecostewards after a day adventuring and crafting in the bush [Photo credit: Fiona Pigott (The lead author produced this image. Permission was gained from participants for its use.)]

Embedding Nature-Infused Teaching and Learning in Schools

Seeding Educational Settings with Nature



Given that for millennia humankind has raised its young outdoors, in community and through real-world hands-on experiences, it should come as no surprise to teachers, curriculum developers, and educational policymakers that there are more places to learn than inside a classroom. Studies show positive impacts of nature-specific outdoor learning on academic outcomes for both primary and secondary students (Stryer, 2024) and that these impacts are sustained over time (Gray, 2009). Policymakers must recognise that outdoor learning is not an "add-on" to teaching and learning programs but an effective pedagogical approach that should be part of preservice teacher skills development, supported through ongoing professional development, and properly resourced in schools (Stryer, 2024).

Establishing quality natural areas nearby and within school grounds provides everyday opportunities for outdoor learning and strengthens their pedagogical use (van den Berg et al., 2024). The Australian Curriculum cross-curriculum priority "Sustainability" requires educators and schools to provoke "reflective thinking processes and empower young people to design action that will lead to a more equitable, respectful and sustainable future" (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2024). Latour proposed that the voices of nonhumans should be made public in societal, scientific, and political discourse (as cited in Yaneva, 2022, p. 105). Figure 22.5 demonstrates how the role of nature and our relationship with it can be represented and considered in school leadership and class discussions. By enriching our educational settings with nature, we teach students to consider "its voice" in decision-making processes.

We know the natural environment inherently supports children and young people to learn resilience, problem-solving, and social skills through risk-taking (Sando et al., 2021). Being exposed to natural elements sparks curiosity and innovative thinking. Through testing their limits, children gain experiences that lay the foundation for their future lives as creative and capable adults (van Rooijen & Newstead, 2017). Young people who engage with nature at school sustain an ongoing interaction with it into adulthood (Gray & Pigott, 2018). Our society requires adults who are confident to access nature for their personal wellbeing and are environmentally aware to advocate for the regeneration of nature for humankind's wellbeing. The need for educational settings to foster regular and routine connections with and experiences in nature is not new, just newly important (Gray, 2018).



Fig. 22.5 Embedding connection in schools: Representations of the earth, child, and Aboriginal Peoples are placed in meetings to raise awareness of considering these perspectives when making decisions [Photo credit: Fiona Pigott (The lead author produced these images.)]

Practical Recommendations for Infusing Nature Into Schools

Support Change



Teachers can successfully embed nature-infused learning into their program when they are empowered with knowledge, resources, autonomy, and trust. van den Berg et al. (2024) presented research on the use of outdoor playtime in early childhood settings, indicating that staff tend to consider time outdoors as a break, during which there is time to rest from instructional activity. Changing professional practices is a complex and challenging task, even when change is perceived as needed or beneficial, and mixed feelings about the change process can cause individuals to resist (van den Berg et al., 2024). Some educators will require support to transform teaching approaches and implement nature-infused learning. Support may come in the form of resources, planning time, professional learning, and permission and trust from both "the system" and families.

Start Small and Begin Where You are At

A barrier to the effective implementation of outdoor learning has been teachers' access to quality resources and collaborative planning time (Beaver & Borgerding, 2023; Ernst

et al. 2023). As demand for outdoor learning increases—for example, the burgeoning "Forest School" movement (Coates & Pimlott-Wilson, 2019), professional resources are becoming more widely available. Implementation frameworks, such as the one we developed based on 30 years of reflective practice (Fig. 22.6), offer a practical guide for educators. Teachers and facilitators are invited to "start small" and "begin where you're at." Nature-infused experiences can be varied and simple; for example, this chapter is an example of nature-infused learning. We applied our framework by weaving relational concepts throughout our writing, highlighting the central role of adventure in learning, prompting you to slow down and take embodied movement breaks in nature, offering learning through image and story, and connecting with you as collaborators in learning.

Take a Risk and Play

Daily teaching practice is fraught with conflicting priorities, with the "safety" and "development" imperatives creating two different narratives of what constitutes "good practice." Professionals experience a dilemma between ensuring "safety," which may result in children being prevented from taking risks in their play, thereby curtailing the desired developmental benefits that these play opportunities afford. In an attempt to address this contradiction in professional practice, the

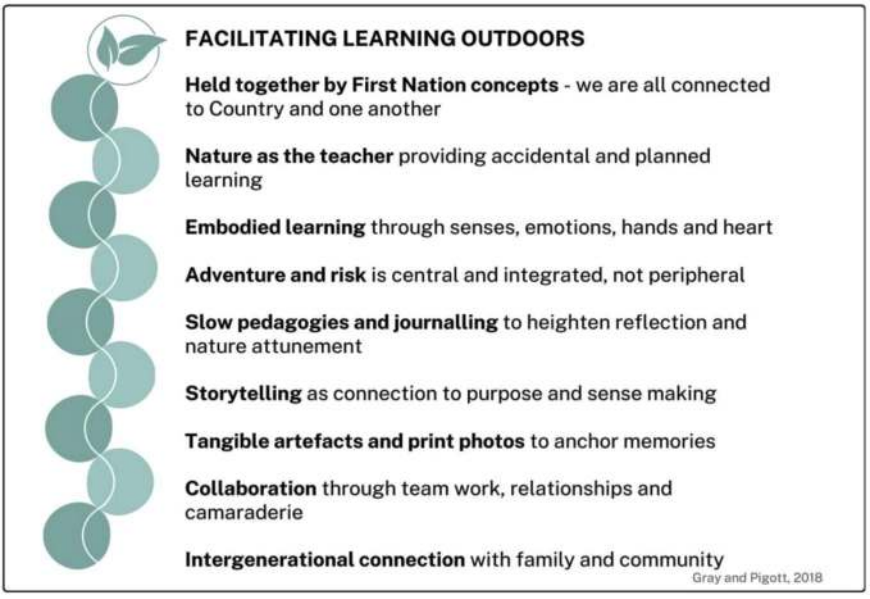


Fig. 22.6 Facilitation model for outdoor learning emerging from 30 years of reflective practice [adapted from Gray and Pigott (2018) (Permission provided by authors for inclusion of this Figure.)]

benefit—risk approach (Ball et al., 2008) was recently framed through a positive lens, to be called the 'benefit—risk' assessment (Eager, 2024). Balancing positive benefits with negative risk encourages practitioners to allow children to experience more risk in their play by evaluating the developmental benefits of risk-taking. This is not to imply that outdoor educators should place students in precarious situations. Research suggests that there is a resilience "sweet spot" where adversity and the means to overcome it create conditions that foster successful personal development (Gray et al., 2025; Hayhurst et al., 2015).

A Daily Dose of Nature

Educators strengthen students' place-based connections by bringing routine and regular connection with nature into the learning day (Beaver & Borgerding, 2023; Coates & Pimlott-Wilson, 2019). While excursions to wild spaces for immersive encounters are powerful, awe-inspiring opportunities, they can be complex to organise logistically and may require specialist educators and a significant financial investment. Some simple, low-cost, and low-infrastructure ideas that we have used in our classrooms are outlined in Fig. 22.7 and (Table 22.1).



Fig. 22.7 Taking meetings outside: "slideshow-frees strategic planning Meeting (top row), class discussion (bottom left), and school community information session (bottom right) [Photo Credit: Fiona Pigott (The lead author produced these images.)]

Table 22.1 Actions within a teacher's locus of control to infuse education setting and teaching program with nature

Infusing Education Settings and Teaching Programs with Nature
INCIDENTAL INFUSION – Biophilic design: bring plants and animals indoors – Digital and print images/sounds of plants and animals indoors, book covers, posters – Use the edges and margins: incidental plants at the doorways, outside the windows, notice the changes in sky, weather, bird life throughout the day and seasons – Participate in a living cycle: incorporate a compost bin system that works for you from students' food and shredded paper waste – Yarning mats: take whole-class discussions or independent writing and reading lessons outdoors – Walk and talk: peer and group discussions – Mindful moments: while walking the class to different rooms, assembly, or library, encourage students to "listen and look" rather than chat. What do they notice around them? What lizards scuttle out of their way, birds fly overhead, shadows pass from clouds?
INTENTIONAL INFUSION – Science, technology, and mathematics outcomes through school gardens – Physical health outcomes through risky play and outdoor education experiences – Personal development outcomes through risky play and outdoor education experiences – English, history, geography, society, and culture outcomes through studying eco-texts and generating local real-world action responses to issues – Visual art, drama, and music outcomes through exploring the compositions of environmental activists, the changing portrayal of nature by the expressionists, or the poetry of Mary Oliver – Develop "nearby nature" spaces within the playground showcasing different types of gardens: succulents, natives, cottage gardens, shrubs, grasses, tall trees – Develop animal habitats in science and technology lessons, e.g., bird boxes, lizard "hotels," frog ponds – Provide natural objects for loose material free play, e.g., shells, small rocks, seed pods, areas of sand, piles of sticks, logs for balancing on, eco-twine for creating found object sculptures; capture these with an instant printing camera and create a display area in a public area to provoke incidental observation and conversation – Develop a "tree climbing and stick use" plan for your schoolyard – Provide an "ongoing permission" note from parents for local area excursions to walkable nearby nature for easy access to facilitate spontaneous and responsive nature encounters – Take class, staff, and community meetings outdoors

Reflection Activity #4

Take a break from reading and raise your gaze. Contemplate this question while looking at a picture of nature, a pot plant, or the sky out the window:

"What is one small action that I can take in the next week to support a young person's connection with nature?"



Fig. 22.8 Removal of 400-year-old tree amidst community protest [Photo Credit: Illawarra Mercury, Jessica Long, March 14, 2014 (https://www.Illawarramercury.Com.Au/story/2149000/photos-bum-tree-comes-down-amid-chants-of-shame/)]

Conclusion

Thank you for walking with us. We finish with a yarn, a generative way of storytelling used by Aboriginal Australians to create and transmit knowledge (Bodkin, 2013; Evolve, n.d.; Minmia, 2007). It is enough, no, it is *essential* to conclude our journey by hearing from the young ones, and present a final call to action through an image (Fig. 22.8). Hearing how our young ones become ecowarriors when empowered with basic skills of knowledge about nature, connection with it through place-based routine encounters, and building empathic relationships with nature through sense of awe and wonder. So, here is a tale for us to finish with, a story of shared experience of community and nature, from Fiona and her daughter:

> They huddle together behind the barricade—the youngest just eight years old, the eldest barely ten. A crayon-drawn sign is held aloft, and its words restate their cry, "Save the tree." Five young ones raise their voices to try and be heard over a chainsaw felling a tree that germinated sometime between 1626 and 1680 CE (Officer, 2019). The tree, affectionately known by these local children as the "Bum Tree" due to its iconic scarring, is being cut down as part of a road safety program. It sits on the intersection that symbolises their arrival at the local beach—seen from the backseat of a car as the marker of the beginning or ending of time to delight in the waves and sand (Fig. 22.8).

The eldest child notices a pause in activity and whispers with terror in her voice, "Have they found a greater glider?" She's been learning about this endangered native creature at school. A tear rolls down her cheek. An adult across the road gestures an "all clear" after inspecting a felled limb with a hollow. The chainsaws begin again. The youngest draws to the back of the group and holds her mother's skirt. She looks up and says, "They're not going to stop, are they." "Not this time, little chick, but they'll listen eventually." The mother and child turn and walk away, knowing they'll miss the school bell by a few minutes. Greeted with a smile at the office, they are asked by admin staff, "What reason shall I put on the late slip?" The child replies, "I was caring for the trees."

Acknowledgements This paper was researched and written on the unceded lands of the Jerrinja and WadiWadi People of D'Harawal Country. We acknowledge the ongoing Cultural connection to land, waterways, sea, and sky of our First Peoples.

References

Adewuyi, F. A., Knobel, P., Gogna, P., & Dadvand, P. (2023). Health effects of green prescription: A systematic review of randomized controlled trials. *Environmental Research*, *236*(Pt 2), 116844. https://doi.org/10.1016/j.envres.2023.116844

Albrecht, G. (2016, June 27). *Solastalgia, soliphilia, eutierria and art*. https://glennaalbrecht.wordpress.com/2016/06/27/solastalgia-soliphilia-eutierria-and-art/

Albrecht, G. (2019). *Earth emotions: New words for a new world*. Cornell University Press.

Anderson, D. B. (2002). Preparing to teach our children the foundations for an Anishinaabe curriculum. *McGill Journal of Education*, *37*(3), 293.

Australian Curriculum, Assessment and Reporting Authority. (2024). *Sustainability*. https://www.australiancurriculum.edu.au/f-10-curriculum/cross-curriculum-priorities/sustainability/

Australian Parliament House. (2024, December 11). *The issue of increasing disruption in Australian school classrooms*. Senate Standing Committees on Education and Employment. https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Education_and_Employment/DASC

Ball, D., Gill, T., & Spiegal, B. (2008). *Managing risk in play provision: Implementation guide.* Department for Children, Schools and Families, United Kingdom. https://dera.ioe.ac.uk/id/eprint/8625/1/00942-2008DOM-EN.pdf

Beaver, B., & Borgerding, L. (2023). Climate change education in early childhood classrooms: A nature-based approach. *International Journal of Early Childhood Environmental Education*, *11*(1), 3–19.

Bell, J. E., Brown, C. L., Conlon, K., Herring, S., Kunkel, K. E., Lawrimore, J., … Uejio, C. (2018). Changes in extreme events and the potential impacts on human health. *Journal of the Air & Waste Management Association (1995)*, *68*(4), 265–287. https://doi.org/10.1080/10962247.2017.1401017

Bentsen, P., Ho, S., Gray, T., & Waite, S. (2017). A global view of learning outside the classroom. In S. Waite (Ed.), *Children learning outside the classroom* (pp. 53–66). SAGE.

Bishop, M., Vass, G., & Thompson, K. (2021). Decolonising schooling practices through relationality and reciprocity: Embedding local Aboriginal perspectives in the classroom. *Pedagogy, Culture & Society*, *29*(2), 193–211.

Bodkin, F. (2013). *D'harawal dreaming stories*. Envirobook.

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, *32*(7), 513.

Brown, B. (2021). *Atlas of the heart: Mapping meaningful connection and the language of human experience*. Random House.

Cadogan, E., Lionetti, F., Murphy, M., & Setti, A. (2023). Watching a video of nature reduces negative affect and rumination, while positive affect is determined by the level of sensory processing sensitivity. *Journal of Environmental Psychology*, *90*, 102031. https://doi.org/10.1016/j.jenvp.2023.102031

Calma, T., Dudgeon, P., & Bray, A. (2017). Aboriginal and Torres Strait Islander social and emotional wellbeing and mental health. *Australian Psychologist*, *52*(4), 255–260. https://doi.org/10.1111/ap.12299

Coates, J. K., & Pimlott-Wilson, H. (2019). Learning while playing: Children's Forest School experiences in the UK. *British Educational Research Journal*, *45*(1), 21–40. https://doi.org/10.1002/berj.3491

Davidson, P. M., Padula, W. V., Daly, J., & Jackson, D. (2020). Moral outrage in COVID19: Understandable but not a strategy. *Journal of Clinical Nursing*, *29*(19–20), 3600–3602. https://doi.org/10.1111/jocn.15318

Dewey, J. (1986). Experience and education. *The Educational Forum*, *50*(3), 241–252. https://doi.org/10.1080/00131728609335764

Donovan, G. H., Michael, Y. L., Gatziolis, D., Mannetje, A. T., & Douwes, J. (2019). Association between exposure to the natural environment, rurality, and attention-deficit hyperactivity disorder in children in New Zealand: A linkage study. *The Lancet. Planetary Health*, *3*(5), e226–e234. https://doi.org/10.1016/S2542-5196(19)30070-1

Dowdell, K., Gray, T., & Malone, K. (2011). Nature and its influence on children's outdoor play. *Journal of Outdoor and Environmental Education*, *15*, 24–35. https://doi.org/10.1007/BF03400925

Dozsa, K. (2024). In all matters that affect them": Children as primary stakeholders in climate change governance. In K. Dozsa (Ed.), *Children as climate citizens* (1st ed., pp. 59–98). Routledge. https://doi.org/10.4324/9781003376736-3

Dudgeon, P., & Bray, A. (2018). Indigenous healing practices in Australia. *Women and Therapy*, *41*(1–2), 97–113. https://doi.org/10.1080/02703149.2017.1324191

Eager, D. (2024). Benefit-risk assessment in sport and recreation: Historical development and review of AS ISO 4980:2023. *Standards*, *4*(2), 66–78. https://doi.org/10.3390/standards4020005

Ernst, J., Underwood, C., & Nayquonabe, T. (2023). Everyone has a piece of the story: A community of practice approach for supporting early childhood educators' capacity for fostering empathy in young children through nature-based early learning. *International Journal of Early Childhood Environmental Education*, *11*(1), 34–62.

Evolve (n.d.). *Respectful terminology*. https://www.evolves.com.au/respectful-terminology/

Freeman, M. (2006). *Kindling the Celtic spirit: Ancient traditions to illumine your life through the seasons*. HarperCollins.

Frouz, J., Píšová, M., & Urban, J. (2022). Perception of natural ecosystems and urban greenery: Are we afraid of nature? *European Journal of Environmental Sciences*, *12*(2), 86–89. https://doi.org/10.14712/23361964.2022.10

Gray, T. (2005). Exploring our connections and relationships with place and/or nature. In T. Dickson, T. Gray, & B. Hayllar (Eds.), *Outdoor and experiential learning: Views from the top* (pp. 9–12). Otago University Press.

Gray, T. (2009). *The impact of an extended stay outdoor education school program upon adolescent participants* [Doctoral dissertation, University of Wollongong]. https://hdl.handle.net/10779/uow.27655977.v1

Gray, T. (2018). Outdoor learning: Not new, just newly important. *Curriculum Perspectives*, *38*, 145–149. https://doi.org/10.1007/s41297-018-0054-x

Gray, T., & Bailey, P. (2022). Gone rogue: Re-wilding education in alternative outdoor learning environments. In R. Cutting & R. Passy (Eds.), *Contemporary approaches to outdoor learning. Palgrave studies in alternative education* (pp. 215–233). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-85095-1_15

Gray, T., & Pigott, F. (2018). Lasting lessons in outdoor learning: A facilitation model emerging from 30 years of reflective practice. *Ecopsychology*, *10*(4), 195–204. https://doi.org/10.1089/eco.2018.0036

Gray, T., Sturges, M., & Barnes, J. (Eds). (forthcoming, 2025). *Risk and outdoor play: Listening and responding to international voices. Part 1*, Springer Nature. 978-981-96-5454-3

Gray, T., Tracey, D., & Pigott, F. (2024). Restorative and regenerative green spaces for vulnerable communities in social housing: Insights for seeding success. *Journal of Environmental Psychology*, *99*, https://doi.org/10.1016/j.jenvp.2024.102448

Grinde, B., & Patil, G. G. (2009). Biophilia: Does visual contact with nature impact on health and well-being? *International Journal of Environmental Research and Public Health*, *6*(9), 2332–2343.

Haim-Litevsky, D., Komemi, R., & Lipskaya-Velikovsky, L. (2023). Sense of belonging, meaningful daily life participation, and well-being: Integrated investigation. *International Journal of Environmental Research and Public Health*, *20*(5), 4121. https://doi.org/10.3390/ijerph20054121

Hayhurst, J., Hunter, J., Kafka, S., & Boyes, M. (2015). Enhancing resilience in youth through a 10-day developmental voyage. *Journal of Adventure Education and Outdoor Learning*, *15*, 40–52.

Henley, J. (2010, August 16). Why our children need to get outside and engage with nature. *The Guardian*. https://www.theguardian.com/lifeandstyle/2010/aug/16/childre-nature-outside-play-health

Hohenhaus, M., Rutherford, S., Boddy, J., & Borkoles, E. (2023). Climate warriors down under: Contextualising Australia's youth climate justice movement. *Climate Action*, *2*(1), 45–46. https://doi.org/10.1038/s44168-023-00085-y

Inner Development Goals. (n.d.). *Inner Development Goals*. https://innerdevelopmentgoals.org/

Jackson-Barret, E. M., & Lee-Hammond, L. (2018). Strengthening identities and involvement of Aboriginal children through learning on Country. *The Australian Journal of Teacher Education*, *43*(6), 85.

Kaplan, S. (1995). The restorative benefits of nature: Towards an integrative framework. *Journal of Environmental Psychology*, *15*, 169–182.

Kellert, S. R. (2012). *Birthright: People and nature in the modern world*. Yale University Press.

Kincheloe, D., Stallings Welden, L., & White, A. (2018). A Spiritual care toolkit: An evidence-based solution to meet spiritual needs. *Journal of Clinical Nursing*, *27*(7–8), 1612–1620. https://doi.org/10.1111/jocn.14265

Kuo, M., Barnes, M., & Jordan, C. (2019). Do experiences with nature promote learning? Converging evidence of a cause-and-effect relationship. *Frontiers in Psychology*, *10*, 305. https://doi.org/10.3389/fpsyg.2019.00305

Kingsley, J. (2023). Nature and wellbeing. In K. Dew & S. Donovan (Eds.), *Encyclopedia of health research in the social sciences* (pp. 210–214). Edward Elgar Publishing. https://doi.org/10.4337/9781800885691.ch37

Kingsley, J., & Lawson, J. (2015). Finding a unified understanding of nature. *EcoHealth*, *12*(4), 551–552. https://doi.org/10.1007/s10393-015-1043-2

Kingsley, J., Townsend, M., Henderson-Wilson, C., & Bolam, B. (2013). Developing an exploratory framework linking Australian Aboriginal peoples' connection to country and concepts of wellbeing. *International Journal of Environmental Research and Public Health*, *10*(2), 678–698. https://doi.org/10.3390/ijerph10020678

Korten, D. (2006). *The great turning: From empire to earth community*. Berrett-Koehler Publishers.

Landry, C., & Chamberlin, K. (2014). Joanna Macy and the great turning. *The Video Project*.

Lauwers, L., Bastiaens, H., Remmen, R., & Keune, H. (2020). Nature's contributions to human health: A missing link to primary health care? A scoping review of international overview reports and scientific evidence. *Frontiers in Public Health*, *8*, 52–52. https://doi.org/10.3389/fpubh.2020.00052

Lichtenfeld, S., Elliot, A. J., Maier, M. A., & Pekrun, R. (2012). Fertile green: Green facilitates creative performance. *Personality and Social Psychology Bulletin*, *38*, 784–797.

Lovett, R. (2016). Aboriginal and Torres Strait Islander community wellbeing: Identified needs for statistical capacity In T. Kukutai & J. Taylor (Eds.), *Indigenous data sovereignty* (Vol. 38, pp. 213–231). Australian National University Press.

Louv, R. (2008). *Last child in the woods: Saving our children from nature deficit disorder*. Algonquin Books.

Marsh, P., Flies, E., Kendal, D., & Lin, B. (2023). *The health and wellbeing benefits of caring for nature. Report: Sustainable communities and waste hub: Sustainable people environment interactions (IP1)*. University of Tasmania. https://doi.org/10.25959/24797028

Marsh, P., & Williams, A. (Eds.). (2023). *Cultivated therapeutic landscapes: Gardening for prevention, restoration, and equity*. Routledge.

Mann, J., Gray, T., & Truong, S. (2022). Outdoor-based learning: How can it contribute to high quality learning? In R. Jucker & J. V. Au (Eds.), *High quality education. Evidence-based education outside the classroom for children, teachers and society* (pp. 211–229). Springer Nature.

Mann, J., Gray, T., Truong, S., Passy, R., Ho, S., Ward, K., Sahlberg, P., Bentsen, P., Curry, C., & Cowper, R. A. (2022). Getting out of the classroom and into nature: A systematic review of nature-specific outdoor learning on school children's learning and development. *Frontiers in Public Health*, *10*, https://doi.org/10.3389/fpubh.2022.877058

Mann, J., Gray, T., & Truong, S. (2023). Does growth in the outdoors stay in the outdoors? The impact of an extended residential and outdoor learning experience on student motivation, engagement and 21st-century capabilities. *Frontiers in Psychology*, *14*, 1102610–1102610. https://doi.org/10.3389/fpsyg.2023.1102610

McCormick, R. (2017). Does access to green space impact the mental well-being of children: A systematic review. *Journal of Pediatric Nursing*, *37*, 3–7. https://doi.org/10.1016/j.pedn.2017.08.027

McCurdy, L. E., Winterbottom, K. E., Mehta, S. S., & Roberts, J. R. (2010). Using nature and outdoor activity to improve children's health. *Current Problems in Pediatric and Adolescent Health Care*, *40*(5), 102–117. https://doi.org/10.1016/j.cppeds.2010.02.003

Minmia (Maureen Smith). (2007). *Under the quandong tree*. Quandong Dreaming Publishing.

Morrison, A., Rigney, L. I., Hattam, R., & Diplock, A. (2019). *Toward an Australian culturally responsive pedagogy: A narrative review of the literature*. University of South Australia.

Obold Eshleman, S. F., & Varner Perez, S. E. (2022). "I don't do religion": Using nature photographs to engage patients in spiritual reflection. *Journal of Pain and Symptom Management*, *64*(5), e305–e309. https://doi.org/10.1016/j.jpainsymman.2021.07.034

O'Donohue, J. (1997). *Anam ċara: A book of Celtic wisdom*. Bantam Press.

Officer, K. (2019, September 27). *How old was the bum tree?* Landcare NSW. https://landcare.nsw.gov.au/groups/berry-landcare/documents-and-resources/how-old-was-the-bum-tree/

Organisation for Economic Co-operation and Development. (n.d.). *The OECD Future of Education and Skills 2030 project.* https://www.oecd.org/education/2030-project/

Phenice, L., & Griffore, R. (2003). Young children and the natural world. *Contemporary Issues in Early Childhood*, *4*, 167–178.

Pretty, J., Rogerson, M., & Barton, J. (2017). Green mind theory: How brain-body-behaviour links into natural and social environments for healthy habits. *International Journal of Environmental Research and Public Health*, *14*(7), 706. https://doi.org/10.3390/ijerph14070706

Razani, N. (2021). Nature and health in practice. *Parks Stewardship Forum of*, *37*(1), 17–23. https://doi.org/10.5070/P537151708

Sahlberg, P., & Doyle, W. (2019). *Let the children play: How more play will save our schools and help children thrive*. Oxford University Press.

Sando, O. J., Kleppe, R., & Sandseter, E. B. H. (2021). Risky play and children's well-being, involvement and physical activity. *Child Indicators Research*, *14*(4), 1435–1451. https://doi.org/10.1007/s12187-021-09804-5

Sobko, T., Jia, Z., & Brown, G. (2018). Measuring connectedness to nature in preschool children in an urban setting and its relation to psychological functioning. *PloS One*, *13*(11), e0207057. https://doi.org/10.1371/journal.pone.0207057

Smith, G. A. (2002). Place-based education: Learning to be where Wwe are. *Phi Delta Kappan*, *83*(8), 584–594. https://doi.org/10.1177/003172170208300806

Stryer, S. B. (2024). Using nature prescriptions to reconnect people with the outdoors and improve health and wellbeing. *American Journal of Health Promotion*, *38*(1), 140–142. https://doi.org/10.1177/08901171231210806d

Sturges, M., Gray, T., Barnes, J., & Lloyd, A. (2023). Parents' and caregivers' perspectives on the benefits of a high-risk outdoor play space. *Journal of Outdoor and Environmental Education*, *26*, 359–382. https://doi.org/10.1007/s42322-023-00132-6

Tur Porres, G. (2020). Designing provocative education environments for teacher training emancipatory practices. In J. Madalinska-Michalak (Ed.), *Studies on quality teachers and quality initial teacher education* (pp. 220–241). FRSE Publications. https://doi.org/10.47050/66515314.220-241

United Nations, (n.d.) *Climate change*. https://www.un.org/en/global-issues/climate-change#:~:text=Climate%20Change%20is%20the%20defining,scope%20and%20unprecedented%20in%20scale

Van den Berg, M. M., Maas, J., Muller, R., Braun, A., Kaandorp, W., Van Lien, R., Van Poppel, M. N. M., Van Mechelen, W., & Van den Berg, A. E. (2015). Autonomic nervous system responses to viewing green and built settings: Differentiating between sympathetic and parasympathetic activity. *International Journal of Environmental Research and Public Health*, *12*(12), 15860–15874. https://doi.org/10.3390/ijerph121215026

van den Berg, A. E., Hovinga, D., Joven, M., Steensma, R., & Maas, J. (2024). Strengthening the pedagogical use of the outdoor area at nature-based daycare centers: An intervention study. *Urban Forestry & Urban Greening*, *92*, Article 128188. https://doi.org/10.1016/j.ufug.2023.128188

van Heezik, Y., & Brymer, E. (2018). Nature as a commodity: What's good for human health might not be good for ecosystem health. *Frontiers in Psychology*, *9*, 1673–1673. https://doi.org/10.3389/fpsyg.2018.01673

van Rooijen, M., & Newstead, S. (2017). Influencing factors on professional attitudes towards risk-taking in children's play: A narrative review. *Early Child Development and Care*, *187*(5–6), 946–957. https://doi.org/10.1080/03004430.2016.1204607

Vella-Brodrick, D. A., & Gilowska, K. (2022). Effects of nature (greenspace) on cognitive functioning in school children and adolescents: A systematic review. *Educational Psychology Review*, *34*, 1217–1254. https://doi.org/10.1007/s10648-022-09658-5

Verbinski, G. (2003). *Pirates of the Caribbean: The curse of the black pearl*. Buena Vista Pictures.

Wallis, H., & Loy, L. S. (2021). What drives pro-environmental activism of young people? A survey study on the Fridays for Future movement. *Journal of Environmental Psychology*, *74*, 101581. https://doi.org/10.1016/j.jenvp.2021.101581

Williams, D. (2023). *Nature, our medicine: How the natural world sustains us*. Currawong Books.

World Health Organization. (2022, March 4) *Geneva charter for wellbeing*. https://cdn.who.int/media/docs/default-source/health-promotion/geneva-charter-4-march-2022.pdf?sfvrsn=f55dec7_21&download=true

World Weather Attribution. (2023, December 23) *Climate change fueled extreme weather*. https://www.worldweatherattribution.org/climate-change-fuelled-extreme-weather-in-2023-expect-more-records-in-2024/#:~:text=In%202023%2C%20World%20Weather%20Attribution,three%20droughts%20and%20one%20wildfire.

Yaneva, A. (2022). *Latour for architects*. Taylor & Francis Group.

Yashadhana, A., Fields, T., Liu, E., Serova, N., O'Leary, M., Kenning, G., Kuchelmeister, V., Lockhart, J., & de Leeuw, E. (2023). Therapeutic aspects of connection to Country and cultural landscapes among Aboriginal peoples from the Stolen Generations living in urban NSW, Australia. *Public Health Research & Practice*, *33*(4). https://doi.org/10.17061/phrp3342332

Ye, B., Zhang, X., Zhang, X., & Zheng, C. (2020). Climate change, environmental impact, and human health. *Environmental Geochemistry and Health*, *42*(3), 715–717. https://doi.org/10.1007/s10653-020-00554-x

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 23
Navigating Outdoor Vulnerabilities in Dementia Using Nearby Nature

Nkolika Mmako, Pauline Marsh, Helen Courtney-Pratt, and Karen Ford

Sociocultural Positioning

We are a team of authors living in Tasmania, committed to using our research to improve the lives of those with whom we are privileged to meet as participants. In this study, we recognise that we four live without the challenges of cognitive disruption that our research participants face. However, we position ourselves as fellow humans in the quest for improved nature connection. From this starting point, we recognise that we have much to learn from people who live with dementia.

Introduction

Dementia is an umbrella term for diseases associated with progressive memory impairment and other cognitive dysfunctions that interfere significantly with a person's ability to maintain their activities of daily living. The World Health Organization (WHO) estimates that more than fifty-five million people are currently living with dementia worldwide, with nearly ten million new cases every year. Dementia is the seventh leading cause of death and one of the major causes of disability and dependency among older people globally (WHO, 2025).

N. Mmako (✉) · P. Marsh · H. Courtney-Pratt
Wicking Dementia Research and Education Centre, University of Tasmania, Hobart, Tasmania, Australia
e-mail: nkolika.mmako@utas.edu.au
e-mail: pauline.marsh@utas.edu.au
e-mail: helen.courtneypratt@utas.edu.au

K. Ford
School of Nursing, College of Health and Medicine, University of Tasmania, Hobart, Tasmania, Australia
e-mail: karen.ford@utas.edu.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_23

Important community efforts are geared towards improving the quality of life (QOL) for people living with dementia. Kwasky et al. (2010) argued that QOL is independent of cognitive functioning, suggesting that there are far more important factors impacting QOL than cognition alone, including relationships with self and others. QOL encompasses all areas that affect daily life, including psychological wellbeing and social or relational factors, not just cognition. The determinants of QOL for people living with dementia include the ability to maintain independence, having something to do, maintaining social contacts (Moyle et al., 2015), a positive mood, engagement in pleasant activities, and the ability to perform activities of daily living (Kwasky et al., 2010; O'Rourke et al., 2015). In this regard, researchers are increasingly highlighting the potential of the natural environment in promoting different aspects of QOL in dementia (Bennett et al., 2022). There is also growing evidence to suggest the importance of enabling people living with dementia to attain their full potential while living in their own homes, signalling the need for enabling physical environments and inclusive community spaces (Evans et al., 2019). The purpose of this chapter is to report on the findings of the discussion regarding how people living with dementia in the community engage with green spaces and the factors that mediate their preferences for nearby nature. Recognising the preferences and understanding how best to support people living with dementia in navigating challenges are laudable efforts towards a dementia-inclusive landscape and enabling engagement in the community.

Studies have supported the notion that humans have an innate bond with nature, often termed biophilia (Wilson, 1984) and that contact with the natural world may benefit humans (Lumber et al., 2017). The health and wellbeing benefits associated with the natural environment in the general population can be extrapolated to dementia, as empirical studies regarding the impacts of nature on health and wellbeing have established a positive relationship between engagement in natural environments and living with dementia (Mmako et al., 2020). In the current study, the discussants, who are primarily people living with dementia in Australian communities, explored topics related to their interactions with green spaces. Green spaces refer to trees, gardens, parks, and other neighbourhood floral landscapes in both urban and rural settings.

The next section presents the opinions and experiences of people living with dementia (the discussants) regarding their preference for nearby nature and its correlation with navigating personal challenges in green spaces. Their voices reflect their strengths and challenges, including their resilience as they navigated through.

Personal Challenges Mediated Preference for Nearby Nature

Eight community-dwelling people living with dementia were interviewed, including two men and six women. They come from diverse backgrounds, including Indigenous and non-Indigenous Australians, as well as those who indicated they had migrated

from Britain, the United States, and India. They live across various Australian states, including New South Wales (3), Victoria (2), Queensland (2), and South Australia (1). Their ages ranged from 56 to 83 years, and although none were currently in the workforce, they had retired from diverse occupations. They were all recruited through Step Up Dementia, an organisation concerned with the recruitment of participants for dementia projects. During the individual interviews, each discussant confirmed that they had been diagnosed with dementia, including dementia with Lewy bodies and frontotemporal dementia.

All the discussants demonstrated a preference for nearby nature, defined here as green spaces within their immediate spatial neighbourhoods or even at their homes. Whether in rural or urban areas, there was a common desire to access green spaces within easy walking distance, with some enjoying the additional opportunity to view green landscapes from their windows. This preference was fuelled by safety concerns arising from comorbidities or other challenges associated with living with dementia. For example, Maple expressed that her preference for home gardening stemmed from a fear of falling outside her home. She was diagnosed with frontotemporal dementia, which is typically associated with falls (Burrell & Hodges, 2018). In her own words, "Now, outdoor is mostly my own backyard, my front yard, the garden, in case I fall on my own." As an avid bird watcher, Maple grew roses and lavender in her home garden to attract different kinds of birds from the neighbourhood park that she had visited prior to her dementia.

Another discussant, Rosie, enjoyed neighbourhood park visits but mostly tended to her home garden, not necessarily because of dementia but because it was easier on her arthritic knee. She stated,

> I have to be careful where I go because I've got arthritis in my knee, so I can only be careful on bush walks. They [bush paths] have to be very easy grade [smooth] because I don't know if I make it, I don't know if I can be back again.

Despite Rosie's interest, her sense of uncertainty and fear about bushwalking was palpable. She favoured green spaces "within walking distance," as she complained that even walking to the nearest neighbourhood park was strenuous due to her "bad knee": "The only thing that's vaguely like nature is beside the Creek that's in our neighbourhood and but even that is almost passed where I can comfortably walk to and from. Just because I've got [a] bad knee."

By resolving to continue home gardening rather than giving up entirely on engagement, Rosie displayed resilience and a profound desire to interact with nature. She stated, "I love being out in nature whether the nature is in a bush or it's in my backyard."

The discussions revealed that discussants shared a common love of nature that cannot easily be traded off, despite personal concerns. They engaged mostly in home gardens, neighbourhood parks, and other green spaces "closer to home because of access requirements." Aware of the challenges they faced, they adjusted their choice of green spaces to ensure their safety.

Familiarity with place was another factor that underscored the preference for nearby nature. Most of the discussants preferred familiar green spaces, attributing

this to the need to feel confident in their memory and physical capabilities when going alone. Replying to a question about self-directed activities, Blossom stated,

> If I walk by myself, it's not very often in a new place. Nowadays, it's in places that I'm familiar with. Yeah, when I'm by myself, like from where I live, 5 minutes down the road, there's a nice park that we can go and walk around and sit and watch the ducks and all that.

Though she often engaged in bushwalking, she explained that she was "familiar" with the terrain as it was within her residential location of Adelaide Hills. She was also familiar with her bushwalking group members, noting that the group was a heterogeneous mix of people, not necessarily people living with dementia. Familiarity and personal knowledge of the environment echoed through as the primary sources of motivation for engaging in green spaces within one's spatial neighbourhood or community. Jaca, a very vocal discussant, stated that such familiar places would have "a lot of history that goes with them," which reflects the importance of residual memories and reminiscence in dementia (O'Shea et al., 2014).

The loss of driver's licence also influenced the preference for nearby nature. For various reasons, including neurological conditions and falls, most of the discussants were no longer driving. As such, they could not engage with green spaces beyond walking distance. Nearby nature became a necessity for them to exercise their interests in nature. During the discussion, Milan stressed the impact of losing his driver's licence on his access to green spaces:

> My doctor's taken my driver's licence away. So, I've lost my car. Because Noosa has an ageing population, I don't know what the statistics are, but I would say that something like 60% are around the age of 60, yes. So, there is less driving done by older people, obviously because they're very strict on taking your licence away. So that's another reason why we've got some green spaces around with people with dementia, as they can't drive to the places, and they got to be close to where you are.

He explained that because he could access green spaces within walking distance, he easily chose his neighbourhood over others while trying to buy his retirement home: "Within walking distance, if I want to walk outside here, there is a massive greenspace here. I'm in the middle of Noosa. I love it here."

Similarly, Rosie was informed by her neurologist that she could no longer drive due to safety concerns. With cessation of her driver's licence, she could no longer drive to the national park but would often walk to her neighbourhood park and other nearby nature areas.

For these discussants, driving cessation implied a reliance on support persons to facilitate access to green spaces and a lack of access to places of interest further away due to practical reasons. Preference for nearby nature became a means of navigating such challenges while maintaining their interest in nature engagement. The availability of accessible nature within local neighbourhoods provided an alternative to the need to drive or be driven to areas further afield. Rather than feeling disenfranchised, nearby nature provided a window through which a person living with dementia could see themselves as strong and independent.

Moreover, availability of green spaces within their local neighbourhood is associated with a strong sense of value towards the neighbourhood. Some of the

discussants cherished their neighbourhood for the value they placed on nearby green spaces. They found nearby nature to be life enriching and appreciated both the aesthetic and utilitarian values derived from their everyday experiences in nature. Randa described the appealing view from her window at home and how it added to her life as her mobility decreased:

> Where I am, I'm surrounded by trees and so when I look out of my window, I can see lots of trees, plus the water. So, I've got hills in the background, then water, then trees. I actually bought my unit here … because of the outlook because I wanted that. I started to lose my mobility at that stage, and I thought well, if I can't go out, at least I can sit here and look out at it.

While it is recognised that several issues could constrain access to the outdoor environment for people with dementia, most of the discussants focused more on the way forward. Regardless of health constraints, they valued the opportunities for contact with the natural world mediated by living nearby nature. The next section presents the activities undertaken in nearby nature by the discussants.

Active Engagement in Nearby Nature

The discussants noted that they had been engaged with green spaces prior to developing dementia. As most of their experiences are self-directed, they preferred activities that they had previously undertaken prior to the dementia diagnosis. They chose a competency-led approach to their choice of nature activities.

Walking was the most common choice of physical activity among the discussants. A significant benefit of routine walks in the neighbourhood green spaces is the opportunity to heighten one's awareness of one's community, offering the opportunity to see various aspects of neighbourhood identities, including the green spaces. As they familiarised themselves with their neighbourhood through walking, they gravitated towards those green spaces that were more inclusive or dementia friendly. Various walking activities are captured in the following quotes:

> I'm just trying to think I walked some and probably could walk more. (Mallow)

> So, it's a long walk to the park … and along the woods. So, these are the exposures. As I said, it is my lovely two days where I walked to the, got on the Golf Club. (Milan)

> And here in Noosa where I live, next door I have a school, we call it Good Shepherd. It's a Lutheran school and there are massive green area and I walk across there. I go to church on Sunday. I walk across this lovely green area every Sunday morning and it just makes my heart sing. It really does. (Milan).

> And sometimes we walk through the park. It's called railway park, that's where the train track used to go but doesn't run anymore. (Coco).

> Just more walking, you know. I might go picnicking with the family, more of, you know, gathering group of people or just walking in pathways through wooded areas. (Randa).

Walking was essentially an everyday activity as they saw it as an excellent opportunity to carry out physical activities rather than lead sedentary lifestyles. Mallow thought that "we are more fit by walking." Walking also offered learning opportunities for some as they sought new knowledge of things they came across. Depending on the location and one's interest, some discussants used walking periods to broaden their knowledge of local plants in the areas. For example, Coco used a phone application called Plants Map to broaden her knowledge of plants while walking in local parks and gardens. She noted that the app was very handy and described how it could identify several plant species with the click of the camera button:

> I have what they call Plants Map. Have you heard of Plants Map? It is an app, you come across something you haven't seen before, you just point it on that map, you hit the little camera thing and it tells you what the plant is or what the name of the plant is. I did it the other day, I saw a nice white myrtle, I thought what this is? I hit it and that was a Crape Myrtle. That's interesting to me.

She also reflected on how Google Maps facilitated her knowledge of newly developed green spaces that she could visit.

Other forms of active engagement in nature mentioned by the discussants included cycling along bike paths in neighbourhood green spaces and gardening. Gardening was treasured not just as a source of physical exercise but also for the opportunities it provided for socialisation and relaxation in nature. For some, living with dementia may have impacted the way they gardened, but their long-standing interest in gardening did not diminish. Having dementia did not stop Rosie who had always been a gardener:

> And I just enjoy gardening. I enjoy doing the activities. It's good exercise, but it's some healthy stuff and I love to go to the garden and pick fruit that is actually growing on my trees and all those fun things like that. And of course, you can't do that in a park.

As access to gardens could be compounded by difficulties with mobility, some of the discussants adjusted their home gardens to support their engagement. They persisted in maintaining their interest in gardening despite their personal challenges. For example, Jaca resorted to self-seeding plants to maintain his garden while reducing any strenuous demands: "I developed a good vegetable garden in the backyard. I don't actually go, not really able to maintain that as I was before. But now, I would rely on self-seeding plants rather than having to cultivate them."

Blossom was modifying her garden at the time of the discussion to suit her personal needs:

> I've got lots and lots of fruit trees. Now, I put in pots and in the ground and all that sort of stuff. Yeah, some veggies I'm also growing. I'm slowly revamping the garden and changing all that because my background is in agriculture and horticulture.

Maple, who devoted her time to birdwatching, also grew her own garden. She intentionally grew flowers to attract native birds. In her words, "at the moment, the lavender is growing, I have to keep an eye on it and it gets cooler again until the birds start to come back to it."

Some of the discussants explored nearby nature for self-expression through nature-inspired creativity. A classic example was presented through nature photography. Some discussants practised nature photography in neighbourhood parks where they could take photos of flora and fauna that piqued their interests (see Figs. 23.1, 23.2, and 23.3, provided by research participants). Continuing such hobbies developed prior to living with dementia helped preserve personal identity and a sense of self (Fuchs, 2020). Mallow mentioned that nature photography had been her favourite activity in the park, which she continued despite having dementia:

> Oh yeah, I like photography. I like nature photography, you know, just nature as much as I can because it's so pretty seeing the leaves and the fauna. I got my camera a long time ago and I started taking pictures, but what really got me interested was nature photography, that's everything from insects to leaves to looking out at a vantage point where you really see you could see all sorts of things in it.

Interestingly, some people engaged in nature photography mainly for record keeping, as Jaca explained: "I think one aspect would be the memories of those locations, how to translate [them] to forms, like photography is one aspect of preserving memories … my desktop is made up of panorama photos of places I've visited."

He shared some of the photos he had taken in nature, including a shot of a water dragon in a park very close to his home. Maple also kept records of the native birds in her neighbourhood parks using photos. She shared the photos and disclosed that she also shared the photos on her Facebook page for learning purposes:



Fig. 23.1 Maple the avid birdwatcher having a "rendezvous" with a cockatoo (Photo credit: Maple) (Permission is given to include this image)



Fig. 23.2 Photo of a water dragon (named Boris) in his neighbourhood park (Photo credit: Jaca) (Permission is given to include this image)



Fig. 23.3 Butcherbird in a neighbourhood park (Photo credit: Maple) (Permission is given to include this image)

> And I had to identify what it was because there was a day butcherbird was in the garden and I thought it was a kookaburra. So, I took a photo and posted it on social media, one of my friends, she's quite aware of the native birds says it sure looks like a big kookaburra but it's a butcherbird!

Besides active engagement, the discussions revealed that the people living with dementia also enjoyed and derived value from nature by simply being in it. For the purposes of this chapter, forms of engagement with nature or green spaces that do not necessarily involve any sort of physical activity are termed passive interactions.

Passive Interaction in Nature

In this context, passive interaction refers to all other forms of engagement with nature that do not necessitate physical exertion. It includes connecting with wildlife, sensory experiences, and social interactions in green spaces. Some discussants noted that they developed close relationships with wildlife and "communicated" with them. They felt that it could be easier to communicate with animals than with human beings, especially in the face of speech difficulties. Maple believed that the birds understood her words: "But they're very familiar with me. Because some of the magpies come near my window very close to where I'm sitting now. In the morning, they start singing, so I have to open my door and say, 'hello, Maggie.'"

She shared some of her wildlife photos, reflecting the deep sense of connection she felt with them. Some others enjoyed passively relaxing in nature while watching flying falcons, waddling ducks, hopping kangaroos, sleeping koalas, and crawling insects. Replying to a question about the potential benefits of green spaces, Coco began by discussing her connection with animals before anything else:

> What do I get from nature? Like I look out it's only a white cabbage moth flying past, and I appreciate that, those little things. The different birds, hearing the birds. I've got this about birds because they're only in green spaces, really. I mean you might get pigeons but singing birds, particularly the parrots and the little blue rainbow.

Blossom noted that she usually visited the local park to watch the wildlife: "When I'm by myself, like from where I live, 5 min down the road, there's a nice park that we can go and walk around and sit and watch the ducks and all that."

For Jaca, watching and "talking" with animals was more than just fascinating "because experiencing wildlife interactions are almost natural. It is a lot better than not saying anything." One could sense a high level of excitement whenever the discussants described how connecting with wildlife further enriched their experiences in nature. Milan, who engaged extensively with his neighbourhood green spaces, expressed his connection to the wildlife in those areas:

> And we have kangaroos on our golf course in Noosa. When you come to Noosa, I will show you, our kangaroos. We have big kangaroos, the naughty kangaroos!

> We have some lovely animals in our green space in Noosa. We're always on the lookout for kangaroos are always there. Koalas are always there. And the snakes in them as well, they are nice snakes. Usually after walks, you expect snakes. Yes, snakes in the park.

Another form of passive interaction portrayed in the discussion was sensory stimulation. This included viewing nature, listening to the sounds of nature, and smelling plants, all of which excited the sense organs. The natural environment provided contexts for the wholesome expression of the senses, especially sight, sound, and smell. Coco emphasised that she enjoyed the sensory effects of being in green spaces not necessarily by being active:

> Saying one of the highlights of my day is having seen, even now I can see it, but particularly about five or six mid days, watching the sunlight glistened on the leaves, right on the leaves.
>
> In the memorial park, I talked about, there are a lot of rose bushes. Now, I would rather go there and smell the roses than go to the big parks that are man-made with man-made pergolas.

Describing her visual experiences in green spaces, Rosie narrated,

> And it's great because we go out, we sit outside, weather permitting, you're looking out over education reserve, which is almost like being in, looking into nature. It's forested, you know, it's a beautiful outlook. A little bit of grass in the foreground, but in the background all the trees. But it's a buffer between you and the primary school, so it's a very, makes it quiet.
> Then, I love going to the botanical gardens and looking at everything.

In addition, neighbourhood green spaces or nearby nature provided common ground for people to meet and interact on various topics. In this discussion, the people living with dementia appreciated the opportunities for social activities provided in nearby nature. The social "activities" were mainly in the form of organised picnics in neighbourhood green spaces, with group discussions and networking, not involving any form of physical activity per se. These social groups were brought about by communal interests, not necessarily related to dementia. Mallow looked forward to the Open Garden Scheme rendezvous for the garden ideas and stated that she avoided discussions about dementia to avoid dwelling on negative thoughts. Illustrative examples of passive experiences of nature are provided.

Discussion

From the findings, it can be deduced that the discussants preferred to access green spaces within the geographical boundaries of their day-to-day lives. They explored their neighbourhood green spaces and engaged in activities however they could, even in the face of various personal challenges.

A study by Duggan et al. (2008) also reported that the impact of dementia limited the areas visited to familiar places and decreased outdoor activities, a process they described as "shrinking the world." While the current finding corroborates the preference for familiar nearby areas, it challenges the earlier narrative of an apparent withdrawal from outdoor activities linked to progressive impairment. Amid cognitive dysfunction, people living with dementia strive to meet their psychological and relational needs. Rather than outright withdrawal from engagement with green space, people living with dementia can adjust their actions and interactions to suit their needs and circumstances, as demonstrated in the current findings.

The preference for nearby nature was orchestrated by the need for familiarity and safety, factors that are prevalent in most cases of dementia (Margot-Cattin et al., 2021). The discussants believed that familiarity with nearby nature offered easier engagement with the spaces as they were able to undertake activities without worrying about falls or losing their direction. The disruptions caused by dementia can mean that an overall sense of safety and familiarity relies largely on perceptions of the environment and implicit body memory, rather than on logic or abstract orientations (Summa, 2011). When people are enabled by environmental affordances and familiar activities, they can worry less about their explicit memory and the disruptions associated with dementia (Fuchs, 2020; Talamo et al., 2017). Familiarity is multifaceted and is tied not only to the physical features of that environment but also to the personal experiences of the individual engaging with the environment (Blackman et al., 2003; Mitchell & Burton, 2010). Fuchs (2020) suggested that due to situational body memory, being in familiar spatial situations can help us to easily find our bearings and to skilfully cope with any challenges. Previous experiences and the history of a place residing in one's body memory can support a preference for that place. In their study of how people living with dementia tackle challenging situations in public spaces, Brorsson et al. (2011, p. 592) posited that familiarity exists as "an inner feeling of recognition" that promotes comfort and reassurance.

Evident in the current finding is that familiarity was not just related to what the discussants could see but, more importantly, to the feelings of safety and reassurance derived from what they could comfortably do in those spaces. The discussants preferred familiar activities that they had previously engaged in prior to dementia diagnosis. Fuchs (2020) recognised that familiarity is acquired through repeated actions—for example, handling tools—makes up our procedural memory, a kind of memory that drives "sensorimotor capabilities of the body" (p. 668). Such capabilities are not necessarily based on executive function, which is often affected in dementia. Procedural memory does not require executive function, thus explaining the affinity for familiar activities. This significance attached to familiarity in dementia and its association with comfort and safety in the outdoor environment has been reported in other studies (McGovern, 2017; Rapaport et al., 2020; von Kutzleben et al., 2012). People living with dementia are likely to notice what is going on if they feel familiar and safe in that environment (McGovern, 2017). Thus, engaging in familiar and safe neighbourhood green spaces is one way for people living with dementia to navigate their personal challenges in nature.

The varieties of nature experiences shared by the discussants underscore their varying personal interests, abilities, and limitations. This personal competency-led approach to negotiating engagement in green spaces portrays nature as a propeller for personal experiences, even in the face of challenges. Against the narrative of generalised decline in ability suggested by Duggan et al. (2008), the findings here argue that a more nuanced picture is more accurate, in which people living with mild to moderate dementia adjust their engagements according to their abilities and needs. Such an alternative narrative should be the personal competency approach, exemplified by the people living with dementia in this study, as they persisted in engaging with nearby nature and modified their activities according to their subjective

experiences. For some, the activities also provided opportunities to take positive risks and mitigate isolation through social interactions and informal conversations on common topics that are not necessarily related to dementia. Several studies have shown that green spaces can function as enabling environments, providing people living with dementia opportunities for positive risks (Mapes, 2017; Marsh et al., 2018) and social interactions (de Bruin et al., 2019; Hall et al., 2018).

The central idea that echoed throughout their activities in nearby nature was doing what they could through activities they had always enjoyed. The underpinning motivational factor was the meaning that each person attached to their own activities. That is, engaging in those activities—whether actively or just passively—while being in nature offered a sense of meaning in life interpreted as having agency and meaningful engagement.

Concluding Thoughts

This study has revealed a positive feedback connection between living with dementia in the community and the concept of access to nearby nature. The discussants' experiences of having access to nearby nature showcased a vital interconnectedness between the home and other places of lived experiences, positioning neighbourhood green spaces as fundamental to living well with dementia. The importance of nearby nature in dementia extends beyond merely engaging with the most convenient neighbourhood green spaces; it also includes opportunities to experience dementia without a sense of loss of identity and meaning in life. People living with dementia continue to seek out opportunities for self-expression, even though engagement with green spaces is not a risk-free option. Nearby nature offers them a wholesome sense of personal challenges and the ability to navigate through life.

Arguably, this narrative has implications for how we think about and construct dementia-friendly and dementia-inclusive communities, especially as we move towards supporting more people living with dementia to live longer in their homes. It is pertinent to prioritise and include people living with dementia in the development of dementia-friendly green spaces to promote active living and social connections. Moreover, a variety of nature-based activities should be integrated into dementia-friendly green spaces to encourage people living with dementia to engage either individually or in groups, according to their strengths and interests.

References

Bennett, J., Wolverson, E., & Price, E. (2022). Me, myself, and nature: Living with dementia and connecting with the natural world—more than a breath of fresh air? A literature review. *Dementia (Basel, Switzerland)*, *21*(7), 2351–2376. https://doi.org/10.1177/14713012221117896

Blackman, T., Mitchell, L., Burton, E., Jenks, M., Parsons, M., Raman, S., & Williams, K. (2003). The accessibility of public spaces for people with dementia: A new priority for the "open city." *Disability & Society*, *18*(3), 357–371. https://doi.org/10.1080/0968759032000052914

Brorsson, A., Öhman, A., Lundberg, S., & Nygård, L. (2011). Accessibility in public space as perceived by people with Alzheimer's disease. *Dementia (Basel, Switzerland)*, *10*(4), 587–602. https://doi.org/10.1177/1471301211415314

Burrell, J. R., & Hodges, J. R. (2018). Falls in frontotemporal dementia and related syndromes. *Handbook of Clinical Neurology*, *159*, 195–203. https://doi.org/10.1016/B978-0-444-63916-5.00012-4

de Bruin, B. Y., Hassink, J., & Vaandrager, L. (2019). "I want to make myself useful": The value of nature-based adult day services in urban areas for people with dementia and their family carers. *Ageing & Society*, *41*(3), 582–604. https://doi.org/10.1017/S0144686X19001168

Duggan, S., Blackman, T., Martyr, A., & Van Schaik, P. (2008). The impact of early dementia on outdoor life. *Dementia (Basel, Switzerland)*, *7*(2), 191–204. https://doi.org/10.1177/1471301208091158

Evans, S., Waller, S., Bray, J., & Atkinson, T. (2019). Making homes more dementia-friendly through the use of aids and adaptations. *Healthcare*, *7*(1), 43. https://doi.org/10.3390/healthcare7010043

Fuchs, T. (2020). Embodiment and personal identity in dementia. *Medicine, Health Care and Philosophy*, *23*(4), 665–676. https://doi.org/10.1007/s11019-020-09973-0

Hall, J., Mitchell, G., Webber, C., & Johnson, K. (2018). Effect of horticultural therapy on wellbeing among dementia day care programme participants: A mixed-methods study (innovative practice). *Dementia (Basel, Switzerland)*, *17*(5), 611–620. https://doi.org/10.1177/1471301216643847

Kwasky, A. N., Harrison, B. E., & Whall, A. L. (2010). Quality of life and dementia: An integrated review of literature. *Alzheimer's Care Today*, *11*(3), 186–195. https://doi.org/10.1097/ACQ.0b013e3181ec00e1

Lumber, R., Richardson, M., & Sheffield, D. (2017). Beyond knowing nature: Contact, emotion, compassion, meaning, and beauty are pathways to nature connection. *PLoS ONE*, *12*(5), e0177186. https://doi.org/10.1371/journal.pone.0177186

Mapes, N. (2017). Think outside: Positive risk-taking with people living with dementia. *Working With Older People*, *21*, 157–166. https://doi.org/10.1108/WWOP-03-2017-0007

Margot-Cattin, I., Kühne, N., Öhman, A., Brorsson, A., & Nygard, L. (2021). Familiarity and participation outside home for persons living with dementia. *Dementia (Basel, Switzerland)*, *20*(7), 2526–2541. https://doi.org/10.1177/14713012211002030

Marsh, P., Courtney-Pratt, H., & Campbell, M. (2018). The landscape of dementia inclusivity. *Health & Place*, *52*, 174–179. https://doi.org/10.1016/j.healthplace.2018.05.013

McGovern, J. (2017). Capturing the significance of place in the lived experience of dementia. *Qualitative Social Work*, *16*(5), 664–679. https://doi.org/10.1177/1473325016638424

Mitchell, L., & Burton, E. (2010). Designing dementia-friendly neighbourhoods: Helping people with dementia to get out and about. *Journal of Integrated Care*, *18*(6), 11–18. https://doi.org/10.5042/jic.2010.0647

Mmako, N. J., Courtney-Pratt, H., & Marsh, P. (2020). Green spaces, dementia and a meaningful life in the community: A mixed studies review. *Health & Place*, *63*, 102344. https://doi.org/10.1016/j.healthplace.2020.102344

Moyle, W., Fetherstonhaugh, D., Greben, M., & Beattie, E. (2015). Influencers on quality of life as reported by people living with dementia in long-term care: A descriptive exploratory approach. *BMC Geriatrics*, *15*, 50–50. https://doi.org/10.1186/s12877-015-0050-z

O'Rourke, H. M., Fraser, K. D., & Duggleby, W. (2015). Does the quality of life construct as illustrated in quantitative measurement tools reflect the perspective of people with dementia? *Journal of Advanced Nursing*, *71*(8), 1812–1824.

O'Shea, E., Devane, D., Cooney, A., Casey, D., Jordan, F., Hunter, A., Murphy, E., Newell, J., Connolly, S., & Murphy, K. (2014). The impact of reminiscence on the quality of life of residents with dementia in long-stay care. *International Journal of Geriatric Psychiatry*, *29*(10), 1062–1070.

Rapaport, P., Burton, A., Leverton, M., Herat-Gunaratne, R., Beresford-Dent, J., Lord, K., Downs, M., Boex, S., Horsley, R., Giebel, C., & Cooper, C. (2020). "I just keep thinking that I don't want to rely on people." A qualitative study of how people living with dementia achieve and maintain independence at home: Stakeholder perspectives. *BMC Geriatrics*, *20*(1). https://doi.org/10.1186/s12877-019-1406-6

Summa, M. (2011). The body memory. A contribution from Husserl's phenomenology. *Husserl Studies*, *27*(3), 173–196. https://doi.org/10.1007/s10743-011-9088-8

Talamo, A., Camilli, M., Di Lucchio, L., & Ventura, S. (2017). Information from the past: How elderly people orchestrate presences, memories and technologies at home. *Universal Access in the Information Society*, *16*, 739–753.

von Kutzleben, M., Schmid, W., Halek, M., Holle, B., & Bartholomeyczik, S. (2012). Community-dwelling persons with dementia: What do they need? What do they demand? What do they do? A systematic review on the subjective experiences of persons with dementia. *Aging & Mental Health*, *16*(3), 378–390. https://doi.org/10.1080/13607863.2011.614594

Wilson, E. O. (1984). *Biophilia*. Harvard University Press.

World Health Organization. (2025). *Dementia*. https://www.who.int/news-room/fact-sheets/detail/dementia

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 24
The Outdoor Health Promise of the Campus Community Garden

Pauline Marsh, Abigail Wright, Sue Pearson, Catherine Elliot, and Eliza Burke

Sociocultural Positioning

We are a collaboration of academics committed to utilising research to enact social change. We have all come to academia from backgrounds anchored in community participation and nature connection. We are artists, gardeners, and activists: expressed in myriad ways. Our collaboration on this project was instigated by a shared interest in the green spaces at our university workplace and an awareness of the threat to our natural environments. We were motivated by wanting to explore and highlight the benefits that we observed as we participated in our campus community gardening places.

Introduction

Campus community gardens can positively impact student health, wellbeing, and social engagement (Baur, 2020; Foellmer et al., 2021; Marsh et al., 2020), while also delivering positive outcomes for environmental sustainability

P. Marsh (✉) · A. Wright · E. Burke
Wicking Dementia Research and Education Centre, University of Tasmania, Hobart, Australia
e-mail: pauline.marsh@utas.edu.au
e-mail: abigail.wright@utas.edu.au
e-mail: eliza.burke@utas.edu.au

S. Pearson
School of Medicine, University of Tasmania, Hobart, Australia
e-mail: sue.pearson@utas.edu.au

C. Elliot
Sustainability Unit, University of Tasmania, Hobart, Australia
e-mail: catherine.elliot@utas.edu.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_24

(Duram & Williams, 2015; Marsh et al., 2020). Student engagement with campus gardens can provide opportunities for "experiential learning and enhanced physical and mental health" and "contribute to students' sense of place and community" (Ridgeway & Matthews, 2015, p. 99). For example, recent studies have identified positive connections between student engagement in campus garden activities and the alleviation of stressors related to university life. These include academic pressures, the psychological and financial pressures of studying and living away from home (Baik et al., 2019; Browne et al., 2017), social disconnection and isolation (Schultz, 2004) and food insecurity (Murray et al., 2021; Ullevig et al., 2020). Furthermore, connecting students to gardens and gardening facilitates a connection to nature (Spano et al., 2020) and provides opportunities for prosustainability, environmental actions, and stewardship (Colding & Barthel, 2017; Duram & Williams, 2015; Marsh et al., 2020). In 2020, the COVID-19 Pandemic began to exacerbate some stressors for students who were living on campus. Particular impacts have been identified as increased social isolation and reduced contact with nature, as many students were unable to return home to family overseas (Lai et al., 2020), social interaction curtailed by online curriculum delivery (Fruehwirth et al., 2021; Lai et al., 2020), and lock-downs that intensified isolation from community and the natural environment (Jones, 2013; Krasny & Delia, 2015).

Our study aimed to understand the role that campus community gardens play in generating student wellbeing and learning, particularly for students living on site in residential accommodation. The two key questions driving our study were (1) What opportunities did campus community gardens provide for students to develop relationships between each other, with the broader community, and with nature? and (2) Did students notice any benefits in the areas of wellbeing, learning, and environmental sustainability from engagement in these garden activities?

Our study was located at two sites of student accommodation, with a campus community garden nearby at the University of Tasmania. The first site ("Melville Street") comprised new accommodation facilities and a recently established garden with minimal infrastructure. This comprised raised wicking beds and signage amid a predominately concrete environment in the middle of the city centre. The second site of our study ("Sandy Bay") is an older accommodation site, also with a recently established garden, but with in-ground beds surrounded by ornamental gardens and the lush surroundings of a nearby temperate forest. The study involved multiple stakeholders from across the two sites of the university, including research staff, student wellbeing officers, student residents, other student support staff, and external educators.

The complex nature of the two geographically distinct campus community garden sites, and the multiplicity of stakeholders involved, demanded our approach be informed by theories of gardening as a relational practice (Caves & de Melo, 2018; Petrescu, 2012)—that is, where gardening relates in multiple ways to the complex system of the university as a whole. To this end, we approached students as active agents within the "relationscape" of campus community gardens. The relationscape is typical of community gardens and involves combinations of multiple stakeholders, with varying involvements and commitments, diverse

gardening and social activities, supportive organisational structures, and various levels of coordination (Kingsley et al., 2019; Marsh et al., 2020; Turner & Jacobsen, 2016). Despite having limited power in decision-making at the policy level, for our study, student contributions to sustainable campuses through gardening and composting activities were considered highly valuable and worth consideration in the design. From this viewpoint, we consider that while campus community gardens are material spaces, they also comprise human, environmental, emotional, political, and social factors in multiple and diverse interrelationships with each other. In our analysis, we sought to understand the value and significance of campus community gardens—as relational outdoor health spaces—impacting student wellbeing, social connections, and connections with nature, as well as individual learning experiences.

Methodology

The "cultivational" research design was based on arts-based approaches to participation, followed by semistructured interviews with attendees. In preparation, formal and informal meetings were held between researchers, staff, and students—including with two newly established sustainability student societies, namely, The Garden Society (Sandy Bay) and The Green Team (Melville Street). Together, we determined that the first step in the research process would be to hold practical and creative composting workshop sessions at both sites. The researchers would participate both as researchers and as gardeners. The aim was to create a shared event for students, staff, and researchers that not only brought people together to learn about composting and worm farming but also built relationships of trust between the researchers, students, and staff, providing a garden-derived self-reflection starting point for the interview conversations that were planned to follow.

The workshops were designed to provide the foundation for what we termed a "cultivational methodology," whereby the concept of campus community gardens as a relationscape could be explored. In this context, a cultivational methodology was one that recognised and accommodated the emplaced relationships between researchers and participants, the university site and systems, and the tertiary sustainability agenda. At the core of the cultivational methodology is the garden—as a mechanism for supporting these interrelationships. We acknowledge the campus community gardens as a space that "cultivates" meaningful exchanges between the various agents and supports the fostering of student wellbeing, tertiary learning, and planetary sustainability. Semistructured interviews followed with students and workshop facilitators who were invited at the time of the workshops. This methodology provided rich insights into the garden relationscape and its meanings for those involved. Ethics approval was granted by the university Human Research Ethics Committee (H0018320).

Creative Arts, Worm Farming, and Composting Workshop

In collaboration with the student groups, the researchers hosted and participated in two composting workshops run by three external facilitators at each of the sites. Two worm farming/composting educators were joined by a contemporary artist educator. A total of 34 people attended the two workshops, 10 of whom were student residents, five were researchers, and the remainder were various student support staff members (see Table 24.1 for details of participants). Workshop content introduced students to the science of composting, the practical processes of setting up and maintaining a worm farm, and creative activities designed to foster awareness of human and nonhuman relationships in composting/gardening and to support expressive and creative engagement with the personal values and meanings participants attributed to campus community gardens and sustainability more broadly. The inclusion of an artist educator was designed to increase student appeal and facilitate meaningful engagement with composting via exploratory and expressive arts-based activities. This mode of creative engagement was intended to support personal reflection on campus community gardens, the experience of the workshops, and composting both during the workshops and later in the interviews. Worm farming, building compost, and engaging in creative arts-based reflection in the campus community gardens had hitherto not been regular features at either of the sites.

Semistructured Interview Method

All workshop participants (excluding the research team) were verbally invited to participate in an interview during the course of the workshops and were provided with information and consent forms. Invitations were accepted by 14 of the workshop attendees: nine students, three external facilitators, and one staff facilitator (Table 24.1). The interviews allowed for more than practical reflections, but also expressions about the meaning and significance of campus community gardens more broadly, in line with the research aims. Interviews were informal and semistructured with questions based on participants' reflections of the day, engagement with the campus community gardens and composting, and understandings of the association between community gardening and wellbeing and individual learning processes and outcomes. Each interview took 30 to 60 min, audio recorded, and transcribed verbatim.

The researchers applied reflexive thematic analysis techniques (Braun & Clarke, 2019) to analyse the interview data. This involved each member of the research team coding the transcripts by meaning unit, then the whole team met together to discuss the transcripts and coding. During a half-day analysis workshop, they identified collectively the synergies and complexities of the codes. At this point, we determined the dominant themes across the data that were relevant to our research aims.

Table 24.1 Participant details

Interviewee code	Participant category	Gender	Accommodation site/student group affiliation (if applicable)	Interview mode
F1	Staff facilitator	Male	Sandy Bay/Gardening Society	Face-to-face Sandy Bay
F2	External Facilitator	Female	External	Face-to-face Sandy Bay
F3	External Facilitator	Male	External	Face-to-face Sandy Bay
F4	External Facilitator	Male	External	Via phone
S1	Student	Female	Sandy Bay/Gardening Society	Face-to-face Sandy Bay
S2	Student	Male	Sandy Bay/Gardening Society	Face-to-face Sandy Bay
S3	Student	Female	Sandy Bay/Gardening Society	Face-to-face Sandy Bay
S4	Student	Female	Sandy Bay/Gardening Society	Face-to-face Sandy Bay
S5	Student	Male	Sandy Bay/Gardening Society	Via Zoom
S6	Student	Male	Sandy Bay/Gardening Society	Face-to-face Sandy Bay
S7	Student	Female	Melville Street/Green Team	Via Zoom
S8	Student	Male	Melville Street/Green Team	Face-to-face Melville Street
S9	Student	Female	Melville Street/Green Team	Via Zoom
S10	Student	Male	Sandy Bay/Gardening Society	Face-to-face Sandy Bay

Findings

Five key interrelated overarching thematic categories were generated. Each reflects participants' values that underpinned the relationscape of campus community gardens: belonging, ownership, learning, sustainability, and the calm. In this section, we present the findings by theme, each signified by a spore-inspired illustration (Figs. 24.1, 24.2, 24.3, 24.4 and 24.5 created by author Abi Wright, used with permission), before discussing their significance to the broader outdoor health movement.

Belonging

Participants expressed ideas about belonging in relation to their experiences of the accommodation facility and the role of campus community gardens. In particular,

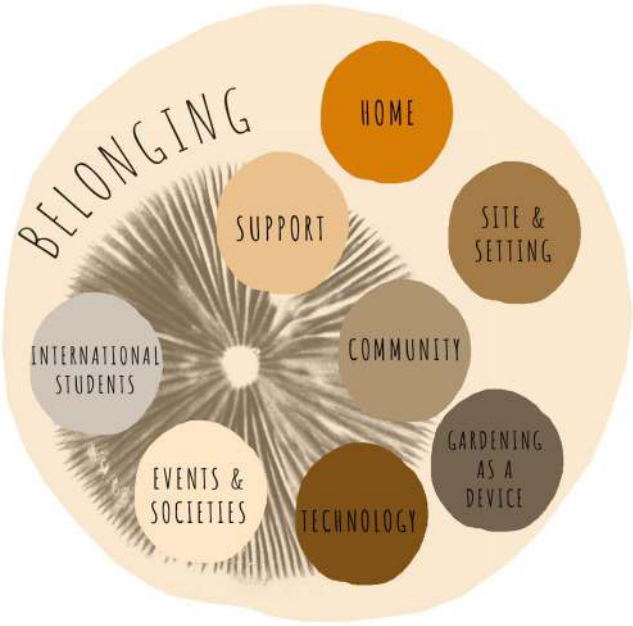


Fig. 24.1 Theme 1: Belonging and subthemes (The 2nd author developed this Figure)

they related belonging to concepts of home and community and the importance of establishing connection to other students in the accommodation and to their surroundings. This was particularly important for international students, not only where a sense of belonging was supported by their relationships to support staff, technology, organised student events, and societies, but also where gardening was available as an activity for promoting these connections. Feeling "at home" in the accommodation setting was especially important for international students who found themselves far away from what they would traditionally consider "home" and the connection to family and friends. Students found that the simple act of being surrounded by greenery created a familiarity that made them feel at home at the Sandy Bay student accommodation. Although the plants were different from their homelands, this comfort of the natural landscape created a sense of belonging:

> Being able to be surrounded by green, greenery is a familiarity to home because my house is also surrounded by a lot of rainforest, trees or sometimes you might find a brand new plant sprouting next to you, you know you have a papaya tree, or banana tree. And you're like "where did that come from?" … so to be surrounded by a lot of plants is really great, and I don't feel home sick. (S3)

Ideas about belonging were also expressed in discussions about the community at the residential sites and in relation to the broader community, particularly other people interested in gardening and sustainability. Students reflected on the importance of community and social connections in building a sense of belonging:

"I think being part of the people who are passionate about these kind of ideas, for the environment and reducing food miles—like actually being part of this through the community garden through the green spaces". (S1)

A sense of belonging was also enabled through the events held and societies operating at the university accommodation sites: "I feel like I am emotionally connected when there are activities and events, that I feel my best sense of wellbeing and community". (S5)

Students reflected on how visiting green spaces and places that facilitated a connection to nature changed their behaviours to align with more pro-environmental practices. They felt that they were part of a larger cause and a community with similar values. The students and facilitators talked about not only how these spaces had a positive effect on their relationships with the nonhuman world but also how the act of gardening functioned to create community connection and making friends:

> Sometimes it's easy because you're doing things together and you don't need to necessarily have to talk a lot and we build that connection ... Which is probably the other reason I really want to help with the community garden here as well, I imagine that would also be helpful for residents to connect with each other while connecting to nature. (S1)

This idea of community not only raised positive aspects of belonging but also negative experiences and feelings of isolation and disconnection. International students talked about discrimination and how they had felt ostracised from the local communities and even within the accommodation site when interacting with domestic students:

> There is one thing that needs to be some improvement, it's not only an issue of student accommodation but an issue of the Australian society, I feel like people from different background they are quite segregated especially in terms of international students. It's kind of like tribalised. So generally I feel like the domestic students aren't really keen on what we are doing. I don't know the reason, I just think it's interesting and I think it's a reflection of how the society, the larger society is like. It's like people from different background they are friendly and they do small talk but it's hard for things to go deeper, relative, connection-kind of conversation. (S1)

The physical site itself and infrastructure influenced how people perceived the space, such as the creation of welcoming and comfortable atmospheres, or lack thereof.

> [Melville Street is a] pretty uninviting as a space ... I think it was referred to in that meeting as a bit of a prison vibe ... it's panopticon almost, half-panopticon, you know everyone can see you when you're in the courtyard and you can't see them, so it sets up a bit of a strange, kind of performative ah, dynamic. But, I can also see how there's so much great potential here to make it gorgeous and juicy and somewhere where you would want to be performatively hanging out. (F2)

Support from the student living officers was seen as an important factor to establish the student garden groups. In general, their role enabled a sense of belonging, especially through the COVID-19 lockdown period when students were more isolated from the wider community:

> Quarantine, isolation and things like that were happening, what we feel was like people here are always here for us and trying their best to make us feel safe and supported. There are people doing regular wellbeing check and phone calling us, yeah its really nice ... so I am really grateful for that and because of that experience we kind of have that feeling that we are all in this together. (S1)

The community gardening spaces gave students a place to reconnect with others after being isolated:

> During COVID and in the restriction time it was really tough, people confined to their room and stuff like that, so I think the garden was like one, and was some of the ways to get people together to communicate to people and then connect to people and then it makes people feel like they have a community, they belong and have a sense of wellbeing so yeah it really helped these garden activities, garden society, so has really, really helped a lot, because it gives you therapeutic gardening. (S5)

Ownership

Participants expressed ideas about ownership in terms of their sense of purpose, self-mobilisation, and motivation regarding opportunities for contributing to the environment. At the Sandy Bay site, the creation of the community garden saw students mobilising a sense of ownership through being involved in a common purpose:

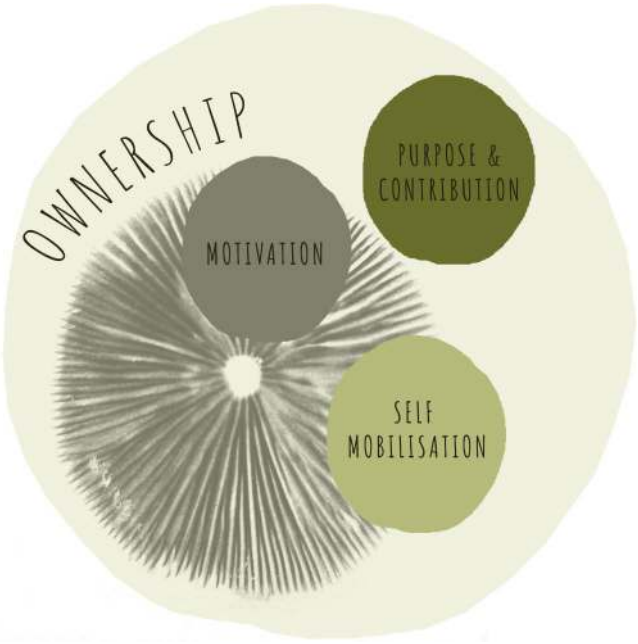


Fig. 24.2 Theme 2: Ownership and subthemes (The 2nd author developed this Figure)

> The other day we went out down to the uni apartments area, like to see, to plan out how we might have a community garden out there and to see things how it would be. And like getting around and being involved in all of this, like it gives a sense of ownership and like you know, sense of belonging to the surroundings. (S10)

Students spoke about how after participating in the space, they felt more in charge of what could happen on the site:

> It's an opportunity for us to get together, and there's so many opportunity for things to do to improve this area, so like I feel like it really helped me realise that we're sort of in control of this area, and there's things that we can do to really make this a more inclusive place. (S8)

Self-confidence and motivation were noticeably enhanced through the support of the student welfare officers around them. One staff member commented,

> I think I just gave them that confidence to think "yep we can do this, this is going to be ok" and so I just supported them by helping arrange spaces, meetings, and being I s'pose their point of contact between them as residents and the student living, so kind of bridging that. I felt more like a facilitator in all of that, where they did the work but I kind of just made it possible to happen. (F1)

Being granted permission to engage with the site was an important factor in fostering students' sense of their ability to bring about positive change. The reverse, however, was also true, as expressed by students at the Melville Street site where a lack of staff support was a challenge:

> The lack of staff engagement strategies … it seemed like there weren't many staff on site to help bring everyone together. Yeah much, or very different to what I experienced at the Sandy Bay campus, um yeah where it seems like [F1] plays a very critical role in kind of motivating students to get together for student engagement activities and obviously that's a well-established student accommodation. (F4)

Learning

Perhaps not unexpectedly for a university context, learning was a strong theme across the participant data. Learning was not limited to academic study, however, but also related to the accommodation setting and the development of life skills. The natural environment was perceived as a learning aid, a space where interaction with composting and gardening could provide opportunities for peer learning and socialising, developing knowledge about nature, and exploratory learning processes outside of their academic commitments. The campus community gardens provided a space for students to "turn off" from working at the computer and rejuvenate, which in turn helped them to study and created more capacity for academic learning. It also provided an alternative source of identity outside the academic setting and an opportunity for positive mental health:

> The pride and ownership of the surroundings it gives me the feeling that "ok, I'm involved in this" and gives me that like sense of belonging, and it actually tells me like I have actually something to think other than just my studies going on. And that's kind of a good



Fig. 24.3 Theme 3: Learning and subthemes (The 2nd author developed this Figure)

> thing for my mental health I feel because it helps me yes, I shift my focus but then I can refresh and just come back. (S10)

The workshop itself facilitated new perspectives and awareness about community and social behaviours on site, particularly through learning about composting:

> Yeah, it's a bit of a change for me, because before I wasn't really thinking too much about this area. I mean it was a nice place to hang out, but I didn't really think about what could be done. But after having these compost events, it sort of raised awareness about behaviours, this area that you know is for all the students here. (S8)

A variety of learning was cultivated through the garden and green spaces at the accommodation sites. Students and facilitators alike welcomed the inclusion of creative elements as a way to reflect and discuss ideas, as well as explore the impacts of the engagement with nature further:

> I think a comment was that was just so factual and sciency until we got to the queer "worms are queer beings" bit … and it was great because it gave me the opportunity to contextualise the worm farming, and then the potential of like how do we imagine the world of another creature, beyond the study of it, or in a more imaginative playful way. (F2)

Creative learning enhanced the connection people felt to both nature and humans. The students talked about how literally "getting their hands dirty" helped facilitate these connections.

> It helped build community as well, especially bringing in the art workshop as well and how to connect art with what we are doing as a composting workshop, and the fact that it is hard work, but it's work that is also therapeutic, because once you get your hands dirty which at first is icky, yucky ... especially with manure, but once you get dirty ... it's all the same thing. It's going to become really soft land for planting. (S6)

This more active experiential learning gave way to other types of learning that emerged through the conversations, particularly in relation to gaining practical life skills. This emphasised the role of residential accommodation in providing opportunities for students to develop domestic and other life skills that academic learning does not provide:

> I had this sort of a feeling that there's stuff I never learned that I wished I learned growing up. One of it comes down to composting and gardening and learning how to use tools and that kind of stuff. And I had a discussion with my dad about that. It goes back to learning how to turn a tyre, those kind of skills ... Same with composting, like it's stuff that we need to learn, because at the end of the day they are life skills that we don't get at uni. (S6)

Some participants expressed how campus community gardens offered more than just gardening and connection to nature but a safe learning environment for social skills. The accommodation setting and campus community gardens can be an important provider of teaching other skills outside of the classroom and peer-to-peer learning:

> I don't have a chance to join an event now day so it's great to meet other new people and improve my English, something like that and most importantly you can meet a lot of people with different, they come from different background so it's a good experience for me to meet some new people. (S2)

In a time of increased online learning, participants were alerted to a desire and potential need for ways of learning that facilitated social connections and meaningful engagement:

> I'm a little bit worried there will be a little less face-to-face engagement between staff and students, that there'll be a shift towards more online forms of learning which doesn't seem as deep and impactful as learning in person, because there'll be less room for people to come and do tutorials or lectures. (F3)

Sustainability

In the context of this project, the theme of sustainability incorporates the motivation towards pro-environmental action, the development of everyday practices that work towards protection of the natural world, and an awareness of the need to improve biodiversity. The students wanted to learn about composting and sustainable practices and to embed them in their residencies. Workshops inspired the students to think beyond their current practices and helped them gain more in-depth knowledge on how to be more sustainable.

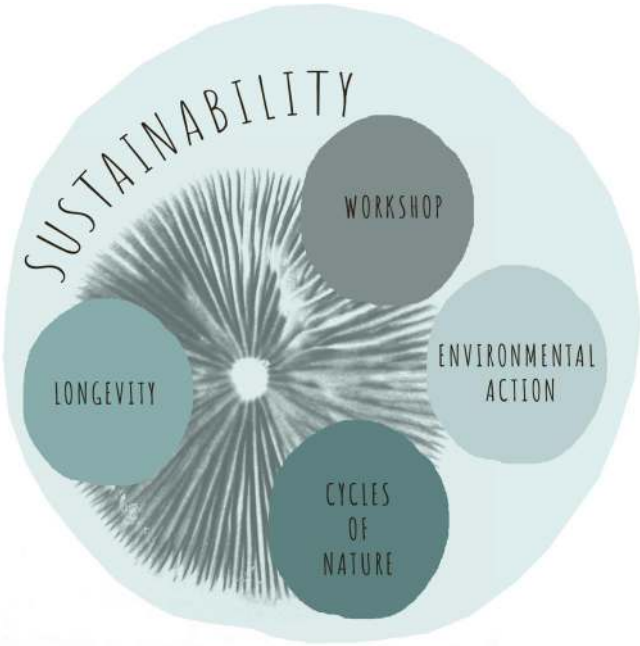


Fig. 24.4 Theme 4: Sustainability and subthemes (The 2nd author developed this Figure)

> Being able to realise how much could be gained from running those workshops, not only from encouraging and motivating the students to learn about doing the right thing in regards to reducing waste to landfill, about trying creating their own compost which could help put them developing gardens to small little, maybe just growing food in pots as well, it seems like that was a really great benefit. (F4)

Participants noted the importance of the cycles of nature being reflected in sustainable practices. While talking about the worms, associations were made with similar processes that we were establishing by building composting infrastructure, which was being produced by the worms themselves at a micro scale:

> I love the detail about how worms work within their system and how they work within the whole system, like how they transform food scraps into compost and suitable soil and stuff like that. Understanding the whole cycle and how every living being has a function in the world made a lot of sense. (S6)

Seeing how these processes can be replicated by humans to be more sustainable helped them to understand their role in a larger system. One of the motivations for students wanting to start composting on site was the lack of services available to them and how they wanted to be more environmentally conscious.

> This is university land here and it's not part of the council we are not part of the scheme [green waste collection] so we couldn't have that fancy small green bin in our kitchen to collect our food waste ... so it's really good we can pilot and trial out the worm farm

> scheme and hot compost here. So gradually we can probably better engage residence to be part of this program and encourage people to just save their food scraps for the waste and change that into something good for the environment. (S1)

For some, the campus community gardens provided the means to align university activity with important values associated with sustainable living, otherwise felt to be lacking: "I'm worried that the values that are being acted on, aren't the values that our culture needs, moving into the future. Which for me are sustainability and moving towards a more earth-based way of living and more local" (F3).

The need for longevity and the sustainability of composting and gardens was raised. There were both suggestions and concerns about the need for the practices of composting to be carried into the future due to the turnover of students and staff.

> The way that I would do it and it's totally Machiavellian, because you know it's hard, it's totally hard getting people to genuinely be motivated to do something that you're not used to doing or that you don't learn or can't be bothered learning. If you're not forced to do them, you're not going to learn them unless it's build in in your system. So something that I propose having at one time is an induction module that is mandatory. (S6)

Similarly, one participant imagined peer-to-peer knowledge of sustainability being transferred:

> We are trying to do like a snowflake structure. So for each, for everything we do we try and involve senior, or old students and also new students and first year students here so we can make sure next year when new people come then the new students this yeah will be more experienced and will pass on that knowledge. (S1)

The Calm

The final major theme of the calm reflects how the community gardens and the connection to nature they enabled quelled anxieties and stress: restoration, anxiety, peace and quiet, COVID-19. The restorative effects of being exposed to nature helped students find what they described as a healthier study–life balance and positive impacts on their mental wellbeing.

> Community gardens, just being able to be involved in that is a great thing because, to be honest going outdoors and like I said, taking care of plants and all of that and, being able to, I don't know, it gives me this, it kind of takes me back to when I was small. Like going to the garden, getting my hands dirty, like being not just like work, study or something like that. Yeah, so I think that's a big thing, big factor for my mental wellbeing. (S10)

The restoration effect of being in nature was seen as an integral part of being able to keep studying. Removing themselves, being in nature, was important to maintain tertiary study skills.

> Well I think that a huge part of study is having space to kind of think in a … I guess a beautiful space. Like I benefited a lot from exiting the classrooms and the computer rooms, the labs and just going and sitting under a tree and reflecting on my classes, and

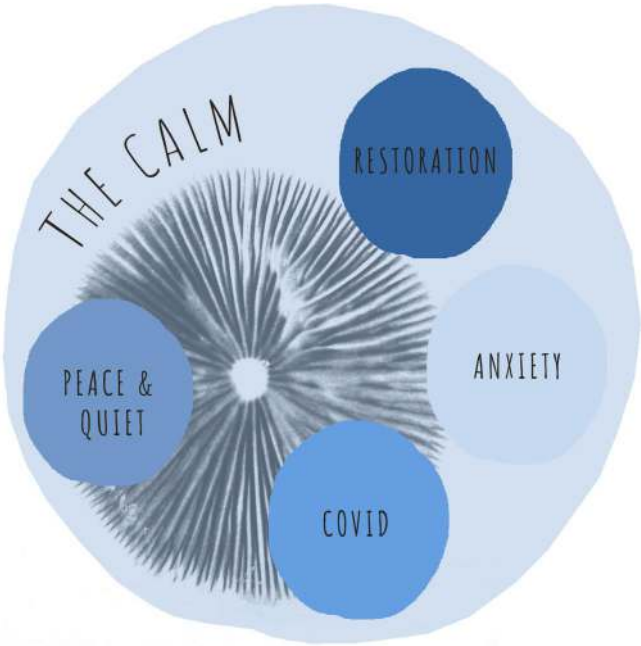


Fig. 24.5 Theme 5: The calm and subthemes (The 2nd author developed this Figure)

> gathering with friends. Lots of activities happened out in the open spaces around the university, aside from the sporting grounds. Like I don't think the sporting grounds create anywhere near as positive a space for mental health and clarity as do the places with the kind of bigger trees and the shrubs and the birds and everything. (F4)

Issues related to mental ill health and feelings of anxiety related to studying were frequently raised. Students discussed how they could mitigate these feelings through just being and walking in nature.

> I feel stressed or anxious I sometimes just go to the bush go for a walk and even walk to the signal station sometimes at night, which is crazy, but yeah I think that being surrounded by nature and all this greenspace is like it is very therapeutic and is really good for your mental space and basically good for your wellbeing. (S1)

One student had lived at both locations of student accommodation and noted the differences in the calmness they felt in both:

> I actually used to live in the city, that is where I initially moved to and I did not like it there. I feel like there is a bigger sense of disconnection like there than here. And I think now I'm starting to think that it has to do with all the greenery and stuff because Melville Street is just one block of just rooms. Like it really gets to me, when you look outside and you don't see trees and stuff. But I love the view because you've got the trees on this side and you've got a road up ahead and this side you have the highway but also all the trees and mountains, it gives me a sense of calmness. (S4)

People noted the peace and quiet benefits from being in nature, as they gave respite from the external and internal noises of everyday life.

> I'm just interested in observing the different plants, and the way they grow. I suppose I just feel more clarity when I'm in those kinds of spaces. Especially if I go out into the bush, that's where I can hear how loud my thoughts are and try and turn them off [laughter], it's like I can just hear this "blah, blah, blah—stop talking to yourself, just walk, just—" So, um, I'm really aware of the type of thing, the internal dialogue that comes with just being in our society is kind of ridiculous, so those kind of green spaces, yeah, give me a bit of perspective on that. (F1)

The stress of living in the accommodation sites over 2020 and the COVID-19 Pandemic was a common topic point for students. The pandemic added to the disconnection that many students felt, and they discussed how being outdoors alleviated some of these factors. For example,

> During the whole thing with COVID and the restrictions and everything. For me I find that going out, breathing a little bit of fresh air, communing with nature, just being out there, is pretty amazing. It was a life-saver. As I said it gets you out of your head space, to me personally it helps me think. I do my best thinking while walking and if I'm walking in nature and just getting lost, that's how I find answers to certain queries that I may have. Or new questions to old queries. (S6)

Discussion

Our findings revealed various ways that campus community gardens participation positively benefited participants' wellbeing. These occurred via the mechanisms of social connection and engagement with the natural environment, as well as self-agency activation. We found that actions such as composting created a mechanism by which student residents engaged with issues of sustainability more widely. They drew connections between the way they learnt and felt in the garden spaces and their tertiary studies as a whole. We can understand these benefits and enablers through the lens of relational values generated by the experience of participating in the campus community gardens, values that form the profile of the campus community gardens relationscape.

These findings provide us with insight into the scope of campus garden-based interrelationships and their potential for positive change. The relationscape is vast: relations between human and the nonhuman, gardeners with gardeners, gardeners with gardens, between physical garden elements and sensory factors, and between gardens with the greater ecology of the planet. Moreover, campus community gardens relationships are multidirectional and intertwine the various landscape factors, the spatial, emotional, environmental, and creative. Acknowledging the slippage between the categories of values that participants noted—belonging, ownership, learning, stewardship, and the calm—next we explore these relational values in more detail, highlighting the wellbeing and learning impacts and theorising their significance for universities more broadly.

Belonging, Ownership, and Calmness in Tertiary Settings

During 2020, student accommodation numbers reduced to 50% as a result of COVID-19 travel restrictions, as Australia put a hold on international travel. In this study, involvement in the campus community gardens created and enabled a stronger sense of place for students living on campus during this time—some by choice, others due to circumstances. Belonging to a community of gardeners and feeling connected to students with a shared interest in gardening was very important for a population group already troubled by social disconnection and isolation and at risk from the associated mental health impacts (Lai et al., 2020). Even students who were comfortable with technology and its role in substituting social and nature engagement hoped for a future where virtual social and nature interactions were as sensory—and as close to reality—as possible. Our findings suggest that as universities redevelop old buildings, or occupy inner-city sites, landscaping, greening, food gardens, and wilding all need to be provided to allow students to meet others, to find respite from stress, and to promote strategies for personal wellbeing (Baur, 2020).

Moreover, people experienced positive feelings of control, purpose, and confidence, subjective factors generally thought to be important for finding meaning in life (Martela & Steger, 2016). Peace, calm, and respite from stressors—academic and otherwise—evident in the findings, act in ways that are beneficial for mental health (Stuart-Smith, 2020). For some, the garden and garden community provided an outdoor health offsetting function—that is, against the negative encounters they had with racism in other areas of the campus. Students living at the Sandy Bay campus had ready access to forested green spaces, compared to those in the city, and conversations about the peaceful and restorative nature of the garden extended to include these less-cultivated and less-populated sites. Empirical evidence supporting findings about the restorative, respite, and empowering functions of gardens and greenspaces in general is substantial (Astell-Burt et al., 2014; Markevych et al., 2017; Spano et al., 2020). On campus, these benefits apply and extend to include reduced mental strain, improved academic performance, and greater general social wellbeing and quality of life for students (Baur, 2020; Foellmer et al., 2021; Hipp et al., 2015; Turner & Jacobsen, 2016).

Enhancing Learning in Tertiary Settings

Consistent with the restorative function of gardening, gardens, and greenspaces, students in this study also observed improvements in their capacity to study as a result of being outdoors and in the campus community gardens in particular. Their focus sharpened, and they were able to apply their minds to their studies more effectively. Nevertheless, their involvement in the creative elements of this research, the physical work in the garden, and their (re)acquaintance with the garden spaces provoked some to reflect on what they considered to be a limited

scope of learning options and academic topics within the university. Getting their hands dirty, literally, and engaging in creative reflection was new to many and a welcome alternative to screen-based study.

Not only did students in this study identify useful alternative learning techniques, but some were also alerted to the importance of learning skills that are helpful for life outside of the academic study environment—skills they did not have a chance to learn elsewhere. Practical gardening—growing food, dealing with waste, making compost—was valued for providing a rounded education. The importance of food security to students is well established (Murray et al., 2021; Ullevig et al., 2020). Some university communities have successfully integrated a campus community garden into the learning requirements of various curricula (Duram & Williams, 2015; Turner & Jacobsen, 2016). However, this raises the broader question of whether universities are obligated to provide such real-life learning opportunities for those living on campus, without family or community members to take this role, and what the extent of these real-life learning needs might be. Mental health care and sustainable environmental practices are arguably two of the most important learning needs of our time. The tense relationship between academic education and the broader, real-life context is not new (Foellmer et al., 2021). Jones (2013), for example, challenged universities to reorient and better align with broader societal and planetary challenges and to put "passion and invention back on the sustainability agenda of universities" (p. 149). Could the campus community garden be the outdoor health site to ignite that passion and invention?

The Value of Sustainability

The Campus Community Garden served as a springboard for students to experience a desire to live in ways more aligned with principles of environmental sustainability. Conversations explored personal and university responsibilities to reduce environmental damage and increase their contributions to biodiversity and general environmental health. Gardens provide a connection to nature, even amid the built environments of city campuses (Baur, 2020), and the opportunity for diverse student populations to engage in sustainability agendas (De Young et al., 2016). Scholarship suggests that human–nature interrelationships are mutually beneficial. On campus, the environment benefits from student input, and the benefits to students from improved biodiverse environments include mental health and general quality of life (Krasny & Delia, 2015). Universities, as gathering places for predominantly younger age groups, are looked to as important institutions for cultivating pro-environmental attitudes and behaviours (Colding & Barthel, 2017) that can develop highly successful sustainability agendas provided they adopt a whole-of-university approach (McMillan & Dyball, McMillin & Dyball, 2009). Jones (2013) in his paper described a "biophilic university," one that orients itself to restore student and stakeholder emotional affinity with nature, enabled by various tertiary assets, including the creative arts.

Limitations

The impact of the pandemic and the end-of-semester timing of our study meant that revisiting the garden sites for interviews was not always possible. This means we did not complete one of our aims for cultivational research—to reflect on the workshops in the space where compost activities took place during the research interview.

Conclusion

Through the lens of outdoor health and relationscape theory, in our study, we applied "cultivational" methodology techniques and qualitative methods to explore the experiences of university students and garden-based workshop facilitators. We approached our study cognisant of a complex campus community gardens relationscape, and our results confirmed this complexity. We found great potential in the garden spaces to enhance wellbeing through social connections and nature connectivity, as well as to strengthen real-life learning in important areas for contemporary students: connecting with others, supporting mental health, and fostering environmental sustainability. These elements confirm its potential as an outdoor health site. Nevertheless, although campus community gardens are becoming a more frequent feature of tertiary institutions, they remain disconnected from the curriculum, underresourced, and absent from broader tertiary strategic plans (Krasny & Delia, 2015; Marsh et al., 2020; Turner & Jacobsen, 2016; Ullevig et al., 2020). They are not, in effect, utilised with the commitment that the evidence suggests they warrant. Hope for the future lies in harnessing the relation-based opportunities provided by campus community gardens as a way for universities to mobilise benefits in the areas of wellbeing, learning, and environmental sustainability.

References

Astell-Burt, T., Mitchell, R., & Hartig, T. (2014). The association between green space and mental health varies across the lifecourse. A longitudinal study. *Journal of Epidemiology and Community Health*, *68*, 578. https://doi.org/10.1136/jech-2013-203767

Baik, C., Larcombe, W., & Brooker, A. (2019). How universities can enhance student mental wellbeing: The student perspective. *Higher Education Research and Development*, *38*, 674–687. https://doi.org/10.1080/07294360.2019.1576596

Baur, J. (2020). Campus community gardens and student health: A case study of a campus garden and student well-being. *Journal of American College Health*, *5*, 1–8. https://doi.org/10.1080/07448481.2020.1751174

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, *11*, 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Browne, V., Munro, J., & Cass, J. (2017). Under the radar: The mental health of Australian university students. *Journal of the Australian and New Zealand Student Services Association*, *25*. https://doi.org/10.30688/janzssa.2017.16

Caves, L., & de Melo, A. T. (2018). A relational framework for complex thinking about complex systems. In Walsh & Stepney (Eds.), *Narrating complexity* (pp. 149–196). Springer.

Colding, J., & Barthel, S. (2017). The role of university campuses in reconnecting humans to the biosphere. *Sustainability*, *9*. https://doi.org/10.3390/su9122349

De Young, R., Scheuer, K., Roush, J., & Kozeleski, K. (2016). Student interest in campus community gardens: Sowing the seeds for direct engagement with sustainability. In Filho & Zint (Eds.), *The contribution of social sciences to sustainable development at universities* (pp. 161–175). Springer.

Duram, L. A., & Williams, L. L. (2015). Growing a student organic garden within the context of university sustainability initiatives. *International Journal of Sustainability in Higher Education*, *16*, 3–15. https://doi.org/10.1108/IJSHE-03-2013-0026

Foellmer, J., Kistemann, T., & Anthonj, C. (2021). Academic greenspace and well-being: Can campus landscape be therapeutic? Evidence from a German university. *Wellbeing, Space and Society*, *2*, 100003. https://doi.org/10.1016/j.wss.2020.100003

Fruehwirth, J. C., Biswas, S., & Perreira, K. M. (2021). The Covid-19 pandemic and mental health of first-year college students: Examining the effect of Covid-19 stressors using longitudinal data. *PLOS ONE*, *16*, e0247999. https://doi.org/10.1371/journal.pone.0247999

Hipp, J. A., Gulwadi, G. B., Alves, S., & Sequeira, S. (2015). The relationship between perceived greenness and perceived restorativeness of university campuses and student-reported quality of life. *Environment and Behavior*, *48*, 1292–1308. https://journals-sagepub-com.ezproxy.utas.edu.au/doi/10.1177/0013916515598200

Jones, D. R. (2013). The biophilic university": A de-familiarizing organizational metaphor for ecological sustainability? *Journal of Cleaner Production*, *48*, 148–165. https://doi.org/10.1016/j.jclepro.2013.02.019

Kingsley, J., Foenander, E., & Bailey, A. (2019). "You feel like you're part of something bigger": Exploring motivations for community garden participation in Melbourne, Australia. *BMC Public Health*, *19*, 745. https://doi.org/10.1186/s12889-019-7108-3

Krasny, M. E., & Delia, J. (2015). Natural area stewardship as part of campus sustainability. *Journal of Cleaner Production*, *106*, 87–96. https://doi.org/10.1016/j.jclepro.2014.04.019

Lai, A. Y.-K., Lee, L., Wang, M.-P., Feng, Y., Lai, T. T.-K., Ho, L.-M., Lam, V. S.-F., Ip, -M. S.-M., & Lam, T.-H. (2020). Mental health impacts of the COVID-19 pandemic on international university students, related stressors, and coping strategies. *Frontiers in Psychiatry*, *11*, 584240–584240. https://doi.org/10.3389/fpsyt.2020.584240

Markevych, I., Schoierer, J., Hartig, T., Chudnovsky, A., Hystad, P., Dzhambov, A. M., de Vries, S., Triguero-Mas, M., Brauer, M., Nieuwenhuijsen, M. J., Lupp, G., Richardson, E. A., Astell-Burt, T., Dimitrova, D., Feng, X., Sadeh, M., Standl, M., Heinrich, J., & Fuertes, E. (2017). Exploring pathways linking greenspace to health: Theoretical and methodological guidance. *Environmental Research*, *158*, 301–317. https://doi.org/10.1016/j.envres.2017.06.028

Marsh, P., Mallick, S., Flies, E., Jones, P., Pearson, S., Koolhof, I., Byrne, J., & Kendal, D. (2020). Trust, connection and equity: Can understanding context help to establish successful campus community gardens? *International Journal of Environmental Research and Public Health*, *17*. https://doi.org/10.3390/ijerph17207476

Martela, F., & Steger, M. F. (2016). The three meanings of meaning in life: Distinguishing coherence, purpose, and significance. *The Journal of Positive Psychology*, *11*, 531–545. https://doi.org/10.1080/17439760.2015.1137623

McMillin, J., & Dyball, R. (2009). Developing a whole-of-university approach to educating for sustainability: Linking curriculum, research and sustainable campus operations. *Journal of Education Forest Sustainable Development*, *3*(1), 55–64.

Murray, S., Peterson, C., Primo, C., Elliott, C., Otlowski, M., Auckland, S., & Kent, K. (2021). Prevalence of food insecurity and satisfaction with on-campus food choices among Australian university students. *International Journal of Sustainability in Higher Education*, *22*(4), 731–746. https://doi.org/10.1108/IJSHE-09-2020-0348

Petrescu, D. (2012). Relationscapes: Mapping agencies of relational practice in architecture. *City, Culture and Society*, *3*, 135–140. https://doi.org/10.1016/j.ccs.2012.06.011

Ridgeway, N., & Matthews, J. (2015). Campus gardens: Food production or sense of place? *Canadian Food Studies/La Revue Canadienne Design Études Sur L'alimentation*, *2*(1), 99–118.

Schultz, P. F. (2004). Upon entering college: First semester experiences of first-generation, rural students from agricultural families. *Edward Wales Chance Dissertation Award Forest Doctoral Research in Rural Education*, *26*, 48–51.

Spano, G., D'Este, M., Giannico, V., Carrus, G., Elia, M., Lafortezza, R., Panno, A., & Sanesi, G. (2020). Are community gardening and horticultural interventions beneficial for psychosocial well-being? A meta-analysis. *International Journal of Environmental Research and Public Health*, *17*. https://doi.org/10.3390/ijerph17103584

Stuart-Smith, S. (2020). *The well gardened mind*. Williams Collins.

Turner, H., & Jacobsen, K. (2016). Cultivating a sustainable campus community garden through creation of place. *International Journal of Sustainability Education*, *12*, 1–12. https://doi.org/10.18848/2325-1212/cgp/v12i04/1-12

Ullevig, S. L., Vasquez, L. L., Ratcliffe, L. G., Oswalt, S. B., Lee, N., & Lobitz, C. A. (2020). Establishing a campus garden and food pantry to address food insecurity: Lessons learned. *Journal of American College Health*, *9*, 1–5. https://doi.org/10.1080/07448481.2019.1705830

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 25
Eco Coffin Project: Walking with Natural Burial

Abby Buckley

Sociocultural Positioning

I am a tertiary-educated woman, born in Australia, with Dutch and Welsh heritage. Studies include sustainable business development, social ecology, and philosophy, which opened up roles as a chartered accountant, ecommerce entrepreneur, and educator. The sudden death of my son in 2012 guided me to finding a new onto-epistemology. I enjoy being a volunteer for an outback adventure therapy youth program and facilitating the Eco Coffin Project, a community program I created to increase our death literacy through a sustainability lens. Now in my sixties, I experience myself as part of nature, always in a state of becoming in relationship with human and more-than-human others.

Introduction

> I've lived here all my life and didn't know we had a natural burial ground. Where exactly is it? What is it? In fact, what is a natural burial? Sounds perfect—how do I get one? (Attendees, Eco Coffin Project launch, 2019) (Buckley, 2023e)

The title and focus of this chapter, *walking with natural burial*, aims to encompass the culturally symbolic (rather than literal) concept of natural burial, the experience of a natural burial ground compared to a cemetery, and a contemplation of how walking with natural burial in both life and death may benefit our outdoor environment and our inner wellbeing. In this chapter, I explain natural burial through the example of a community program, the Eco Coffin Project, in which participants walk

A. Buckley (✉)
Independent scholar, Gawler, SA, Australia
e-mail: abby@ecocoffinproject.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_25

through a crematorium, cemetery, and natural burial grounds and explore why we paradoxically feel so enlivened after spending the afternoon in a traditional place for the dead.

The scope of this research is restricted to the experience of natural burial in the Adelaide metropolitan area by the author and the Eco Coffin Project participants, and to the definition of natural burial in South Australian legislation (Burial and Cremation Act, 2013).

I became interested in exploring the field of death studies through a sustainability lens after the sudden death of my son, Robbie, in a car crash. My family and I had no idea how to deal with Robbie's death. We made many decisions we now deeply regret and are unable to change. If only I had known then what I know now. This feeling is what drives my passion to share with my community how our death system works so we all know what is possible and can make creative, meaningful, informed, values-based, eco-friendly decisions about our or another's death. Since Robbie's death, I have become a community educator, researcher, author, and social ecologist who finds guidance and inspiration from the outdoors on how to positively embrace death in our everyday lives so we feel connected, empowered, and enlivened.

Over the last 12 years, along with being an event speaker on topics such as natural burial, I have facilitated Death Cafes (Buckley, 2022, 2023b), Before I Die Walls (Buckley, 2023a), Death Over Dinner (Buckley, 2023c), and Dying to Know Days (Buckley, 2023d). My network and knowledge of the industry developed while working at Adelaide Cemeteries and then as a funeral celebrant. A passion for working as a community educator emerged during my time as a social science researcher achieving my Master of Education—Social Ecology and then completing my PhD. My thesis (Buckley, 2022) is a performative, autoethnographic, postqualitative theorisation of my lived experience of facilitating community events that generatively engage people with death through creative practice. It explores our social–political–ecological relationship with death in the context of climate change, mass species extinction, and the pandemic. The Eco Coffin Project has organically emerged and continues to evolve from all I learn, experience, and passionately share since Robbie's death.

Writing this chapter has given me the space and time to think deeply about why people are so interested in the Eco Coffin Project.

The Eco Coffin Project

The Eco Coffin Project (www.ecocoffinproject.au) is a community program in South Australia, created and facilitated by the author of this chapter, Dr. Abby Buckley, and hosted by the Gawler Environment Centre. This 6-month program

comprises three workshops held over consecutive Sundays, followed by 4 months of creative arts-based activities, such as decorating an eco coffin or making a shroud, and culminates in a public exhibition during the month of August to share our insights and artworks. The project aims to

- raise awareness of natural burial as an eco-friendly option for our bodies;
- spark conversations, curiosity, and acceptance of our mortality;
- increase our death literacy to create an end-of-life plan through a sustainability lens;
- develop a creative memento mori practice of decorating an eco coffin or making a shroud; and
- intensify our wellbeing by feeling more enlivened.

The Eco Coffin Project is limited to 12 participants to ensure everyone feels deeply heard and a level of intimacy and trust can be nurtured within the group. Everyone who is vitally alive is welcome to attend. The program is not a grief counselling session, but people who are grieving are welcome. The demographic tends to be predominantly women aged 50+ although we have had a few men participate, a mother and daughter, and also a family with three generations of women, the youngest being 14.

Pushing Up Daisies is the name of the first workshop, where we explore the workings of our Australian death system (Buckley, 2023f), share our lived experiences of death to increase our death literacy (Noonan et al., 2016), and create a meaningful, values-based, end-of-life plan.

A guided behind-the-scenes crematorium tour and a comparative walk through two cemeteries and two natural burial grounds are the focus of both our second meeting and this chapter.

The third and final workshop is where we invite guest speakers to share their lived experiences and skills, including a Death Doula, shroud-wrapping demonstration (where one of our group "volunteers" their body—always a big hit), burial on private land protocol, and a cooling plate demonstration.

Following the workshops, participants develop a powerful personal memento mori practice where they decorate an eco coffin or make a shroud. We showcase these exquisite works of love and art and share our insights and stories with the wider community as a group exhibition in the Gawler Civic Centre as part of the statewide South Australian Living Artists Festival (SALA). We have an ongoing potential global reach via our online virtual exhibition and artist profiles on our website: https://ecocoffinproject.au/exhibitions/.

With all the activities we do and everything we learn, experience, and share during the program, natural burial seems to be the consistent, intriguing beacon. Our Week 2 site visit to the crematorium, two cemeteries, and two natural burial grounds is always experienced as an enlivening highlight and is the focus of this chapter.

What Is Natural Burial?

In simple broad terms, the practice of natural burial buries "a human body in the earth, in a manner that allows for natural decomposition with minimal impact on the surrounding ecosystem" (Natural Death Advocacy Network [NDAN], n.d., para. 4). The NDAN (n.d.) insightfully uses the words "in a manner" (para. 4) in their definition to acknowledge the many options and variations being used in both Australia and other countries (Larkins, 2007; Lyons, 2022; Walter, 2017, 2020). At this point in time, there is no one agreed definition or standard of what can and cannot be included in a natural burial.

Death in Australia is legislated on a state-by-state basis. South Australia was the first state to establish a legislated definition (Burial and Cremation Act, 2013 *[SA]*) of natural burial, decreeing that the dead human body is to be buried directly into the earth at a depth to afford 1 m of soil above the body, not be chemically embalmed, and be contained in either a biodegradable coffin or shroud. The legislation governs that only one body per grave is possible to meet the requirement of 1 m of soil above the body, unlike in some cemeteries where up to three coffined bodies can be stacked on top of each other in a deepened grave (Adelaide Cemeteries, 2022a). The body will decompose faster in a shallower grave, and the surrounding environment will be less impacted by not having to dig a deeper grave, whether by hand or with noisy, large fossil-fuel-powered machinery.

In South Australia, we have two bespoke public natural burial grounds in the Adelaide metropolitan area; both hold a traditional custodian Kaurna name: Wirra Wonga (bush grave) and Pilyu Yarta (peaceful ground). Pilyu Yarta is the natural burial ground located in my community in Gawler, South Australia. Both natural burial grounds are sectioned areas within the grounds of two large cemeteries managed by the state government organisation, Adelaide Cemeteries (2022b). In addition to the legislation, Adelaide Cemeteries has its own documented protocol for conducting natural burials (NDAN, 2021), which I learned about during my time working in their marketing department and then later as an independent funeral celebrant conducting natural burial services at Wirra Wonga and Pilyu Yarta. Adelaide Cemeteries is also one of our enthusiastic supporters and a major sponsor for the Eco Coffin Project.

Walter (2017, 2020) raised an interesting point that the word "natural" in natural burial needs to be interpreted as culturally symbolic rather than literal. He pointed out that "burial under the ground is not natural but cultural" (Walter, 2017, p. 76). To understand the literal meaning of natural burial, we just have to think about what happens to every other nonhuman corpse on the planet, where the body decomposes above ground and is eaten by scavengers, bugs, and bacteria. Leaving the human corpse above ground to decompose without human interference is not what natural means in natural burial. Albeit, there are cultures with a practice of exposing their dead bodies to the above-ground elements, such as the Buddhist practice of sky burial in Tibet and surrounding cold, high-altitude countries, and the Toraja practice of air-dry mummification in Sulawesi, Indonesia (Walter, 2020). To be clear,

throughout this chapter, I am using the culturally symbolic meaning of the concept of natural when I refer to natural burial.

For me, the idea of "going out into nature" implies that we are separate from nature when, through my social ecological onto-epistemology, we are always part of nature, whether we are indoors or outdoors. Going out into nature creates the nature–culture divide, yet another separation when we are trying to re/connect to self, others, and the planet. Switching "nature" to "outdoors" works linguistically at least in some small way to disrupt that binary as a prompt to challenge the way we think–know–act to generate new, innovative, and creative ways of becoming in a Deleuze and Guattari (1987) emergent rhizomatic relationship with everything.

A Sunday Stroll with Death (and Life)

With a bit of carpooling, our Eco Coffin Project group meets at Enfield Memorial Park, the headquarters of Adelaide Cemeteries, for our second Sunday gathering. The curiosity and excitement are palpable because, usually, none of the group has previously been on a behind-the-scenes tour of a large metropolitan cemetery. The special anticipatory feeling is one of being invited into a secret place where hidden unmentionable things happen and where few people are permitted to go. Adelaide Cemeteries is keen to openly share what it does with the public and encourage groups like ours to book a tour.

The CEO and operations manager warmly welcome us with a delicious buffet lunch followed by a short presentation about the cemetery, including information on their latest industry-leading sustainability initiatives and their two natural burial grounds, Wirra Wonga and Pilyu Yarta. The presentation is given in the Folland Chapel where funeral services are held. Many in our group have, of course, sat in that chapel when attending a solemn funeral service. It feels quite strange to be in that space in a different emotional context where there is now an educational PowerPoint on the big screen that usually has a montage of photos of the dead person being farewelled to the accompaniment of achingly poignant music. Instead, we find ourselves loudly laughing in this solemn sacred place at a funny quip from the jovial CEO.

I always find this site visit impressive, and it shows the passion and generosity of spirit of the CEO and operations manager that they open up for us on a Sunday. Our group quickly relaxes and becomes emboldened to release a barrage of pent-up "you can't ask that" type of questions (Text Box 25.1), which are always honestly answered.

The guided tour begins with a walk through the crematorium. We boldly, yet somewhat tentatively, walk in hushed tones through a white door marked "Staff only" through a rabbit warren of corridors that open up into the cavernous, concrete-floored crematorium. Being Sunday, the three imposing grey steel cremators are turned off, cold and silent. The racks where dead coffined bodies wait their turn for the cremator are empty as it is the weekend.

Will you accept a body driven here by a family member who is not a funeral director?

In principle, yes. The paperwork needs to be done with a doctor and Births, Deaths and Marriages before we can cremate or bury the body.

Can a body be cremated that is wrapped only in a shroud with no coffin?

Yes. Our policy is that the body must be completely covered.

Text Box 25.1 Example "you can't ask that" type of questions (The author developed these questions.)

How long does it take a body to burn?

About 70-90 minutes at 960 degrees Celsius, with larger bodies up to two hours.

What do you think about the cheaper cardboard coffins?

Cardboard coffins create twice the amount of ash as wooden ones. Think of burning a book in a combustion heater where you end up with a clump of ash – it is the same for cardboard coffins.

What emissions from the cremator are allowed by the Environmental Protection Authority?

There are just two puffs of smoke emitted outside during the process.

Cremators use natural gas and have toxic emissions don't they? How good is that for the environment?

Cremators are becoming more and more efficient, with the latest models having zero emissions. The newer models weigh whatever goes in to calculate exactly how much fuel is required, which makes them very efficient. Also, the newer models are designed to use hydrogen as that technology becomes more mainstream.

Text Box 25.2 Example questions during crematorium tour (The author developed these questions.)

The operations manager demonstrates how bodies are efficiently slid into the open fiery mouths of the machines, which ignites another barrage of questions (Text Box 25.2).

Keeping an eye on the time, our guides move us around to the back of the cremators where we are shown gauges and the technical side of the operation. Then we take turns moving into a small room to check out a machine that looks like a laundromat clothes dryer called a cremulator, which tumble-turns the ashes into a fine powder. Of course, more questions are rapidly asked (Text Box 25.3).

What happens to pacemakers?

Pacemakers are removed by the funeral director mortuary staff before the body is cremated. A pacemaker would explode in the cremator and case significant damage.

Do people add personal items into the coffins?

Some of the prohibited items include bottles of beer and other liquids, books, marijuana leaves. These items create problems such as glass bottles exploding and damaging the cremator; books create extra ash; and burning marijuana leaves can be harmful for staff when inhaled.

What happens to metal and surgical implants in the cremator?

Any metals from implants are removed with a magnet. A magnet separates all the metal from the ash when the ash has cooled, including nails, pins, knee and hip joints, and these are sold for recycling overseas. The money is used to repair vandalism and in restoration projects.

Can you use your own urn for the ashes?

Yes, the family can provide whatever vessel they want for their loved one's ashes. Note that the plastic containers we use never disintegrate. This means that if a family wants to have their person's ashes back at any time, we just dig up the container and return the ashes fully intact.

Text Box 25.3 More example questions during the crematorium tour (The author developed these questions.)

The crematorium tour ends, and we move from that cold, silent, grey industrial space indoors to the warm, bright Sunday sunshine of the manicured cemetery gardens, colourfully displaying their autumnal tones.

We meander through the various sections of the cemetery as we follow our guides towards our destination, the natural burial ground, Wirra Wonga. A hallmark of this cemetery is the way it welcomes and harmoniously honours the demographic and cultural diversity and needs of its community.

We wander through thoughtfully designed spaces created for different religions, offering various landscapes and commemoration options. The great level of attention to detail is evident in the blessed Buddhist Garden, which has been symmetrically designed using feng shui principles around a majestic west-facing Amitabha Buddha statue to create a space of balanced peace and harmony with incense bowls and offering tables. We then meander through rose gardens, sprawling freshly mown green lawns, ornamental trees, babbling waterways, gushing fountains, and even modern rust-metal sculptures where one of our group takes a moment to recline with closed eyes, enjoying the sensual meditative warmth of the afternoon wander in the peaceful cemetery.

Unseen dead bodies are stored (interred) around us, both above and below ground. The grand air-conditioned mausoleum, four storeys high, is like a large apartment block of units for the dead where each coffined body is sealed into its "unit" for eternity. The columbarium offers a similar option but looks more like walls of private post boxes where boxed cremains—that is, ashes from a cremated body—are housed above ground forever in their allocated sealed slot. Monumentation is a popular option in which coffined bodies, marked by headstones or engraved plaques, are buried below ground in a grave or a vault. A vault is a concrete grave. Burials in the cemetery (as differentiated from natural burials in a natural burial ground) allow for a subterranean apartment-style option where a maximum of three coffins can be stacked on top of each other in the same deep grave. Ubiquitous throughout the cemetery is that every dead body is clearly marked by some form of memorialisation stating the dead person's name, date of birth, and date of death, with their life represented by a dash between those two dates. Another common observance, particularly prominent where children's bodies are interred, are the incongruous pops of bright colour from the myriad of things left on graves by the living. These include flowers and a vast array of inorganic nonbiodegradable items such as wind chimes, windmills, soft toys, and framed photos, to name a few. Flowers can be fresh, dead, or plastic, often still wrapped in paper or lying akimbo on the ground after falling out of a tipped-over vase. Staff remove many of these items, but the living keep replacing them.

Finally, we come to the Wirra Wonga natural burial ground. This boundary section, approximately 50 m wide and 200 m long, is adjacent to Folland Reserve. Folland Reserve, about 3.5 ha, is one of the few remaining precious fragments of remnant mallee and native pine woodland vegetation on the Adelaide Plains (Trees for life, n.d.). Bush For Life (Trees for life, 2019) started a collaborative revegetation program with Adelaide Cemeteries in the 1990s, during which propagated plants from Folland Reserve were planted under licence in this boundary section. In 2008, this revegetated water-wise bushland of well-established indigenous plantings became the perfect site for the first dedicated natural burial ground in Australia (Adelaide Cemeteries, 2020).

Leaving the manicured gardens of the cemetery, we find welcome relief from the hot afternoon sun in the cool shade of the native bushland trees of Wirra Wonga. A gentle breeze fans our faces. What a stark difference in landscapes. There are no set pathways on the bark-mulched earth now underfoot. Where are the bodies? There are no headstones or bunches of flowers or brightly coloured inorganic bling anywhere. There are a few mounds of earth here and there: possibly buried bodies? We could easily be wandering through a national park, yet we are in the middle of suburban Adelaide. Magpies carol in the branches overhead. Kangaroo scat indicates this is a home for native creatures. We eagerly gather round to learn more from the CEO. He confirms that the mounds of earth are recently buried bodies. When the mounds naturally settle over time, indigenous vegetation propagated from Folland Reserve seeds is planted on the graves by grounds staff. Another round of questions emerges (Text Box 25.4).

How deep are the graves in natural burial?

The graves are dug 1.4 metres to meet the legal requirements that there must be a distance of at least one metre from the tip of the nose to the top of the ground.

Can bodies be buried in a coffin?

Bodies can be buried in a coffin made from biodegradable materials like untreated wood with rope handles or cardboard. The cardboard must be made from animal or plant fibres like wool, hemp, linen, bamboo, or cotton. Bodies must be dressed in biodegradable material. Anything placed inside the coffin or shroud must be biodegradable including coffin liners.

Who checks that your policy is adhered to?

It is more than just our policy – it is the law in this state. We rely on the families and the funeral directors to follow the law.

There are no gravestones. How do you know where the bodies are?

Two radio frequency identification tags are buried with each body: one at the head and one at the feet. A hand-held reader wirelessly receives the signals from the tags with information abut who is buried in that spot.

Can couples be buried together?

Couples wanting a natural burial can be buried in single graves side by side. To ensure the adjacent spaces will be available when the time comes, couple pre-pay their sites.

How long can a body remain in their location?

The tenure for our natural burial sites is 99 years.

Text Box 25.4 Example questions during the natural burial ground tour (The author developed these questions.)

After wandering around Wirra Wonga on our own for a while, taking in the natural beauty of the place, enjoying the coolness, we gather for a group photo around the natural burial ground entrance, which is formed by a hand-built stone wall holding the words "Wirra Wonga," fashioned from large black metal letters. Towering behind the entrance wall are three imposing stone tablets, each 3 m high and about 1.5 m wide. The CEO explains that for an extra charge, families can have the name of their person who is buried in the natural burial ground, along with their date of birth and date of death separated by a dash, carved in one line into the tablet. This feature was not part of the original plan, but Adelaide Cemeteries responded

to requests for some form of recording the identities of people buried in the natural burial ground. As grave markers are not allowed, the stone tablet inscriptions were the agreed compromise.

We thanked our hosts and carpooled to the other natural burial ground in our Gawler community, Pilyu Yarta (peaceful ground), located in Smithfield Memorial Park, another cemetery managed by Adelaide Cemeteries. There are four stone tablets at the entrance marked north, south, east, and west, offering a closer approximation of where the body of each inscribed name is located. The vegetation is different at Pilyu Yarta, with more floral indigenous plantings for attracting bees, insects, and birds, and there are a few bench seats strategically placed to invite quiet reflection and provide a resting place. Once again, we were excited to see scat from various native animals along the paths, indicating a native water-wise bushland ecosystem had developed in this place. Pilyu Yarta is again on the boundary of the cemetery grounds. Unlike Wirra Wonga, which is adjacent to Folland Reserve, Pilyu Yarta is on the edge of a noisy main road. Even though it was a Sunday, the noise of traffic travelling at high speed detracted from the experience of being in a bushland setting.

During this Sunday stroll through the crematorium, two cemeteries, and two natural burial grounds, the life–death binary dissolves. Life becomes death, and death becomes life; they are one and the same. There is no fear, just infinite energetic curiosity. We all feel vitally alive and so grateful for this enlightening experience. Who knew this could be good for wellbeing? This experience raises the question: Why do we all feel so enlivened and uplifted by the end of the tour?

Differences Between a Cemetery and Natural Burial Ground

The distinction between a cemetery, a natural burial ground, and a natural burial is outlined in the South Australian legislation (Burial and Cremation Act, 2013 *[SA]*): A "*cemetery* means a place set apart for the disposal and memorialisation of human remains, but does not include … a natural burial ground" (p. 3). A "*natural burial ground* means a place at which human remains are interred by natural burial" (p. 6). As explained previously, the Act states that a "*natural burial* … means burial in the ground without … using chemical preservatives; and … by containment of the remains only in a shroud or biodegradable coffin" (p. 6). In South Australia, making a distinction between these three concepts allows for a natural burial of a human body to happen in either a natural burial ground or a cemetery, but only natural burials are allowed in a natural burial ground.

As our Eco Coffin Project Week 2 site visit shows, the differences result in two very different landscapes. The cemeteries, with their imposing sentry-like rows of assorted grave markers, often adorned with bunches of flowers in various states of decay and shockingly bright pops of coloured inorganic bling, are softened by inviting park-like elements, including meandering paths, water features, benches under shady trees, and manicured gardens with sections of green lawn. The natural

burial grounds create a strikingly different visual, auditory, olfactory, and kinaesthetic sensual experience akin to walking in the bush in a national park, with all its entanglement of native plants and wildlife.

There is a plethora of literature evidencing that being in the more-than-human outdoors, like the Australian bush, leads to a feeling of connectedness that reduces feelings of depression and anxiety and benefits our wellbeing (Brymer et al., 2021; Dobson et al., 2021; Jabbar et al., 2021; Kotera et al., 2021; Marselle et al., 2013; Martin et al., 2020; Olafsdottir et al., 2020; Richardson et al., 2021; Rogerson et al., 2020). The evidence suggests that the less humanly curated or humanly damaged the outdoor environment is, the greater the feelings of connectedness, awe, and wonder can be felt with the remaining biodiversity on the planet. That said, the evidence also shows that any time we spend in the outdoors, even in a heavily human-curated environment like the cemeteries we wandered through, still gives a boost to our feelings of wellbeing (Długoński et al., 2022; Lai et al., 2020; Nordh et al., 2022; Nordh & Wingren, 2023; Rae, 2021; Sallay et al., 2023; Straka et al., 2022). Both natural burial grounds we visited are physically located within the boundaries of two existing metropolitan cemeteries, on their perimeter edges. In the marketing material, they are promoted as just one of many cultural options within the cemetery, rather than a significantly different choice with public health and environmental benefits.

Places for the Living and the Dead

The function of a cemetery has changed over the years (Nordh & Wingren, 2023). Larger public cemeteries were historically located on the outskirts of towns, while smaller faith-based ones were found in church yards, both options effectively separating the spaces for the living from the spaces for the dead. The purpose of the cemetery was traditionally to provide a place to dispose of the human body in a dignified manner according to the pertinent religious rituals and to memorialise the dead person and identify the location of the body with a grave marker (Nordh & Wingren, 2023). The grave markers ranged from a simple wooden cross, or sometimes and unmarked grave for people unable to afford a funeral, to bold, ostentatious monuments signifying the perceived status of the wealthy (Ryan, 2014). The main reason to go to a cemetery was either as the destination of a graveside burial service or to visit the grave of a person. Over time, these cemeteries, with their often beautifully ornate symbolic Victorian decorations, drew the interest of historians, genealogists, and tourists interested in gleaning what life was like back in the day (Straka et al., 2022).

Contemporary urban sprawl has expanded to encircle many of these once-remote cemeteries (Capels & Senville, 2006). Many of these cemeteries have been full for a long time and have fallen into a state of abandonment and disrepair, but they are now part of the metropolitan space (Davies & Bennett, 2016; Lai et al., 2020).

Urban cemeteries, however, serve a useful multifunctionality within the metropolitan environment and deliver benefits for public health and wellbeing. Multifunctionality needs to consider the needs of all urban users and residents of cemeteries and natural burial grounds, both human and nonhuman, above and below ground. Reasons for humans to connect with an urban cemetery or natural burial ground today might include

1. traditional uses, such as interment and memorialisation places for human remains ritualised according to relevant cultural practices, attending a graveside service, and visiting a grave;
2. common uses, such as genealogists, historians, and tourists visiting to understand life in the past in that town; and
3. new opportunities and possibilities, such as welcoming green "recreational landscapes" (Nordh et al., 2022, p. 1) offering pathways for walking and cycling that are a more direct route on a daily commute across town, connecting with the green outdoors for meditative reflection or physical activity like yoga or dog walking, family events like birthday picnics and weddings, playgrounds, and trail running.

As an example of what a recreational cemetery landscape looks like in my community, Adelaide Cemeteries is fast becoming a vibrant connected community hub by being the first Australian cemetery to install a nature play area for young ones at Enfield Memorial Park, along with opening a café and providing electric vehicle (EV) charging points (Francis, 2023). They are currently working on another Australian first by establishing a community garden within the cemetery grounds (Francis, 2023).

We are now rethinking cemeteries as an integral part of urban green infrastructure and valuing their contribution as an ecosystem service (Jerome et al., 2019; Sinnett et al., 2018) for "improved health and wellbeing, flood risk management, improvements in soil, water and air quality, pollination and climate adaptation" (McClymont & Sinnett, 2021, p. 1). I propose that rethinking cemeteries as park-like spaces increases the expanse of diminishing public green places available for urban dwellers to locally connect with the outdoors without having to commute to more remote options like national parks. Including areas for natural burial grounds in city planning, either within an existing cemetery or as a way to regenerate land, creates more wilder outdoor spaces in urban areas benefiting human, more-than-human, and planetary wellbeing.

A growing body of research (Długoński et al., 2022; Długozima & Kosiacka-Beck, 2020; Lai et al., 2020; Sallay et al., 2023) finds that spending time in an urban park-like cemetery (and I propose a natural burial ground as well) has "perceived restorativeness" (Lai et al., 2020, p. 1) implications for the mental and physical wellbeing of city inhabitants and that these health outcomes are not yet being realised or fully utilised by city planners and public health systems. In this next section, I explore this idea a little further.

Rethinking Death

Before we can actively promote cemeteries as lively green places to restore wellbeing, we first need to help people rethink death in their everyday lives as an enlivening experience using a gentle slow approach. Not everyone it seems is excited about reimagining cemeteries as recreational spaces. Nordh et al. (2022), for example, found it "can be problematic as it may violate the peaceful atmosphere found in these unique green spaces [and some] ... consider [this as] inappropriate behaviour" (p. 1).

The Eco Coffin Project is one approach that provides the time and space for people to explore death not as something to be feared or ignored, but as something to become familiar with to enable planning and acceptance. I have found that people who sign up for the Eco Coffin Project are already curious to engage with death and rethink how death integrates into their lives in a generative way. On the other hand, I have also experienced how death, when brought unexpectedly into our everyday living spaces, can be extremely challenging for some. For instance, at times when I have placed an eco coffin in a public space as part of either an art exhibition or a promotion for natural burial, it seems to trigger a strong negative response from at least one person who finds that unexpectedly seeing the coffin as they go to work or grab a coffee is too confronting. I have realised that a coffin is a universal symbol of death (King, 2023), and if a person does not like thinking about death or is experiencing unresolved complex grief from a traumatic life event, seeing a coffin each day may bring up uncomfortable, unwanted feelings. Therefore, I propose that social change strategies around how we think about death are also required as part of any plan to promote cemeteries as accepted restorative recreational landscapes.

Conclusion

The experience of the Eco Coffin Project, which ignites people's curiosity to explore death through a sustainability lens, has connected me with a generative new area of research discussed in this chapter, exploring how urban cemeteries can also be used as places of restoration and recreation. These landscapes are currently mostly gardener-intensive park-like settings rather than water-wise native bush ecosystems. I propose that future research explores the benefits of making space for natural burial grounds, not just as part of an existing cemetery but anywhere in our urban built environment, especially if the land needs to be regenerated.

The Eco Coffin Project has become a gentle and enlightening community social change process for rethinking death as part of life and life as part of death, thereby dissolving the socially constructed life–death binary and the nature–culture divide where we push death to the edges of our minds and our living spaces and see ourselves as separate from nature. During the natural burial ground tours, we have

outdoor fun, laughter, movement, connection, and conversation, which are contextually different to our previous experiences of being sad, sombre, still, and silent in a cemetery landscape.

This chapter has demonstrated that cemeteries can be designed and experienced as places for both the living and the dead. Social change programs like the Eco Coffin Project may be incorporated into future urban planning strategies that encourage city dwellers to rethink cemeteries as places not only for interment and memorialisation but also for restoration and recreation to boost wellbeing.

My hope is that after reading this chapter, your curiosity has been sufficiently sparked to wander through your local cemetery with a different mindset, wondering about the life in death and the death in life and how they may be the same enlivening thing. Maybe you are one of the few Australian urban dwellers lucky enough to also have a water-wise bush natural burial ground in your locale just waiting for you to explore.

Postscript 1: Since our tour in March 2023 described in this chapter, Adelaide Cemeteries (2023) has opened a multifunction community precinct, which includes a new state-of-the-art crematorium at Enfield Memorial Park. This more resource-efficient crematorium has replaced the one I described in this chapter. Our 2025 Eco Coffin Project group had a guided tour of this new facility, and we were interested to hear about the improved sustainability features and outcomes.

Postscript 2: During the peer review process of this chapter, I was honoured to attend the opening of the new Martungka Natural Burial Ground in the Kersbrook Cemetery, which is a first for the Adelaide Hills Council (2024). The catalyst for this initiative was when one of the Eco Coffin Project participants, who lives in that council area, passionately advocated for the benefits of a natural burial ground to a councillor. Also in attendance at the opening were representatives from another metropolitan council who are currently conducting a feasibility study to create a natural burial ground in their area, again due to another enthusiastic Eco Coffin Project participant advocating for the idea.

References

Adelaide Cemeteries. (2020, June 3). *Established in 2008, Wirra Wonga at Enfield Memorial Park, was Australia's first dedicated natural burial ground. Adelaide Cemeteries also homes*. [Status update]. Facebook. https://www.facebook.com/profile/100064076255975/search/?q=Established%20in%202008%2C%20Wirra%20Wonga%20at%20Enfield%20Memorial%20Park

Adelaide Cemeteries. (2022a, March 17). *Adelaide Cemeteries operating statement*. https://aca.sa.gov.au/wp-content/uploads/2022/03/ACA-Operating-Statement-Oct20.pdf

Adelaide Cemeteries. (2022b, April 8). *Natural burials*. https://aca.sa.gov.au/burials/natural-burials/

Adelaide Cemeteries. (2023, June 24). *Evergreen Community Precinct*. https://aca.sa.gov.au/evergreen/

Adelaide Hills Council. (2024, May 27). *Council launches dedicated natural burial ground Martungka*. https://www.ahc.sa.gov.au/community/latest-news/council-launches-dedicated-natural-burial-ground-martungka

Brymer, E., Crabtree, J., & King, R. (2021). Exploring perceptions of how nature recreation benefits mental wellbeing: A qualitative enquiry. *Annals of Leisure Research*, *24*(3), 394–413.

Buckley, A. (2022). *Creative practices for becoming-with death while vitally alive* [Doctoral dissertation, Western Sydney University]. https://doi.org/10.26183/nj0b-z962

Buckley, A. (2023a). *Before I die walls*. Eco Coffin Project. https://ecocoffinproject.au/category/community-projects/before-i-die-walls/

Buckley, A. (2023b). *Death cafes*. Eco Coffin Project. https://ecocoffinproject.au/category/community-projects/death-cafe/

Buckley, A. (2023c). *Death over dinner*. Eco Coffin Project. https://ecocoffinproject.au/category/community-projects/death-over-dinner/

Buckley, A. (2023d). *Dying to know day—Adelaide Cemeteries*. Eco Coffin Project. https://ecocoffinproject.au/dying-to-know-day-adelaide-cemeteries/

Buckley, A. (2023e). *Launch*. Eco Coffin Project. https://ecocoffinproject.au/launch/

Buckley, A. (2023f). *Pushing up daisies workshop*. Eco Coffin Project. https://ecocoffinproject.au/workshops/pushing-up-daisies-workshop/

Burial and Cremation Act. (2013) (SA). Version: 23.2.2023. https://www.legislation.sa.gov.au/__legislation/lz/c/a/burial%20and%20cremation%20act%202013/current/2013.20.auth.pdf

Capels, V., & Senville, W. (2006). Planning for cemeteries. *Planning Commissioners Journal*, *64*(64), 1–8.

Davies, P. J., & Bennett, G. (2016). Planning, provision and perpetuity of deathscapes: Past and future trends and the impact for city planners. *Land Use Policy*, *55*, 98–107.

Deleuze, G., & Guattari, F. (1987). *Capitalism and schizophrenia: A thousand plateaus* (B. Massumi, Trans.). University of Minnesota Press.

Długoński, A., Dushkova, D., & Haase, D. (2022). Urban cemeteries: Places of multiple diversity and challenges. A case study from Łódź (Poland) and Leipzig (Germany). *Land*, *11*(5), 677.

Długozima, A., & Kosiacka-Beck, E. (2020). How to enhance the environmental values of contemporary cemeteries in an urban context. *Sustainability*, *12*, 2374. https://doi.org/10.3390/su12062374

Dobson, J., Birch, J., Brindley, P., Henneberry, J., McEwan, K., Mears, M., Richards, M., & Jorgensen, A. (2021). The magic of the mundane: The vulnerable web of connections between urban nature and wellbeing. *Cities*, *108*, 102989.

Francis, B. (2023, September 12). *$25m community facility to open in Northern Suburbs' cemetery*. Glam Adelaide. https://glamadelaide.com.au/25m-community-facility-to-open-in-northern-suburbs-cemetery/

Jabbar, M., Yusoff, M. M., & Shafie, A. (2021). Assessing the role of urban green spaces for human well-being: A systematic review. *GeoJournal*, 1–19.

Jerome, G., Sinnett, D., Burgess, S., Calvert, T., & Mortlock, R. (2019). A framework for assessing the quality of green infrastructure in the built environment in the UK. *Urban Forestry & Urban Greening*, *40*, 174–182.

King, R. A. (2023). Recognizing the death motif in the near-death experience. *OMEGA: Journal of Death and Dying*, *0*(0), 1–27. https://doi.org/10.1177/00302228231203357

Kotera, Y., Lyons, M., Vione, K. C., & Norton, B. (2021). Effect of nature walks on depression and anxiety: A systematic review. *Sustainability*, *13*(7), 4015.

Lai, K. Y., Sarkar, C., Sun, Z., & Scott, I. (2020). Are greenspace attributes associated with perceived restorativeness? A comparative study of urban cemeteries and parks in Edinburgh, Scotland. *Urban Forestry & Urban Greening*, *53*, 126720.

Larkins, R. (2007). *Funeral rights: What the Australian "death-care" industry doesn't want you to know*. Penguin Viking.

Lyons, R. (2022). *A heartfelt undertaking*.

Marselle, M. R., Irvine, K. N., & Warber, S. L. (2013). Walking for well-being: Are group walks in certain types of natural environments better for well-being than group walks in urban environments? *International Journal of Environmental Research and Public Health*, *10*(11), 5603–5628.

Martin, L., White, M. P., Hunt, A., Richardson, M., Pahl, S., & Burt, J. (2020). Nature contact, nature connectedness and associations with health, wellbeing and pro-environmental behaviours. *Journal of Environmental Psychology*, *68*, 101389.

McClymont, K., & Sinnett, D. (2021). Planning cemeteries: Their potential contribution to green infrastructure and ecosystem services. *Frontiers in Sustainable Cities*, *3*, 789925.

Natural Death Advocacy Network. (n.d., February 26). *Natural burial*. https://ndan.com.au/resources/natural-burial

Natural Death Advocacy Network. (2021, May 13). *Where can you have a natural burial?* https://ndan.com.au/images/Factsheets/INFO_SHEET_52_Natural_Burial_Grounds.pdf

Noonan, K., Horsfall, D., Leonard, R., & Rosenberg, J. (2016). Developing death literacy. *Progress in Palliative Care*, *24*(1), 31–35. https://doi.org/10.1080/09699260.2015.1103498

Nordh, H., Olafsson, A. S., Kajosaari, A., Præstholm, S., Liu, Y., Rossi, S., & Gentin, S. (2022). Similar spaces, different usage: A comparative study on how residents in the capitals of Finland and Denmark use cemeteries as recreational landscapes. *Urban Forestry & Urban Greening*, *73*, 127598.

Nordh, H., & Wingren, C. (2023). "It is the greenness, the nature, it looks as if someone has taken care of the place very well": Experiences from St Eskil cemetery in Sweden. *Approaching Religion*, *13*(1), 105.

Olafsdottir, G., Cloke, P., Schulz, A., Van Dyck, Z., Eysteinsson, T., Thorleifsdottir, B., & Vögele, C. (2020). Health benefits of walking in nature: A randomized controlled study under conditions of real-life stress. *Environment and Behavior*, *52*(3), 248–274.

Rae, R. A. (2021). Cemeteries as public urban green space: Management, funding and form. *Urban Forestry & Urban Greening*, *61*, 127078.

Richardson, M., Passmore, H. A., Lumber, R., Thomas, R., & Hunt, A. (2021). Moments, not minutes: The nature-wellbeing relationship. *International Journal of Wellbeing*, *11*(1).

Rogerson, M., Wood, C., Pretty, J., Schoenmakers, P., Bloomfield, D., & Barton, J. (2020). Regular doses of nature: The efficacy of green exercise interventions for mental wellbeing. *International Journal of Environmental Research and Public Health*, *17*(5), 1526.

Ryan, J. (2014, September 3). *West Terrace Cemetery (General) Adelaide, South Australia*. Virtual War Memorial Australia. https://vwma.org.au/explore/cemeteries/72

Sallay, Á., Tar, I. G., Mikházi, Z., Takács, K., Furlan, C., & Krippner, U. (2023). The role of urban cemeteries in ecosystem services and habitat protection. *Plants*, *12*(6), 1269.

Sinnett, D., Calvert, T., Smith, N., Burgess, S., & King, L. (2018, April). The translation and use of green infrastructure evidence. *Proceedings of the Institution of Civil Engineers-Water Management*, *171*(2), 99–109.

Straka, T. M., Mischo, M., Petrick, K. J., & Kowarik, I. (2022). Urban cemeteries as shared habitats for people and nature: Reasons for visit, comforting experiences of nature, and preferences for cultural and natural features. *Land*, *11*(8), 1237.

Trees for life. (2019, January 25). *Bush for life*. https://treesforlife.org.au/bush-for-life

Trees for life. (n.d.). *Folland park: Bush for life site in partnership with the Pt. Adelaide Enfield Council.* https://www.sabutterflies.org.au/files/Folland_Pk.pdf

Walter, T. (2017). *What death means now: Thinking critically about dying and grieving*. Policy Press.

Walter, T. (2020). *Death in a modern world*. SAGE Publications.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Part V
Mutuality: Planet and People

Chapter 26
Country-Centric Pedagogies in Initial Teacher Education for Ecological and Social Wellness and Balance

Michael J. Davies, Margie Appel, David Spillman, Benny Wilson, and Eli Archer

Sociocultural Positioning

Michael (male) and Margie (female) are White, non-Indigenous Australians who acknowledge their ethnic social positioning and the privilege this affords them. Spilly identifies as an Aboriginal man who is uncertain of his family descent but has connection and obligation to Karulkiyalu Country, where he has done most of his cultural learning on Ugarapul Country where he lives. Benny (male) is Jagera, and Eli (female) is Palawa. Spilly, Benny, and Eli are active members of their local Indigenous communities. Collectively, we are qualified educators teaching in the highest system of colonised education. We recognise an aspect of ongoing tension that exists in Australian society regarding how "knowledge" is valued, taught, represented, and understood between colonised and Indigenous Australian world-views. This tension creates a divide in social positioning, opportunity, and privilege that we wish to acknowledge. Finally, all authors acknowledge that the cornerstone of our social positioning on health is advocating for a reawakening to reclaim our (Humans) sense of "Oneness"—recognising that everything has life, purpose, and

M. J. Davies (✉) · M. Appel
Centre for Advanced Studies in Education, Faculty of Education, University of Canberra, Canberra, ACT, Australia
e-mail: michael.davies@canberra.edu.au
e-mail: margie.appel@canberra.edu.au

D. Spillman · E. Archer
Canberra, ACT, Australia
e-mail: spilndrove@gmail.com
e-mail: eli.archer@canberra.edu.au

B. Wilson
University of Technology, Sydney, NSW, Australia
e-mail: benny.wilson@UTS.edu.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_26

Spirit, where Humans may not only understand what is required for us to heal at an individual level but also for Country and Earthkin.[1] Concepts and directions for opportunity are explored throughout the chapter.

Introduction

This chapter explores the interconnected relationship between Country and Human health, emphasising the importance of incorporating this understanding into initial teacher education (ITE). This chapter is the story of an emergent realisation of the importance of Country-centric health processes among two non-Indigenous teacher educators, Michael and Margie, with the guidance of Country and cultural mentorship from their Indigenous colleagues and mentors (David [Spilly], Benny, and Eli). The chapter builds on the introductory argument by first exploring the holistic and ecocentric perspective on health and wellbeing held by Indigenous Australians, the world's oldest continuous culture. This view is contrasted with current individualistic health discourse and the Australian education context by analysing the position of health in the Australian Curriculum and current schooling practices. From there, the discussion shifts to a focus on "reciprocal relating" with Country[2]—a term encompassing not only the local places Humans live and inhabit but also their spiritual and cultural significance. We examine how these relationships offer avenues for holistic, educational health practices by presenting our ideas for incorporating Country-centric health education into ITE courses.

First, a poem of Tree[3] by Bill Neidjie of the Bunitj clan, Gagudju language group.

[1] Our choice of the term Earthkin is predicated on Plumwood's (2003) use of the term "Earth-others," along with our preference for the word "kin" marking connectedness, rather the "others" which implies separation.

[2] As Palyku woman, Ambelin Kwaymullina (2005) of the Pilbara region in Western Australia emphasised: Country is much more than a place. Rock, tree, river, hill, animal, human – all were formed of the same substance by the Ancestors who continue to live in land. water, sky (para. 2). Country incorporates everything within, upon, and above the ground, including rocks, plants, waterways, and other geographical features, fire, weather, seasons, and the cosmos, our Earthkin. Put another way by Aileen Moreton-Robinson (2020), Goenpul woman of the Quandamooka people (Moreton Bay), Country is "is a form of embodiment," which is "derived from an ontological relationship to Country derived from the Dreaming" (para. 16). "You can't change it [Country] explains Bill Neidjie of the Bunitj clan, Gagudju language group: "Rock stays, earth stays. I die and put my bones in cave or earth. Soon my bones become earth … all the same. My spirit has gone back to my Country … my mother" (Moreton-Robinson, 2020, para. 3).

[3] Following Kimmerer (2013), we accept that capitalisation designates recognition of animacy and often a certain hierarchical power relation. When "Human" is capitalised, we recognise the animacy, communicability, and intelligence of humans. But when "tree" is not, we fail to confer the same recognition, rather implying a lack and inferiority. As this work is about repositioning ourselves in our place by recognising the animacy, communicability, and intelligence of all Beings, they also should be capitalised.

Tree

He watching you

You look at tree,

He listen to you.

He got no finger,

He can't speak.

But that leaf, He pumping, growing,

Growing in the night.

While you sleeping

You dream something.

Tree and grass same thing. They grow with your body,

With your feeling.

If you feel sore,

Headache, sore body,

That means somebody killing tree or grass.

You feel

Because your body in that tree or earth.

Nobody can tell you,

You gotta feel it yourself.

(Neidjie, in *Story About Feeling,* 1989)

Here, Bill Neidjie expresses Human–Tree interconnectedness, which is experienced in our bodies, our sleep, and through intuitive feelings with the places Humans live and the non-Human inhabitants who live there—what we refer to as Earthkin (Country et al., 2020; Kingsley et al., 2013; Oberndorfer et al., 2017; Sangha et al., 2015). The interconnectedness of Human and Country wellbeing is a central focus of this chapter, addressing how this relationship, while increasingly recognised in Indigenous health research (Verbunt et al., 2021; Williamson et al., 2023), remains marginalised in contemporary mainstream health discourse. This work explores how prevailing societal health narratives exhibit an imbalance, largely due to misaligned conceptualisations of health that overlook this fundamental relationship despite the growing body of evidence supporting it.

Health systems, particularly in Western societies, are predominantly structured around the concept that Humans have similar capacity to obtain health care, and health outcomes are primarily a consequence of "good" individual health choices (Blanchet Garneau et al., 2019). Consequently, these systems prioritise efficiency

(e.g., getting Humans out of care quickly) over effectiveness (e.g., providing safe, interconnected care in place) in addressing individual health concerns (Webster et al., 2015). This approach, however, results in social inequities in how health is perceived and understood, as well as how health care is delivered and received (Blanchet Garneau et al., 2019).

Further, this framing of health deflects attention from the ways Human and Country wellbeing are interconnected and codependant. Simultaneously, Country is deteriorating, arguably due to Human actions, inactions, and behaviours that reflect our failure to engage in reciprocal relationships with our environment and Earthkin—presenting challenges both locally and globally (Country et al., 2020; United Nations, n.d.). Despite this, we argue that Country continues to demonstrate compassion towards humanity, seemingly in the hope that we (Humans) may collectively rediscover our traditional wisdom and connection to the places we live and to our non-Human relatives. Country-centric approaches may therefore offer a solution for effective counterframing (Maani et al., 2022) of how current society predominately views health.

Holistic and Ecocentric Perspective on Health: Insights from the World's Oldest Cultures

Non-Indigenous New Zealand academic Sepie (2017) stated that an overprioritisation of "reason and rationality"—as the dominant way of knowing in Western societies—has worked to deny or denigrate Indigenous knowledges of ecological interdependence, as well as Human–Earthkin communication and knowledge sharing. Although there is a huge archive of anthropological evidence in the academy, collected globally over the past few hundred years of direct communication and knowledge sharing between Indigenous peoples and other species, these ways of knowing have been largely marginalised in the academy. As explained by Connell (2007), this is the result of the worldviews (i.e., epistemologies, ontologies, and axiologies) of those with power who do not value or take the time to understand them. One of humanity's oldest understandings is that if we damage the land we inhabit—our "Country"—we damage ourselves (Callaghan & Gordon, 2022). As Bill Neidjie's poetry shows, Humans and Trees exist interdependently. We are codependent on each other's ability to thrive and become unhealthy when this relationship becomes unbalanced. As Callaghan and Gordon (2014) noted, Human identity, health, and wellbeing are entirely dependent on knowing, connecting with, and caring for the Country to which that Human belongs.

We (Humans) exist through relational reciprocity with all Beings in our place, whether we know it or not. For example, each time we breathe in, we accept the gift of oxygen from Plants. We reciprocate by breathing out carbon dioxide, which Plants accept as a gift from us. When this reciprocity becomes unbalanced, ecological communities suffer (Callaghan & Gordon, 2022). This foundational ethic is shared by Kimmerer (2013), a member of the Citizen Potawatomi

Nation. Kimmerer explained that in Indigenous worldviews globally, a common thread is knowing that despite the uniqueness of being Human and the extraordinary capacities we possess, we are no more special or important than our non-Human relatives. She stated that we

> are reluctant to learn a foreign language of our own species, let alone another species. But imagine the possibilities. Imagine the access we would have to different perspectives, the things we might see through other eyes, the wisdom that surrounds us. We don't have to figure out everything by ourselves: there are intelligences other than our own, teachers all around us. Imagine how much less lonely the world would be. (Kimmerer, 2013, p. 58)

Everything has life, purpose, and Spirit. This profoundly (yet not exclusively) Indigenous knowing ensures that humility, receptiveness, connectedness, and fulfilment are the obligations of relational reciprocity. Such truths have proliferated through the works of Indigenous and non-Indigenous authors alike for some time. Japanese Canadian academic and environmental activist Suzuki (1997) pointed out that Humans are predominantly Water by weight (60%–70%) and that these trillions of Water molecules that compose us (all replaced every 4 to 6 weeks) have previously been in Clouds, Rain, Snow, Hail, a multitude of other species and waterways, and now they compose us. The remainder of our physical being is composed of molecules from the Earth through the food and fluids we consume, directly from Gunni Thakun.[4] Put simply and literally, "we are all Country with a little stream running through us" (Wilson & Spillman, 2022, para 3).

This "knowing" that all Beings are composed of the same matter, Country—Earth and Water—is as old as humanity herself. Indigenous peoples globally have also known for aeons that where there is matter there is also Spirit. This global Human knowing of Oneness, where all Beings exist through the same matter and Spirit, is evident across different geographic and cultural contexts. For example, the Ubuntu of the Massai of East Africa state, "Because of you I am" (Ngomane, 2019); or to put it another way, "Without you I am not." Another example, from Asia, is the Hindu or Buddhist phrase "Thou art that," acknowledging Oneness between all Beings and the Absolute that holds, sustains, and exceeds us (Gyatso, 1990). This old, universal knowing, recognising that Human "beingness"—our identities, and our wellness is completely conferred through relational reciprocity, and conversely, as orally taught by Damu Paul Gordon—a Ngemba man and the cultural grandfather of Spilly and Benny, if "I poison the water, I poison myself. I damage Country, I damage myself."

These perspectives suggest that we (Humans) are therefore part of Country, but we do not exist above or for it. Country has personality, will, and emotions (Callaghan & Gordon, 2022; Gleeson-White, 2019). Building on this profound perspective, we interpret that, like us, Tree has their own unique story of how they came to be, their own personality, purpose, and obligation. From a Human point of view, Tree recycles the air we breathe, giving life to future generations who depend on oxygen to survive. For Australian Aboriginal and Torres Strait Islander peoples,

[4] *Gunni Thakun* translates to Mother Earth in the Ngemba language of Damu Paul Gordon—the cultural grandfather of authors Ben Wilson and David Spillman.

however, this is also a restrictive point of view regarding Tree's place in Country—suggesting the only reason Tree should exist is to further the lives of Humans and, thus, representing a position firmly ensconced in anthropocentric, rational thinking. Therefore, for the interdependent healing and reciprocal thriving of ecological health to take place, Humans must slow down, listen to Country, and be open to communicating through all the senses, including visual messages, sounds, and feelings (Rose, 2011). Many Indigenous authors (e.g., Callaghan & Gordon, 2014; Country et al., 2020; Neidjie, 1989)[5] and non-Indigenous authors (e.g., Abram, 2012; Sepie, 2017)[6] have pointed out the shift in Western intellectual development and the colonisation of Indigenous ways of knowing, being, and doing. This has unconsciously worked to sever and erode this old knowledge of ecological health through the rise of both anthropocentrism[7] and the mechanical, rational mind with its focus on atomisation and objectification.

Current Individualistic Health Discourse: A Critique Through the Lens of Googar

> The following story is offered with this sentiment to enliven our consciousness of the critical importance of connectedness, obligation, and balance to ecological and social wellbeing. Damu Paul Gordon first introduced us to this story. It is a story that was used widely for learning on Country throughout the eastern states of Australia, though always in local contexts. Embodying social and ecological wisdom generated across millennia, this story provides insights that reinforce our critique of the current, dominant schooling approach and offers ways to go about repairing it. (Country et al., 2020, p. 35)

The Story of Googar (Goanna in Ngemba), as taught by Damu Paul Gordon on Karulkiyalu Country in the Brewarrina area of New South Wales (Country et al., 2020) offers valuable insights into holistic wellbeing. Googar's body represents four pathways of energy and consciousness or realms of knowing, being, and doing: the head for rational thinking, the heart for social–emotional being, the gut for intuition and instinct, and the tail for ancestral wisdom. All four aspects are crucial, and their balance is critical to wellness.

Googar's head represents rational, strategic, and analytical thinking. An example of this is our continually expanding scientific knowledge of the way the body functions and the manufacture of medicines to combat disease. The heart of Googar signifies our centre of social–emotional being. It represents our ability to be in tune

[5] Damu Paul Callaghan is a Worimi man and cultural grandfather. Damu Paul Gordon is a Ngemba man and cultural grandfather. Bill Neidjie is a male from the Bunitj clan of the Gagudju language group, born 1920, died 2002.

[6] Abram (2012) and Sepie (2017) are non-Indigenous writers or academics.

[7] Anthropocentrism is a term describing a Human-centred system of values. Anthropocentrism is not in itself a "bad" ideology, but ecocentrism is the more balanced approach, where all things are afforded dignity and the right to tell and live their story (Wilson, 2022).

with our emotions and feelings, and those of others (Human and Earthkin), to foster meaningful relationships. Our sense of belonging, empathy, compassion, and emotional wellbeing are examples of the heart of Googar. Gut feeling or intuition is represented by Googar's gut or stomach—for example, getting a sudden premonition or "gut feeling" that we should contact a family member. The gut of Googar is also the metabolic furnace, so it includes kinaesthetic and instinctual knowing (Country et al., 2020). Finally, Googar's long tail represents the wisdom passed on from our ancestors, both Human and non-Human, from generation to generation. Passed on intergenerationally, it is the tail, not head knowing, that focuses and directs Googar. All four aspects are important, and their balance is critical to wellness. This old story was mostly used to consider the wellbeing of a clan group or Country, but it can also be used as a reflective framework on an individual level. Figure 26.1 presents an illustration of these energy pathways and relationships.

We (the authors) use The Story of Googar as a lens to reflect on the imbalance of the four ways of knowing in Australian society and health education, particularly the overemphasis on rational and logical ways of knowing. This emphasis is evident in the increasing fragmentation of health care, with growing division and decentralisation of healthcare services, leading to challenges in coordination, communication, and continuity of care (Agha et al., 2017). One salient factor contributing to the escalating fragmentation within the healthcare landscape is the phenomenon of specialisation and efficiency. This manifests in the proclivity of healthcare practitioners to concentrate their expertise on specific anatomical areas or organ systems, often at the expense of adopting a holistic perspective that encompasses the entirety of the patient and their intricate ecological milieu

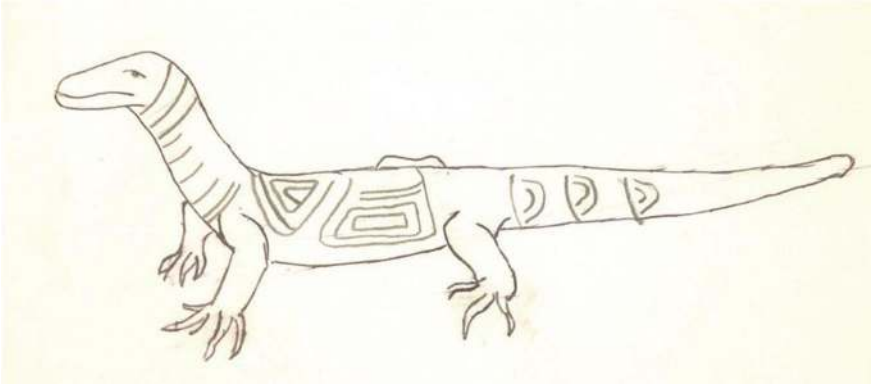


Fig. 26.1 The Story of Googar. Pencil drawing by David Spillman with permission from Damu Paul Gordon (Country et al., 2020) (Figure 26.1 is a representation of a cultural artefact that is not 'owned' by anyone, and as such is not subject to anyone making a legal copyright claim over it in the future. However, it nevertheless requires permission to be used by traditional custodians and lore-keepers. It has been recreated here with permission of the appropriate knowledge holders (one of whom is Author Four). The figure has appeared in previous publications by the Authors—Country et al. (2020)—which uses the protocol of naming Country as co-author.)

(Agha et al., 2017). Furthermore, health statistics typically highlight disease and poor health, taking a deficit-based approach. Conversely, a positive health perspective, emphasising wellbeing and factors promoting a healthy state, offers an alternative view. This positive framework contrasts with the traditional deficit emphasis on illness in healthcare reporting (McCuaig, 2018). This siloed system fails to recognise the central importance of heart and gut wisdoms and the long intergenerational understandings of Indigenous peoples about the necessity of balance for wellness.

The prioritisation in Australian society of rational, analytical thinking when contemplating health and wellbeing is reflected in Australian curricula. As we have discussed previously (Country et al., 2020), we are "not saying that the human mind is unimportant or of no use, just that it needs to be balanced with other ways of knowing and forms of consciousness" (p. 36). In Australia, a centralised, mandated curriculum is set by governing bodies at both the national (e.g., the Australian Curriculum and Assessment and Reporting Authority [ACARA]) and regional levels (e.g., the Queensland Curriculum and Assessment Authority) from Foundation to Year 10 (ACARA, 2022a). This approach aims to guide educators on "what to teach" across various Key Learning Areas, with pedagogy determined by educators based on their contextual expertise. Health content is primarily situated within the Health and Physical Education (HPE) curriculum.

Historically, an emphasis on "head" learning in health education is evident in the Australian Curriculum's focus on health literacy across three dimensions: functional, interactive, and critical. These dimensions encompass "the ability to comprehend health-related information and use basic skills," "apply new information to changing circumstances," and "critically analyse health-related information to exert control over life events," respectively (Dudley et al., 2017, p. 29). While important, this approach often restricts students to accessing health information primarily through research, analysis, and critical thinking. This potentially strengthens a societal discourse that devalues "heart," "gut," or "tail" knowing, considering them mystical or unreliable (Liebowitz et al., 2017). For example, the language in the Australian Curriculum emphasises thinking processes like "researching and applying information" and "selectively access and critically analyse" (ACARA, 2022b). This dominant anthropocentric view may explain the prioritisation of head learning in health education towards school students' understandings of their own wellbeing. Yet, poor mental health among young Australians continues to increase, with two thirds of people aged 12 to 25 years reporting feelings of isolation and loneliness to others and place (Headspace National Youth Mental Health Foundation, 2022), signifying that head knowing alone is not enough for Humans to thrive.

Recent investigations conducted by Australian researchers underscore the continual marginalisation and lack of prioritisation of health education in the crowded Australian school curriculum (Peralta et al., 2021; Rossi et al., 2016). Due to a lack of teacher time, confidence, and resources, schools frequently resort to external providers, commercial products, or one-off presentations to deliver health education components within the Australian Curriculum: Health and

Physical Education (AC:HPE, 2022a; Hogan et al., 2018). These "education interventions" (eduventions) often diverge from the educative, strengths-based philosophies of the AC:HPE learning intentions. Consequently, they seldom furnish students with a cohesive and meaningful health education experience that addresses the nuanced needs of local contexts (Leahy et al., 2013).

Importantly, there is some encouraging momentum within the Australian Curriculum, started by a 2022 amendment to move health education towards a more positive and refined strengths-based approach (ACARA, 2022a). One of the "key ideas" of the AC:HPE is the meaningful and educative changes to personal autonomy regarding social and emotional wellbeing, students being physically active in natural and outdoor settings, explicit teaching of respectful relationships, and the importance of a sense of belonging and connection in promoting mental health and wellbeing (ACARA, 2022a). This includes more affective language, opening more channels for interpretation, and access to the different ways of learning that Googar teaches us, such as asking students to "look," "listen," and "feel" (ACARA, 2022a).

However, the interpretation of these ways of knowing and forms of consciousness invariantly is assessed by students' ability to rationalise through "head" knowing, which is exacerbated in the secondary year bands when learning becomes more segregated and where the use of emotive language, such as those above, we observe, begin to slip away (ACARA, 2022a). The ACARA (2022a) documentation demonstrates a notable decrease in emotive language and embodied learning approaches at higher year levels, with terminology shifting towards more analytical and abstract concepts, reinforcing the privileging of head knowing in assessment practices. Nonetheless, these changes we believe are a positive move towards recognising the heart and gut ways of knowing. It also offers opportunity to pause and reflect on how educators might invite tail or intergenerational knowledge into the classroom, including reflection of "re-placing" learning back into Country.

This positive shift might be strengthened by working with school leaders and educators to consider how Humans can shift the discourse of individualism, objectification, and separation towards collectivism and participation in relational reciprocity, not confined only to Human-to-Human relationships, thus attempting to address the dominant colonising forces in education globally by taking precautionary steps to ensure that our efforts moving forward do not perpetuate these issues. It is only through this acknowledgement and enactment of changing our ways that we (Humans) may reawaken and reclaim our sense of "Oneness," where we can understand what is required for us to heal not only at an individual level, but also for Country and Earthkin. This is a journey our own ITE health courses have embarked on, designed to address this imbalance and lack of priority by re-placing it back into Country and our local context. Having examined the limitations of current health discourse, we now turn to an alternative perspective rooted in Indigenous wisdom: reciprocal relating with Country.

Reciprocal Relating with Country

Humans are living with the consequences of short-sighted decisions regarding the health of our environment, creating a disconnection from place, with our behaviours reflecting our own declining health. As we grapple with these challenges, a unified voice that bridges old and new ways of knowing, being, and doing is needed. The ethic we put forward is the Aboriginal and Torres Strait Islander Lore of Oneness, a recognition that all Beings exist through the same matter and Spirit, with mutual responsibilities to learn from and teach each other through the dance of relational reciprocity, ensuring ecological and social balance and wellbeing centred in Country (Callaghan & Gordon, 2022).

"In the Western tradition there is a recognised hierarchy of beings, with, of course, the human being on top—the pinnacle of evolution, the darling of Creation—and the plants at the bottom" (Kimmerer, 2013, p. 9). Kimmerer (2013) goes on to say,

> But in Native ways of knowing, human people are often referred to as "the younger brothers of Creation." We say that humans have the least experience with how to live and thus the most to learn—we must look to our teachers among the other species for guidance. Their wisdom is apparent in the way that they live. They teach us by example. They've been on the earth far longer than we have been, and have had time to figure things out. (p. 9)

As Humans "figure things out," we propose educational reform by centring "Country as Teacher" as one solution to how modern societies might recentre "interdependence" in ecological health and our sense of Oneness. Many Indigenous and non-Indigenous authors argue that current approaches to education and health care alike have significantly contributed to bringing the world to the brink of environmental, economic, and social collapse (Abram, 2012; Callaghan & Gordon, 2014; Country et al., 2020; Neidjie, 1989; Sepie, 2017). These authors focus on "reciprocal relating" with "Country"—the local places Humans live and inhabit—and how these relationships offer avenues for Humans to learn holistic, educational health practices. What Gruenewald (2003) referred to as a "critical pedagogy of place," we call "Country-centric pedagogy" or Country as Teacher pedagogy. Country as Teacher is an inherently relational pedagogy that nevertheless operates as a critical pedagogy of place, as it works to disrupt and rebalance anthropocentrism, atomisation, rationalism, and capitalism (Spillman et al., 2023a). Through such an educational approach, the inhabitants of a particular place come to accept an explicit and direct responsibility for the environment, economic structures, and all living things of that place (Gruenewald, 2003).

Drawing on previous writing (Country et al., 2020; Spillman, 2017; Spillman et al., 2023a, 2023b; Wilson & Spillman, 2022), we offer an alternative to the ways health is currently approached in educational settings (within the Australian context) and the challenges involved in this reform. This is not "the way" to reform education but "a way," drawing on Indigenous pedagogies. To do this, we showcase the narratives of the transformational journeys of the first two authors of this

chapter, Michael and Margie, while teaching in ITE. It is our hope that in doing so, future teacher educators may enter the profession where Country-centric pedagogies are at the heart of how new generations of students learn to know and understand what it means to "be" well and care for Country through knowing and understanding their place and obligation. This ethic of Oneness is based upon knowing that is neither new nor complex but requires opening to the knowledge and wisdom held by Country and her Earthkin. This knowledge is very different from that of the dominant worldview and educational approaches built upon a hierarchy of dualities, as alluded to by Kimmerer (2013), which work to "separate" through hierarchies and unequal power relations.

We now turn to our approach, Country as Teacher, which has been explored in a variety of ways in ITE (Gower et al., 2022;[8] Harrison et al., 2016;[9] Harrison & Skrebneva, 2020; McKnight, 2016;[10] Moreton-Robinson et al., 2012;[11] Thorpe, 2022;[12] Thorpe et al., 2021). This chapter draws on the practical enactment of such an approach, illustrated through a 2-year Country as Teacher research project offering professional learning to non-Indigenous teacher educators by their Indigenous colleagues. Following this professional learning, we specifically applied these Country-centric approaches to health education units in our ITE programs, addressing the imbalance in traditional health education perspectives described earlier. To illustrate how these concepts can be applied in practice, we now turn to our experience of integrating Country-centric approaches in ITE and the precautionary steps taken to ensure our efforts do not perpetuate the dominant anthropocentric perspective on ways of knowing.

Rebalancing Health Education in Initial Teacher Education: A Working Example

Nielsen Mandela stated, "Education is the most powerful weapon which you can use to change the world" (Oxford Essential Quotations, 2017, para. 4).

Our example concerns the authors' affiliated universities' efforts to "Indigenise the Curriculum" and the associated formative exploration of how Indigenous pedagogies might be taken up by non-Indigenous teacher educators in ITE units. To achieve this, participating teacher educators (Michael and Margie) were

[8] Graeme Gower is a descendant of the Yawuru people of Broome and academic in Western Australia.

[9] Niel Harrison is a non-Indigenous Australian academic.

[10] Anthony McKnight is an Awabakal, Gomaroi, and Yuin man and academic in New South Wales, Australia.

[11] Aileen Moreton-Robinson is a Goenpul woman of the Quandamooka people from Minjerribah (North Stradbroke Island) and academic in Queensland, Australia.

[12] Katrina Thorpe is a Worimi woman and academic in New South Wales, Australia.

mentored and supported by Indigenous academic educators (Spilly, Benny, and Eli), through professional learning, to prioritise cultural self-reflexivity and initiate their own "relating with Country" practice. Initially, Michael and Margie participated, and then through mentoring, they team taught with Benny for a postgraduate ITE unit in Semester 1, 2021. In the following Semester 2, Michael and Margie individually modified one of their existing health and wellbeing units delivered to undergraduate students in the Bachelor of HPE Primary and Secondary degrees. This was again guided and supported by Spilly, Benny, and Eli in making culturally sensitive, meaningful, and educative modifications to reflect their understanding of Indigenous ways of knowing, doing, and being, the significance of caring for Country, and how the Indigenous ethic of accepting and living in a reciprocal relationship with Country is available to all (Callaghan & Gordon, 2014, 2022). This process of mentored team teaching and individual implementation is now ongoing and has entered its fifth year of teaching and learning.

Our focus was less about "decolonising" the curriculum, although important, and more focused on "Indigenising" the curriculum through embedding ways of learning and being together. Health content taught in this way was strengths based, attempting to bring balance to the traditional Western lens through which the learning area was predominately taught by offering holistic and ecocentric perspectives on health. The adaptations included relational and authentic Acknowledgements of Country, away from tokenism; establishing a cohort cultural action plan through "Engoori," a three-phase strengths-based approach from the Mithaka people of South West Queensland (MurriMatters, 2023); cultivating preservice teachers' own "relating with Country" practice; incorporating Indigenous ways of knowing across a variety of content areas, including learning health content with Country; and using a narrative pedagogy to build respectful and reciprocal relationships while fostering a sense of belonging. Each of these processes will be yarned about in turn, but it is important to highlight that these ways of learning are not limited to a specific context; instead, they can be used in different settings where the "outcome" is contextualised or "guided" from the Country and its inhabitants that engage in the learning.

Relational Acknowledgement of Country

> This place has a prior existence, long before I showed up. (Dempster, 2007, p. 96)

It is the position of the authors that an Acknowledgement of Country is one of gratitude, is specific, and is personal. In so doing, it moves away from generic, tokenistic approaches to a positive discourse practice that serves to value Country, first and foremost, and our obligation within it; expresses gratitude for the cultural values of connection, continuity, and longevity of the First Nations peoples from the land on which we gather; and uses personal story in delivering it, reminding us of the

whole and our obligation to it, of which we (Humans) are a part. To properly understand the ancient and complex protocol of Acknowledging Country, preservice teachers' pay respect not only to its Custodians but to a way of knowing and the entire philosophy of how the tangible and spiritual components of our world interrelate in unity with Western science. As Dreyfus and Hellwig (2023) reminded us,

> the performance of these "ancient modern" ceremonies [referring to Stephen Muecke's (2004) book title] keeps the issue of Indigenous rights audible and visible and their claim upon the present vibrantly alive. Most significantly, these ceremonies engage non-Indigenous Australians, who are drawn into and included within an Indigenous conceptual system, so that they might begin to learn to care for Country. (p. 609)

Properly understanding the purpose of an Acknowledgement of Country aims to help create a shift in values among our preservice teachers and ultimately foster obligation to all Lands, Skies, Water systems, habitats, and Earthkin, for their own sake as well as for *Gunni Thakun*. This "ritual" acts as an "engine, albeit subtle, playful and ironic, but an engine nonetheless, of cultural change … supplying force and energy to a movement of change, producing a different imaginary" (Dempster, 2007, p. 96). The intent of this ongoing ritual in our weekly workshops serves this purpose, and when spoken from the heart, it may serve to reclaim preservice teachers' Oneness by repositioning themselves through knowing, understanding, and caring for their place—an old understanding that our presence in places establishes relationships, connection, and familiarity over time. As Muecke (2004) eloquently put,

> in this example of the approach to place [relational acknowledgement], the children [adult students in our context] keep in mind that the place has a prior existence and history of its own long before they show up. Their arrival and its impact are considered as additions to the place; in establishing a relationship they acknowledge the prior existence of a context they now seek to become part of. (p. 69)

"Engoori"

> How do we want to be together? (MurriMatters, 2023, para. 15)

Engoori is a three-phase, strengths-based process for cultural renewal among groups of people or within organisations such as schools. Engoori is based on the cultural knowledge of the Mithaka people of South West Queensland and was developed by Scott Gorringe and David Spillman in the early 2000s (Gorringe et al., 2011; Spillman, 2018). Participants are asked to focus on their individual and collective strengths and to use these to create a cultural action plan for the group. This action plan then governs the culture of that group moving forward, enabling individuals to come to a place where they are constantly drawing on the best of themselves and others to function as a collective. Our work utilised Engoori as a starting point to introduce preservice teachers to developing richer relationships with each other—and then used this as a springboard from which they can develop

better, more caring, and more reciprocally healthy relationships with Country. In addition, preservice teachers are guided to be self-reflective about their own behaviours, cultural biases, and practices to actively challenge themselves and shift their behaviour and assumptions (MurriMatters, 2023). Therefore, engaging preservice teachers in this process before undertaking further content or curriculum becomes integral to grounding a personal and inclusive foundation of what they value most, what keeps them strong, and how they want to be together and with Country.

Relating with Country Practice

> I am Country, Country is me. (Wilson & Spillman, 2022, para. 2)

While Engoori establishes a foundation for collective cultural renewal, the practice of relating with Country takes this connection further by fostering individual relationships with the natural world. As The Story of Googar reminds us, Humans are all born from and connected to *Gunni Thakun* (Country et al., 2020), guided by our pathways of energy and consciousness—tail, gut, heart, and head. Yet as Humans are socialised into this contemporary world, head consciousness and knowing are prioritised above all others (education systems exemplify this), while other pathways atrophy (Spillman et al., 2023a, 2023b; Spillman & Wilson, 2024). While it is much easier for children to access, we can begin to reinvigorate these pathways as adults through enacting a relating with Country practice—regularly spending time in a comfortable place (relatively speaking) in the natural world, devoid of Human distractions, to look, listen, feel. Initially, we might experience physical and emotional discomfort, boredom, hyperactivity, and even anxiety, such is the unfamiliarity of this undertaking. However, as we relax, with continuing practice, we will notice our own patterns of thinking and emotionally responding. This self-learning is the first layer of Country as Teacher. It is only because we are in Country with Earthkin that we are availed the opportunity to learn this about ourselves. Here we come to clearly see how society and dominant culture have "programmed" us to be and live.

As we (Humans) progress with our relating with Country practice, we are likely to experience health benefits—reduced stress, peacefulness, a sense of slowing down, expanded-ness, or littleness. This direct experience and knowing is a second layer of Country as Teacher. These feelings may lead to, or manifest as, a direct experience of Oneness or deep connectedness with Country, a specific Earthkin, or both. At some point, our attention will focus entirely or primarily on Earthkin and Country, and over time, we will learn much about their Lore, their stories, and how they live. This knowledge informs us how to reciprocate with care and is the third layer of Country as Teacher. These three layers of the Country as Teacher experience and learning do not usually happen in sequence but often bleed into each other. It is therefore of greatest importance that our teaching units provide learners

with avenues to establish a relating with Country practice, through structured learning and assessment, as well as informal personal enactment.

Narrative as Pedagogy to Build Connection and Belonging

> All we are a story, and a good story is one of connection, obligation, and responsibility. (Wilson, 2022, p. 6)

Stories connect us. Everything that has life, purpose, and Spirit has a story. Whether or not we access it, story sits in Country, connecting us to the greater understanding of Oneness and reciprocity. Understanding our place and obligation to Country is only part of this story. For quality learning to occur, a safe and inclusive environment that is welcoming for learners from all backgrounds needs to be in place. Country as Teacher allows for this slow, rich, and, most importantly, Country-centric teaching and learning to occur. This includes innate practices that foster student wellbeing through relating with Country. This old way of facilitating learning is centred on stories from, with, and for Country (Wilson, 2022), and therefore, we must also engage in dialogue, embracing ways of Indigenous knowing, being, and doing through inquiry strategies such as "yarning modalities, narrative as pedagogy, narrative as process, narrative as ethics or values, storied experience, cultural meaning-making" (8ways, n.d.).

Colonisation has devalued this old way of learning, but as Sikes and Gale (2006) suggested,

> Human beings are storying creatures that make sense of the world and the things that happen to them by constructing narratives to explain and interpret events both to themselves and to other people. (p. 1)

We all bring with us critical histories—places, lived experiences, events, meanings, people, or Earthkin—who have shaped the person we are today and are always unfolding. Narratives can provide clarity and depth to contextual issues, daily practices, and Human and non-Human interactions as humanity recalibrates its purpose, Lore, and obligation to Country and each other (Clandinin, 2006). As Awabakal, Gomaroi, and Yuin man and academic Anthony McKnight (n.d.) discussed,

> It's this continuous communication that I'm talking about that's around us, from the plants flowering to insects suddenly appearing, there's this whole communication that we as humans need to get back to. We need to get back to Country to learn from those teachers. (para. 13)

It is critical to understand, however, that a shift towards connectedness and cultural self-reflexivity (Spillman, 2019; Spillman et al., 2023b) can only be achieved through becoming aware of our own cultural baggage and the "coming together" of Indigenous and non-Indigenous knowledge systems (Nakata, 2002). In other words, to know our own story. Any approach that takes these pedagogies as

foundational must also include opportunities for students to explore their own stories and interpret them through Country-centric lenses such as the ones we explore in this chapter. Having explored these Country-centric approaches and their application in ITE, we can now reflect on their broader implications for reimagining health education.

Conclusion: Reimagining Health Education Through Country-Centric Approaches

> The part can never be well unless the whole is well. (Hamilton & Cairns, 1961, p. 103)

Human wellbeing is inextricably interdependent with the wellbeing of place. This chapter has explored the critical importance of shifting from an individualistic, rationality-focused approach to health education towards a holistic, Country-centric pedagogy. We have demonstrated how Indigenous wisdom, exemplified through concepts like The Story of Googar and Engoori, can be effectively integrated into ITE to foster a more balanced and interconnected understanding of health. By embracing relational Acknowledgements of Country, cultivating personal relationships with the natural world, and using narrative as a pedagogical tool, Humans can begin to address the current imbalance in health discourse and education. These approaches not only honour Indigenous ways of knowing but also offer all learners a pathway to reconnect with Country and develop a more profound sense of ecological and social responsibility.

Looking forward, the potential impact of this Country-centric approach to health education is significant. As future educators internalise and implement these practices, we anticipate a gradual but meaningful shift in how health and wellbeing are understood and taught in schools. This could lead to more environmentally conscious generations, improved mental health outcomes, and a society better equipped to address the complex health challenges Humans and Country face. However, implementing this approach will require ongoing commitment, cultural sensitivity, and a willingness to challenge deeply ingrained educational norms. Future research could explore the long-term impacts of these pedagogies on student wellbeing, ecological awareness, and overall health outcomes. Additionally, developing strategies to overcome potential resistance and integrate these approaches more broadly into educational policy and practice will be crucial.

In conclusion, by re-centring our health education on the wisdom of Country and fostering reciprocal relationships with our environment, we open new possibilities for holistic wellbeing. By embracing Country-centric approaches to health education, Humans can foster a more holistic understanding of wellbeing that recognises our deep interconnectedness with the natural world and with each other.

References

8 Ways. (n.d.). *Aboriginal pedagogy: Every place, every people, has its own unique pedagogies*. https://www.8ways.online/about

Abram, D. (2012). *The spell of the sensuous: Perception and language in a more-than-human world*. Vintage.

Agha, L., Frandsen, B., & Rebitzer, J. B. (2017). *Causes and consequences of fragmented care delivery: Theory, evidence, and public policy*. National Bureau of Economic Research.

Australian Curriculum, Assessment and Reporting Authority. (2022a). *The Australian Curriculum: Health and Physical Education. Version 9.0.* https://www.australiancurriculum.edu.au/downloads/learning-areas#accordion-b71b085f07-item-61a8e06872

Australian Curriculum Assessment and Reporting Authority. (2022b). *Understand the learning area—Health and Physical Education* https://www.australiancurriculum.edu.au/curriculum-information/understand-this-learning-area/health-and-physical-education

Blanchet Garneau, A., Browne, A. J., & Varcoe, C. (2019). Understanding competing discourses as a basis for promoting equity in primary health care. *BMC Health Services Research*, *19*, 1–11.

Callaghan, P., & Gordon, P. (2014). *Iridescence: Finding your colours and living your story*. MoshPit Publishing.

Callaghan, P., & Gordon, P. (2022). *Dreaming path: Indigenous thinking to change your life*. Bloomsbury.

Clandinin, D. J. (2006). *Handbook of narrative inquiry: Mapping a methodology*. SAGE Publications.

Connell, R. (2007). *Southern theory: Social science and the global dynamics of knowledge*. Polity.

Country, K., Gordon, P., Spillman, D., & Wilson, B. (2020). Re-placing schooling in Country: Australian stories of teaching and learning for social and ecological renewal. *Australian Aboriginal Studies Journal*, *2*, 31–44.

Dempster, E. (2007). Welcome to Country: Performing rights and the pedagogy of place. *About Performance*, *7*, 87–97.

Dreyfus, S., & Hellwig, A. F. (2023). Meaningful rituals: A linguistic analysis of Acknowledgements of Country. *Journal of Australian Studies*, *47*(3), 590–610.

Dudley, D., Telford, A., Stonehouse, C., & Peralta, L. (2017). *Teaching quality Health and Physical Education* (2nd ed.). Cengage Learning Australia.

Gleeson-White, J. (2019). Valuing country: Let me count three ways. *Griffith Review*, (63), 171–191.

Gorringe, S., Ross, J., & Fforde, C. (2011). *"Will the real Aborigine please stand up?": Strategies for breaking the stereotypes and changing the conversation*. Australian Institute for Aboriginal and Torres Strait Islander Studies. https://aiatsis.gov.au/sites/default/files/research_pub/gorringe-ross-fforde-dp28-real-aborigines-stereotypes_0_2.pdf

Gower, G., Bogachenko, T., & Oliver, R. (2022). On Country teacher education: Developing a success program for and with future Aboriginal teachers. *Australian Journal of Teacher Education*, *47*(7), 1–20.

Gruenewald, D. A. (2003). The best of both worlds: A critical pedagogy of place. *Educational Researcher*, *32*(4), 3–12.

Gyatso, G. K. (1990). *Joyful path of good fortune: The complete Buddhist path to enlightenment*. Motilal Banarsidass Publications.

Hamilton, E., & Cairns, H. (Eds.). (1961). *The collected dialogues of Plato*. Bollingen Series LXXI.

Harrison, N., Page, S., & Tobin, L. (2016). Art has a place: Country as a teacher in the city. *Educational Philosophy and Theory and*, *48*(13), 1321–1335.

Harrison, N., & Skrebneva, I. (2020). Country as pedagogical: Enacting an Australian foundation for culturally responsive pedagogy. *Journal of Curriculum Studies*, *52*(1), 15–26.

Headspace National Youth Mental Health Foundation. (2022, December 20). *Two thirds of young people feel lonely*. https://headspace.org.au/our-organisation/media-releases/two-thirds-of-young-people-feel-lonely/

Hogan, A., Enright, E., Stylianou, M., & McCuaig, L. (2018). Nuancing the critique of commercialisation in schools: Recognising teacher agency. *Journal of Education Policy*, *33*(5), 617–631.

Kimmerer, R. (2013). *Braiding sweetgrass: Indigenous wisdom, scientific knowledge and the teachings of plants*. Milkweed Editions.

Kingsley, J., Townsend, M., Henderson-Wilson, C., & Bolam, B. (2013). Developing an exploratory framework linking Australian Aboriginal peoples' connection to country and concepts of well-being. *International Journal of Environmental Research and Public Health*, *10*(2), 678–698.

Kwaymullina, A. (2005). Seeing the light: Aboriginal law, learning and sustainable living in country. *Indigenous Law Bulletin*, *6*(11), 12–15. https://www5.austlii.edu.au/au/journals/IndigLawB/2005/27.html

Leahy, D., O'Flynn, G., & Wright, J. (2013). A critical "critical inquiry" proposition in health and physical education. *Asia-Pacific Journal of Health, Sport and Physical Education*, *4*(2), 175–187.

Liebowitz, J., Paliszkiewicz, J., & Gołuchowski, J. (2017). *Intuition, trust, and analytics*. CRC Press.

Maani, N., van Schalkwyk, M. C., Petticrew, M., & Buse, K. (2022). The pollution of health discourse and the need for effective counter-framing. *British Medical Journal*, *377*.

McCuaig, L. (2018). How "healthy" is Australian school-based health education. *Active and Healthy Journal*, *25*(2/3), 6–13.

McKnight, A. (2016). Meeting Country and self to initiate an embodiment of knowledge: Embedding a process for Aboriginal perspectives. *The Australian Journal of Indigenous Education*, *45*(1), 11–22.

McKnight, A. (n.d.). *Healing the land to heal ourselves: An Indigenous perspective on the worsening bushfire season*. University of Wollongong Australia. https://www.uow.edu.au/the-stand/2020/healing-the-land-to-heal-ourselves.php

Moreton-Robinson, A. (2020). Our story is in the land: Why the Indigenous sense of belonging unsettles white Australia. *ABC Religion & Ethics*, *9*.

Moreton-Robinson, A., Singh, D., Kolopenuk, J., & Robinson, A. (2012). *Learning the lessons?: Pre-service teacher preparation for teaching Aboriginal and Torres Strait Islander students*. Australian Institute for Teaching and School Leadership, Melbourne. https://www.aitsl.edu.au/docs/default-source/default-document-library/learning-the-lessons-preservice-teacher-preparation-for-teaching-aboriginal-and-torres-strait-islanderstudentsfb0e8891b1e86477b58fff00006709da.pdf

Muecke, S. (2004). *Ancient & modern: Time, culture and Indigenous philosophy*. UNSW Press.

MurriMatters. (2023). *Leading through Engoori*. https://murrimatters.com/

Nakata, M. (2002). Indigenous knowledge and the cultural interface: Underlying issues at the intersection of knowledge and information systems. *IFLA Journal*, *28*(5–6), 281–291.

Neidjie, B. (1989). *Story about feeling* (K. Taylor, Ed.). Magabala Books.

Ngomane, N. M. (2019). *Everyday ubuntu: Living better together, the African way*. Random House.

Oberndorfer, E., Winters, N., Gear, C., Ljubicic, G., & Lundholm, J. (2017). Plants in a "sea of relationships": Networks of plants and fishing in Makkovik, Nunatsiavut (Labrador, Canada). *Journal of Ethnobiology*, *37*(3), 458–477.

Oxford Essential Quotations. (2017). *Nelson Mandela 1918–2013 South African statesman*. Oxford University Press. https://www.oxfordreference.com/display/10.1093/acref/9780191843730.001.0001/q-oro-ed5-00007046

Peralta, L. R., Cinelli, R. L., & Marvell, C. L. (2021). Health literacy in school-based health programmes: A case study in one Australian school. *Health Education Journal*, *80*(6), 648–659.

Plumwood, V. (2003). *Animals and ecology: Towards a better integration*. Australian National University.

Rose, D. B. (2011). *Wild dog dreaming: Love and extinction*. University of Virginia Press.
Rossi, T., Pavey, A., Macdonald, D., & McCuaig, L. (2016). Teachers as health workers: Patterns and imperatives of Australian teachers' work. *British Educational Research Journal*, *42*(2), 258–276.
Sangha, K. K., Le Brocque, A., Costanza, R., & Cadet-James, Y. (2015). Ecosystems and Indigenous well-being: An integrated framework. *Global Ecology and Conservation*, *4*, 197–206.
Sepie, A. J. (2017). More than stories, more than myths: Animal/ human/nature(s) in traditional ecological worldviews. *Humanities*, *6*(78), 1–31.
Sikes, P., & Gale, K. (2006). Narrative approaches to educational research: Research in education. http://www.edu.plymouth.ac.uk/resined/narrative/narrativehome.htm
Spillman, D. (2017). Coming home to place: Aboriginal Lore and place-responsive pedagogy for transformative learning in Australian outdoor education. *Journal of Outdoor and Environmental Education*, *20*(1), 14–24.
Spillman, D. (2018). The brumby dance episode: On the value of cultural continuity within the localised complexity of remote Indigenous education. *Australian Aboriginal Studies*, *1*, 19–28.
Spillman, D. (2019). *Exploring transformative opportunities in the intercultural spaces of Indigenous education*. [Doctoral dissertation, Western Sydney University].
Spillman, D., & Wilson, B. (2024). Decolonising through reCountrying in teacher education. *Curriculum Perspectives*, *44*(1), 77–81.
Spillman, D., Wilson, B., Nixon, M., & McKinnon, K. (2023a). "New localism" in Australian schools: Country as Teacher as a critical pedagogy of place. *Curriculum Perspectives*, *43*(2), 103–114.
Spillman, D., Wilson, B., Nixon, M., & McKinnon, K. (2023b). Reinvigorating country as teacher in Australian schooling: Beginning with school teacher's direct experiences, "relating with Country. *Curriculum Perspectives*, *43*(1), 13–23.
Suzuki, D. (1997). *The sacred balance: Rediscovering our place in nature*. Allen & Unwin.
Thorpe, K. (2022). Learning from Country: Aboriginal-led country-centered learning for preservice teachers. In W. O. Lee, P. Brown, A. L. Goodwin, & A. Green (Eds.), *International handbook on education development in Asia-Pacific* (pp. 1–23). Springer Nature Singapore.
Thorpe, K., Burgess, C., & Egan, S. (2021). Aboriginal community-led preservice teacher education: Learning from country in the city. *Australian Journal of Teacher Education*, *46*(1), 55–73.
United Nations. (n.d.). *Biodiversity: Our strongest natural defense against climate change*. https://www.un.org/en/climatechange/science/climate-issues/biodiversity
Verbunt, E., Luke, J., Paradies, Y., Bamblett, M., Salamone, C., Jones, A., & Kelaher, M. (2021). Cultural determinants of health for Aboriginal and Torres Strait Islander people: A narrative overview of reviews. *International Journal for Equity in Health*, *20*, 1–9.
Webster, F., Rice, K., Dainty, K. N., Zwarenstein, M., Durant, S., & Kuper, A. (2015). Failure to cope: The hidden curriculum of emergency department wait times and the implications for clinical training. *Academic Medicine*, *90*(1), 56–62.
Williamson, L. M., Baird, L., Tsey, K., Cadet-James, Y., Whiteside, M., Hunt, N., & Lovett, R. (2023). Exposure to the Family Wellbeing program and associations with empowerment, health, family and cultural wellbeing outcomes for Aboriginal and Torres Strait Islander peoples: A cross-sectional analysis. *BMC Public Health*, *23*(1), 1569.
Wilson, B. (2022). *Stories for Country: Developing a place-based pedagogy based on Indigenous ways of knowing*. [Doctoral dissertation, Australian National University].
Wilson, B., & Spillman, S. (2022, August 4). *"I am Country, and Country is me!" Indigenous ways of teaching could be beneficial for all children*. The Conversation. https://theconversation.com/i-am-country-and-country-is-me-indigenous-ways-of-teaching-could-be-beneficial-for-all-children-187424

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 27
Ecological Restoration and Human Health

Todd Dudley and Dave Kendal

Sociocultural Positioning

Todd has 40 years on ground experience as an ecological restoration/bush regeneration practitioner. He is the founder and President of the North East Bioregional Network, a nature conservation organisation dedicated to the protection and restoration of the natural environment in north east Tasmania. Socially, the north east area of Tasmania is characterised by small remote rural communities with relatively high levels of socioeconomic disadvantage. Dave has had careers as an academic, landscaper, software engineer and noise rock musician, and started Future in Nature in 2022 to have a greater impact on nature-related policy and programs in Australia and around the world.

A Very Short History of Ecological Restoration and Bush Regeneration

> The great value of restoration is ... its double benefit of environmental healing and deepened understanding and caring (Jordan, 2003 p. 203).

T. Dudley (✉)
North East Bioregional Network, St Helens, TAS, Australia;
North East Tasmania Land Trust, North Hobart, TAS, Australia;
Landcare Tasmania, Hobart, TAS, Australia;
Restore Lake Pedder, Hobart, TAS, Australia;
Planning Matters Alliance Tasmania, Hobart, TAS, Australia;
Australian Association of Bush Regenerators, Sydney, NSW, Australia
e-mail: telopea_tas@yahoo.com.au

D. Kendal
Future in Nature, Melbourne, VIC, Australia
e-mail: dave@futurenature.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_27

Ecological restoration is defined as "the process *of assisting the recovery of an ecosystem that has been degraded, damaged,* or destroyed" (Society for Ecological Restoration Australasia SERA, para. 1). This process aims to "recreate, initiate, or accelerate" the recovery of ecosystems that have been disturbed, resulting in altered ecosystem structure and function (Vaugh et al., 2010 p. 66).

One of the first well-documented examples of deliberate ecological restoration in Australia was undertaken by Albert Morris at Broken Hill in the 1930s, where a solution to the dust and sandstorms choking the town was sought (Ardill, 2023). The dust was the result of land degradation caused by land clearing, high rabbit populations, and overstocking of sheep and cattle. Morris was able to regenerate the native vegetation surrounding the Broken Hill township by excluding stock and feral species via fencing off degraded land and allowing natural regeneration to proceed. He was a pioneer because he consciously sought to reestablish the ecosystem that previously inhabited the site.

After Morris, the next important development came in the 1960s and 1970s when sisters Joan and Eileen Bradley from the Sydney suburb of Mosman started weeding their local patch of bush. In the process, they developed a practice and manual for rehabilitating bushland, known as the Bradley method (Bradley, 1971). The core principles included securing the best areas first, minimising disturbance to the natural conditions (e.g., minimising soil disturbance and off-target damage), not overclearing, and letting the regenerative ability of the bush set the pace of clearance. Over time, some of the Bradley method's principles were modified to manage larger scale degraded areas, including through the judicious use of chemicals and ecological burning.

In 2016, the Society for Ecological Restoration Australasia (SERA) published the *National Standards for the Practice of Ecological Restoration in Australia* (since revised in 2018 and 2021), which emphasised that ecosystem restoration was a skilled practice requiring high levels of knowledge and provided a template for assessing ecosystem recovery and resilience that could be applied to all land use, including wilderness areas and "working landscapes". The United Nations Decade on Ecosystem Restoration began in 2021, providing a global focus on the critical need to repair damaged landscapes.

In very recent times, bush regeneration—or ecological restoration—and conservation land management has started to consider the socioeconomic benefits that can be derived from well-organised and well-implemented projects. For example, investing in conservation land management can provide significant local community economic benefits (Ernst & Young, 2020). SERA's standards include "social aspects" as one of its six focus principles for the success of restoration projects, and the international standards have developed a social benefits wheel to help practitioners understand how projects are delivering social, cultural, and economic benefits (Gann et al., 2019). Research by conservation, farming, and land management groups found that significant positive outcomes for the community and environment can be realised by funding nature conservation initiatives focused on restoring degraded land and ecosystems (Working with Nature, 2021).

Todd's Journey

My interest in the bush inspired me to convert my parents' garden to a native garden and take an interest in a nearby bushland reserve. Fortunately, this coincided with bush regeneration and ecological restoration gaining momentum in the 1980s. The Australian Association of Bush Regenerators (AABR) and Landcare were established, and TAFE started to run bush regeneration courses informed by Buchanan's (1989) publication *Bush Regeneration: Recovering Australian Landscapes*. Many government authorities, including local councils in the Sydney region, began to fund in-house bush regeneration crews as well as contractors such as the National Trust to maintain bushland reserves. I ended up working for a local council, managing their reserves and supporting community care groups.

I moved to Tasmania in 1991, and in the 1990s and into the 2000s, the concept of landscape connectivity gained increasing traction. Leading conservation biology scientists such as Michael Soule and The Wilderness Society's Wild Country program revealed that the long-term viability of ecosystems and species evolution demands that habitat be connected at scale. There was an important role for ecosystem restoration to play in both maintaining and expanding wild places for native plants and animals. In 2002, I started a group—the North East Bioregional Network (NEBN)—in part inspired by the concepts of cross tenure and holistic nature conservation and restoration. The value of ecological connectivity was reinforced by the International Union for Conservation of Nature (IUCN) (Hilty et al., 2020) *Guidelines for Conserving Connectivity Through Ecological Networks and Corridors*, which elaborated on the importance of maintaining and restoring landscape connectivity and providing examples of projects from around the globe.

In 2007, the NEBN, after much negotiation with a private forestry company, started a landscape scale challenge to restore 2000 ha of radiata pine plantation back to native forest in North East Tasmania (Fig. 27.1). The project, entitled Restore Skyline Tier, continues (as of 2024), and it will take many more years to be completed.

While my main focus has been, and always will be, restoring biodiversity health, integrity, resilience, and function, my involvement as the facilitator of the project over so many years has revealed that maximising the social and economic benefits of ecological restoration is critical to the success of the project. These benefits are also important in their own right, and over time, it has become increasingly clear that people participating in well-organised ecological restoration projects can derive numerous benefits from the experience.

The Social Benefits of Restore Skyline Tier

Restore Skyline Tier is located in a remote, rural municipality that has high levels of socioeconomic disadvantage indicators, including health outcomes. The notion that access to nature equals better health is not necessarily correct, as rural



Fig. 27.1 Before (top) and after (bottom) images of the Restore Skyline Tier project. Top photo after harvesting and ecological burn of radiata pine plantation. Bottom photo 7 years later, native forest regeneration after weeding pine wildlings [Photo credit: Todd Dudley (Photos provided by the lead author, used with permission.)]

Tasmanians, for various reasons, are not particularly healthy (Gardiner, 2022). Nearly all the people employed in our project come from working-class backgrounds, have few educational qualifications, and have been employed mostly in primary industry jobs such as aquaculture, fishing, agriculture, mining, and forestry. The preference of many rural dwellers for outdoor practical work means that ecological restoration is a great fit for this demographic as it aligns with both their skill set and love of the outdoors (Fig. 27.2).

A wide range of benefits of spending time in and connecting with nature has been identified in the literature (e.g., Flies et al., 2017). There has been some research on the benefits of participation in nature-based projects (e.g., Marsh,



Fig. 27.2 The Restore Skyline Tier crew on site [Photo source: Fitzgerald & Dudley, 2015 (Lead author provides permission for use of this image, which includes participants who gave their permission.)]

Mallick et al., 2023; Pillemer et al., 2010). However, these have mostly focused on the benefits to volunteers, such as physical and mental health, increased sense of place, and improved social connections. There has been relatively little research on the health benefits of participation in paid ecological restoration work.

Through the Restore Skyline Tier project, some fundamental principles have been identified that help ensure workers find the practice of ecological restoration rewarding and meaningful, thus providing a purposeful activity that can heal both humans and nature. These include the following:

1. **Providing a context** for the work in terms of culture, ethics, and ecological understanding, explaining the reason the work is important for the health and biodiversity of the land and what you are seeking to achieve at the site, and developing conservation ethics and values, including:
   (a) building human connections and positive relationships with nature, for example, sense of place, ecological citizenship, giving back to nature, and responsibility;
   (b) facilitating increased caring, understanding, and appreciation of native ecosystems;
   (c) influencing individual environmental values and behaviour, such as increased respect for living things, developing ecological conscience and ethics, appreciating the intrinsic value of nature, and respecting limits to human use of the earth;

(d) acknowledging and rectifying past environmental abuse and celebrating the renewal of life and beauty;
(e) embracing an ethic based on a cultural counterpoint to growth and development, a restorative culture reclaiming habitat for other species;
(f) rites of passage based on the practice, science, and ethics of ecological restoration with its benefits for biodiversity, life, beauty, mental and physical health, local economies, and a restorative culture.

2. **Building ecological literacy**. Developing ecological restoration skills through on-ground learning and recognised training such as TAFE courses.
3. **Decent pay**. Rates of pay that provide incentive for good quality work that legitimise ecological restoration as a "proper job."

   Work hours and practices that take into account fatigue and looking after the mind and body. A range of work practices that minimise worker fatigue and maintain worker motivation and interest. Some of these practices include:

   (a) maximum workdays or hours per week, 3 days 6 h duration;
   (b) working in shade on hot days and sunny places in cooler months where possible;
   (c) starting early in summer and later in winter to maximise worker climate comfort;
   (d) having more drinks breaks in hot weather;
   (e) alternating tasks to reduce RSI (repetitive strain injury) risk;
   (f) alternating days if working on steeper ground with working other days on flatter ground;
   (g) ensuring all loppers and saws are sharp to reduce effort and replacing regularly;
   (h) assessing stop work if any symptoms of heat stress, hypothermia, or fatigue are evident.

   While all these practices may seem obvious, they are not always implemented in outdoor workplaces, leading to injuries caused by fatigue including RSI.
4. **Recognition**. Running public events from time to time where the workers are recognised in the broader community for their positive contribution to society. This can also be in the form of awards for restoration excellence, such as in 2021 when the Restore Skyline Tier project won the Society for Ecological Restoration's award for best landscape scale project in Australasia. These forms of recognition give the workers a high degree of self-esteem, pride, and satisfaction, which not only provides work motivation but helps workers perceive themselves as being valued contributors in their community.

Incorporating these principles into the Restore Skyline Tier and other projects has led to participants deriving significant mental and physical health benefits, including developing much more positive outlooks, being more socially engaged, eating better food, and drinking less alcohol (Marsh, Auckland et al., 2023). Importantly, engaging in ecosystem restoration or bush regeneration can instil

a more hopeful mindset in participants by demonstrating that individuals can make a positive difference to the state of the environment, thus overcoming feelings of impotence and despair that many people, especially youth, may feel when thinking about the future.

For some people, their experience has been transformational. For instance, one participant became involved in the project after receiving a community work order for lighting fires in a nearby town. Initially, the worker was unfit and withdrawn and only able to make a minimal contribution at the work site. Over the course of a year working on the Restore Skyline Tier team, he became physically fit and far more outgoing. After completing his work order, he eventually gained a job as a ranger in Cape York, and a photo of him in a local newspaper years later showed a man of confidence and much greater wellbeing.

Research on the benefits to participants working on the project has called for health practitioners to strengthen partnerships with ecological restoration projects as another way to address health issues in rural communities (Marsh et al., 2022). This research shows that working in nature was important for participants, although they did not want to be identified with political environmentalism (as "greenies"), and that being in paid employment and working in a team were important (Marsh, Auckland, et al., 2023). Participation in meaningful paid ecological restoration work led to "upstream" health benefits, such as reduced alcohol consumption and improved social relations. However, substantial barriers to better integration of ecological restoration work into the health system were identified, such as a lack of ongoing funding for ecological restoration work and a focus on nonenvironmental programs within the health system.

Where to from Here?

Much of the recent literature and research related to the human health benefits of connecting with nature centres on "what's in it for us." How do we benefit when we spend time in nature? From ecological restoration, bush regeneration and nature conservation perspectives, this can appear somewhat problematic when the needs of and benefits to nature are ignored. It is commonly understood that there is a biodiversity crisis, and yet passive recreation and associated industrial tourism is of little assistance to ailing ecosystems and is increasingly becoming a source of degradation and fragmentation in natural areas, including those set aside for biodiversity conservation.

> All of us who live in the suffering rural landscapes of the United States know that most people are available to those landscapes only recreationally. We see them bicycling, or boating, or hiking or camping or hunting or fishing or driving along and looking around. They do not in Mary Austins phrase "summer and winter with the land". They are unacquainted with the land's human and natural economies. (Kingsnorth, 2017, p. 291)

The most recent *Australia State of the Environment* report (Department of Climate Change, Energy, the Environment and Water [DCCEW], 2021) reveals skyrocketing numbers of people accessing conservation areas and with it the inevitable "death by a thousand cuts" and "loving to death" affecting many of our most wondrous and beautiful protected areas. These numbers are hardly surprising given Australia's population has increased by 11.5 million people from when Todd first started doing restoration work in 1984. Figure 27.3 highlights the significant rise in percentage of visitors undertaking nature-based activities from 2008 to 2018. While passive recreation is clearly only one of many activities putting pressure on the Australian landscape, both on private and public land (protected areas or not), it should be considered in holistic understandings of health and nature connection.

> I realised that enjoying the natural world and adventuring in the natural world wasn't really the same as helping the natural world or being a guardian of the creatures that live in it. (Pete Walsh, the "platypus whisperer," cited in Shannon, 2020, para. 12)

We need to find ways to engage with nature where its needs are foregrounded rather than backgrounded (Hall, 2011). Ecological restoration and bush regeneration could be part of the solution to this dilemma. Instead of continually using up nature, we could participate in a positive social activity where we actively contribute towards landscape and native plant and animal health, diversity, recovery, and resilience. A key enabler of this activity is paid employment to achieve both social and ecological benefits. For ecological restoration and bush regeneration to fully realise its potential and all the ecological, social (including mental and physical health), and economic benefits it can provide, reliable long-term funding and more holistic environmental policies and laws are needed. We can't expect society to transition to a more ecologically sustainable one without resourcing livelihoods

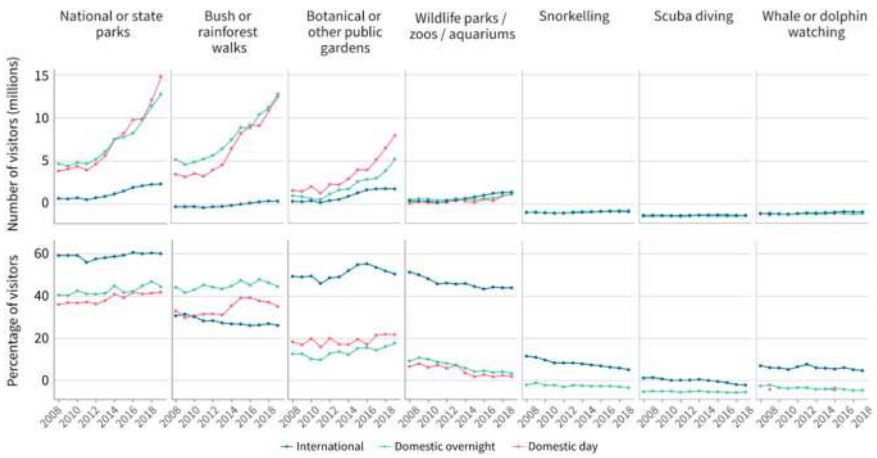


Fig. 27.3 Number and percentage of visitors undertaking nature-based activities 2008–2018 Tourism Research Australia, (DCCEW, 2021)

that protect and restore our precious and unique natural heritage. Investing in ecosystem restoration could revitalise rural communities as well as the natural environment: a win–win approach. It could serve as part of a blueprint for basing our economic system on restorative rather than extractive practices.

> Good work is fundamental to the human experience and therefore a necessary component of any conservation philosophy that hopes to create a new land ethic. (Forbes et al., 1999, p. 115)

Ecology helps us to see the beauty, intricacy, and wonder of Australia's biological life, while also recognising the perilous state of our biodiversity and the dire consequences of biodiversity loss (Woinarski, 2023). The purpose of ecosystem restoration is to avoid this fate and empower people to take active ecologically informed responsibility for the health of their place and community. Real "sustainability" means net gain in the extent and improved condition of native vegetation and wildlife habitat, not continual decline. Ecological restoration and bush regeneration can be a unifying social principle for the twenty-first century.

> If now as much effort is put into restoring the health and vitality of our land as went into ravaging it in 200 years of inappropriate use that we started in ignorance and has continued to our shame in spite of knowledge, it may not be too late. (White, 1994, p. 265)

References

Ardill, P. J. (2023). *Albert Morris and the Broken Hill regeneration area: Time, landscape and renewal* (4th ed.). Australian Association of Bush Regenerators. http://www.aabr.org.au/morris-broken-hill/

Bradley, J. (1971). *Bush regeneration: The practical way to eliminate exotic plants from natural reserves*. The Mosman Parklands and Ashton Park Association.

Buchanan, R. A. (1989). *Bush regeneration: Recovering Australia's landscapes*. TAFE Student Learning Publications.

Department of Climate Change, Energy, the Environment and Water (DCCEWW). (2021). *Australia state of the environment report*. Commonwealth of Australia.

Ernst & Young. (2020). *Delivering economic stimulus through the conservation and land management sector: Economic impact assessment*.

Fitzgerald, N., & Dudley, T. (2015). *Plantation restoration in Tasmania: Methodology and prioritisation*. Report for North East Bioregional Network. www.northeastbioregionalnetwork.org.au

Flies, E. J., Skelly, C., Negi, S. S., Prabhakaran, P., Liu, Q., Liu, K., Goldizen, F. C., Lease, C., & Weinstein, P. (2017). Biodiverse green spaces: A prescription for global urban health. *Frontiers in Ecology and the Environment*, *15*, 510–516. https://doi.org/10.1002/fee.1630

Forbes, P., Forbes, A., & Whybrow, H. (1999). *Our land ourselves*. The Trust for Public Land.

Gann, G. D., McDonald, T., Walder, B., Aronson, J., Nelson, C. R., Jonson, J., Hallett, J. G., Eisenberg, C., Guariguata, M. R., Liu, J., Hua, F., Echeverria, C., Gonzales, E. K., Shaw, N., Decleer, K., & Dixon, K. W. (2019). *International principles and standards for the practice of ecological restoration* (2nd ed.). *Restoration Ecology*, *27*, S1–46. https://doi.org/10.1111/rec.13035

Gardiner, S. (2022, November 5). The dire diagnosis for rural Tasmanians. *The Advocate*. https://www.theadvocate.com.au/story/7970552/the-dire-diagnosis-for-rural-tasmanians/

Hall, M. (2011). *Plants as persons*. State University of New York Press.

Hilty, J., Worboys, G. L., Keeley, A., Woodley, S., Lausche, B., Locke, H., Carr, M., Pulsford, I., Pittock, J., Wilson White, J., Theobald, D. M., Levine, J., Reuling, M., Watson, J. E. M., Ament, R., & Tabor, G. M. (2020). *Guidelines for conserving connectivity through ecological networks and corridors*. International Union for the Conservation of Nature.

Jordan, W., III. (2003). *The sunflower forest*. University of California Press.

Kingsnorth, P. (2017). *The world-ending fire: The essential Wendell Berry*. Penguin Books.

Marsh, P., Flies, E., Auckland, S., & Kendal, D. (2022). *Ecological restoration activities and the benefits for human health and wellbeing*. University of Tasmania.

Marsh, P., Auckland, S., Dudley, T., Kendal, D., & Flies, E. (2023). A mountain of health benefits? Impacts of ecological restoration activities on human wellbeing. *Wellbeing, Space and Society*, *4*, 100132.

Marsh, P., Mallick, S., Kendal, D., & Riviere, R. (2023). Environmental place-making by the "out of Place": Migrants building connections to new landscapes through structured conservation activities. In Marsh & Williams (Eds.), *Cultivated therapeutic landscapes* (pp. 213–232). Routledge.

Pillemer, K., Fuller-Rowell, T. E., Reid, M. C., & Wells, N. M. (2010). Environmental volunteering and health outcomes over a 20-year period. *The Gerontologist*, *50*, 594–602. https://doi.org/10.1093/geront/gnq007

Shannon, L. (2020, December 21). Meet the Tasmanian "platypus whisperer" whose citizen science is surprising the experts. *ABC News*. https://www.abc.net.au/news/2020-12-21/platypus-whisperer-pete-walsh-hobart-rivulet/12986552

Vaughn, K. J., Porensky, L. M., Wilkerson, M. L., Balachowski, J., Peffer, E., Riginos, C., & Young, T. P. (2010). Restoration ecology. *Nature Education Knowledge*, *3*(10), 66.

White, M. E. (1994). *After the greening: The browning of Australia*. Kangaroo Press.

Woinarski, J. C. Z. (2023). To the future: An ecology of love, hope, and action. *Austral Ecology*, *48*(8), 1705–1712. https://doi.org/10.1111/aec.13443

Working with Nature. (2021). *Working with nature: Restoring Landscapes and supporting regional economic recovery*. https://workingwithnature.org.au/wp-content/uploads/2021/03/Working-With-Nature_WEB.pdf

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 28
Climate Anxiety Features and Factors: A Mixed-Methods Study of Professional Perspectives

Clare Pitt, Kimberley Norris, and Gretta Pecl

Sociocultural Positioning

We acknowledge that we are non-Indigenous, Western, Caucasian, tertiary-educated Australian women who write from a position of relative privilege. The first two authors are registered psychologists; the third is an ecologist and a lead author for the Intergovernmental Panel on Climate Change's sixth assessment report. Although we have not been directly threatened by climate-related events, we have witnessed them firsthand. We each deeply appreciate the natural world and are aware of the human impact on ecosystems. We are committed to research into improving outcomes related to climate change and mental health.

Introduction

Climate change is the most urgent threat to global health (World Health Organization, 2021). Impacts are already being widely felt and will continue to worsen over the coming decades (Intergovernmental Panel on Climate Change [IPCC], 2023). In

K. Norris
School of Psychological Sciences, University of Tasmania, Tasmania, Australia
e-mail: kimberley.norris@utas.edu.au

C. Pitt (✉)
School of Psychological Sciences, University of Tasmania, Tasmania, Australia;
Centre for Marine Socioecology, Tasmania, Australia
e-mail: clare.pitt@utas.edu.au

G. Pecl
Centre for Marine Socioecology, Tasmania, Australia;
Institute for Marine and Antarctic Studies, University of Tasmania, Tasmania, Australia
e-mail: gretta.pecl@utas.edu.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_28

addition to its impact on physical and socioecological health, there is growing evidence of the relationship between mental health and climate change (Charlson et al., 2021). The mental health effects of climate change include immediate impacts following disasters or extreme weather events, which increase the risk of mental health disorders such as posttraumatic stress disorder (PTSD), depression, and sleep disruption (Charlson et al., 2021; Ellis & Albrecht, 2017). There is a growing body of literature regarding the potential for individuals' mental health to be affected through more gradual and prolonged indirect pathways, such as economic and social strains from climate hazards, chronic stress and emotional impacts from climate change awareness, and uncertainty related to anticipated future impacts (Daeninck et al., 2023; Whitmarsh et al., 2022). Even individuals who do not directly experience climate-related events are increasingly vulnerable to mental health implications resulting from ongoing anticipatory distress and overwhelming negative existential feelings in response to current, future, and cumulative climate-related threats (Clayton, 2020; Doherty & Clayton, 2011).

The mental health impact of climate change is an important field of ongoing research as these impacts continue to increase (Cunsolo et al., 2020). The prevalence of concerns about climate change has increased in recent years, and it is a major source of stress for individuals even while other key stressors such as economics and health remain (American Psychological Association [APA], 2020). In Australia, a growing majority are concerned that climate change is already affecting the country (Neumann et al., 2022). Moreover, a considerable proportion of Australians have direct experience with climate-related extreme weather events, with a quarter of these individuals meeting the screening criteria for PTSD (Patrick et al., 2022). Notably, mental health impacts are reported by those who identify as having experienced climate change directly, as well as those who have not; however, causality between climate change and PTSD has not yet been established. Given the rise in the number of people impacted by climate change, there is an imperative to increase understanding of this phenomenon and to develop effective approaches to respond to it. Interdisciplinary collaborations can facilitate a synthesis of perceptions from a broad range of disciplines to advance understanding in this area (Ogunbode et al., 2021; Pitt et al., 2023). Given the broad implications of climate change on mental health, a multidisciplinary, multisystemic approach is required, with practitioners, educators, researchers, and policymakers all benefiting from a greater understanding of how to respond (Wang et al., 2023).

The current study used the term "climate anxiety" to refer to the experience of ongoing anxiety, stress, or grief as a response to the potential, and actual, consequences of climate change. Participants were given this definition at the beginning of the study. We chose this term due to its relative prevalence in research and media discussions in this field (Pihkala, 2020). At the time this research was conducted (2020–2021), climate anxiety was one of numerous emerging terms used to describe the psychological responses arising from an altered relationship with our natural world (Albrecht, 2011). We recognise that the term climate anxiety has certain limitations, as the terminology in this field has rapidly evolved, including the separation of states such as anxiety and grief, and may potentially imply more clinical (e.g., diagnosable) level issues than intended. However, given we utilised it in data collection, along with its dominance and specific focus on climate change, we used the term throughout to maintain consistency.

Climate Anxiety Features

Current literature regarding the features (i.e., observable and nonobservable characteristics) of climate anxiety suggests that it can vary widely among individuals, with a range of different adaptive and maladaptive features. Many commentators consider elements of climate anxiety to be appropriate and reasonable responses to the climate emergency, suggesting it is important not to unnecessarily pathologise at the individual level (Bhullar et al., 2022). However, there is also evidence that elevated levels of climate anxiety can impair people in cognitive, emotional, and functional ways (Clayton & Karazsia, 2020). Climate anxiety can include a range of negative emotional responses, including fear, concern, worry about future consequences of climate change, feelings of helplessness, hopelessness, despair, guilt, shame, and anger towards perceived global inaction (Hickman et al., 2021). Individuals may experience impaired socioemotional functioning, nervousness, high levels of physiological and psychological arousal, panic attacks, obsessive thinking, increases and decreases in appetite, and suicidal thoughts (Usher et al., 2019). These emotional and physical manifestations of climate anxiety can lead to impairments that interfere with daily life, such as in work, school, and relationships (Clayton & Karazsia, 2020; Pihkala, 2020; Stanley et al., 2021).

Additionally, potentially more adaptive aspects of climate anxiety discussed in the literature relate to pro-ecological worldviews, values, and behaviours (Clayton & Karazsia, 2020; Cunsolo & Ellis, 2018; Pihkala, 2020), as well as more optimistic emotional responses to the situation, such as hope (Böhm et al., 2023) and enthusiasm (Marczak et al., 2023). In a recent study, climate anxiety predicted some forms of pro-environmental action, such as encouraging reductions in energy use and new purchases, and may be considered an adaptive motivational force for engaging in action (Gago et al., 2024; Whitmarsh et al., 2022). Other research suggests that climate anxiety can lead to engagement in climate mitigation behaviours and an increase in problem-solving attitudes towards the issue (Marczak et al., 2023). Conversely, some studies suggest that climate anxiety can create a sense of paralysis in individuals, inhibiting their ability to transform anxiety into action (Innocenti et al., 2022). Additionally, moderate levels of climate anxiety may be related to more pro-environmental behaviours, while low or elevated levels can be associated with fewer of these adaptive behaviours (Coates et al., 2024). The empirical evidence regarding behavioural responses to climate anxiety is still in its relative infancy.

The relationship between human distress and environmental degradation is intricate and constantly changing in response to the ongoing escalation of climate-related threats (Albrecht, 2011); therefore, individual responses to climate change are complex and vary among individuals, cultures, and even within the same person at different times (Marshall et al., 2019). Given the potential impact that climate anxiety can have on a person's wellbeing, and their relationship with pro-environmental action, it is vital for research efforts to continue improving conceptualisation to differentiate between

adaptive and maladaptive responses to inform appropriate proactive prevention and intervention strategies (Clayton, 2020; Crandon et al., 2022). Furthermore, mapping these onto existing psychological theories may support proactive prevention and intervention, as the range of existing interventions may offer utility in addressing climate anxiety.

Climate Anxiety Factors

Various personal factors (i.e., predictive influences), such as individual characteristics, experiences, and circumstances, can influence the experience of climate anxiety. Populations reportedly at a higher risk of climate anxiety include individuals who rely on the natural environment for their livelihoods, such as island residents, Indigenous communities, farmers, scientists, and activists (Cunsolo & Ellis, 2018; Gibson et al., 2020). There is a disproportionate impact on individuals residing in geographically vulnerable areas who have experienced climate-related events (Clayton & Karazsia, 2020; Gibson et al., 2020; Patrick et al., 2022; Schwartz et al., 2022). The stronger an individual's connection to nature, environmental identity, and level of pro-environmental attitudes, the more likely they are to experience associated psychological distress (Clayton & Karazsia, 2020; Mouguiama-Daouda et al., 2022). Younger people (i.e., children, teenagers, and young adults) exhibit higher rates of climate anxiety compared to older individuals due to their level of awareness of climate change, lack of agency in effecting direct action to address it, and feelings of uncertainty about their futures as a result (Clayton & Karazsia, 2020; Hickman et al., 2021; Patrick et al., 2022). However, this is not a universal finding, with some research findings suggesting age does not moderate the relationship between climate worry and psychological distress (McBride et al., 2021). Additionally, nonmale participants and socioeconomically disadvantaged populations are more likely to experience distress related to climate change compared to their counterparts due to existing vulnerabilities and a heightened awareness of the interconnectedness between social and environmental issues (Ellis & Albrecht, 2017; Feather & Williams, 2022; Gibson et al., 2020; Patrick et al., 2022; Wullenkord et al., 2021).

A critical area for ongoing research is the factors that may influence the experience of climate anxiety to inform the development of preventative interventions and supports, particularly for those most vulnerable due to individual or intersecting factors. The mental health impact of climate change is a social justice issue, as those who are already most marginalised and disadvantaged due to a range of sociodemographic factors are particularly susceptible to its effects such as First Nations populations and those in the Global South (Barnwell & Wood, 2022; Middleton et al., 2020). It is vital that ongoing research continues to examine the intersectionality of climate anxiety regarding the unique challenges at-risk populations face in order to assist in the development of inclusive support strategies.

Theoretical Underpinnings of the Current Study

5P Model of Case Formulation

This transdiagnostic psychological framework has five components (all beginning with the letter "P") and is used to develop a comprehensive understanding of an individual's presentation to guide treatment planning (Eells, 2022). This framework was considered appropriate for investigating climate anxiety features as it is commonly used to conceptualise different forms of mental health distress and recognises coexisting positive and negative experiences. In the current study, the presenting issue corresponds to climate anxiety features, while the predisposing, precipitating, perpetuating, and protective components relate to climate anxiety factors. The components are presented in Table 28.1.

Cognitive Behavioural Therapy

Cognitive behavioural therapy (CBT) is an evidence-based approach that outlines four interconnected components in an individual, which influence each other to shape mental health and wellbeing (Beck, 1979). These are cognitive (thoughts and beliefs), emotional (emotions and feelings), physical (body sensations such as tension in muscles, heartbeat, and breathing rate), and behavioural (actions and behaviours). Recent research suggests that emotion theory can be useful in climate anxiety research to map these indicators (van Valkengoed et al., 2023). The CBT model was deemed appropriate for this study as it is a well-established psychological framework used to investigate mental health concerns and encompasses individual components that correspond with the wide array of climate anxiety features described in the literature. Further, given climate anxiety features align with negative experiences consistent with anxious and depressive presentations, CBT is appropriate as it has the strongest evidence base for treating these presentations.

Table 28.1 The 5P Model of Case Formulation

5P Factor	Description
Presenting problem	Primary issue the individual is facing, explored by investigating the following factors
Predisposing factors	Pre-existing or underlying factors that may have contributed to the issue
Precipitating factors	Recent triggers or events that have exacerbated the presenting issue
Perpetuating factors	Ongoing factors that intensify or maintain the individual's difficulties
Protective factors	Strengths and resources the individual holds to help navigate challenges

Socio Ecological Framework

The socio ecological framework (Bronfenbrenner, 1979) was used in the present study to thematically analyse the risk and protective factors of climate anxiety. This model provides a framework for the complicated, dynamic, and multilevel interactions between an individual and their environment. It describes layers moving from the individual level outwards, as follows: the individual, which includes relationships in the immediate surroundings, such as family, school, and peers (microsystem); the community, which comprises local physical environment (mesosystem) settings that have an indirect influence on the individual, such as government, society, and the global physical environment (exosystem); the larger cultural context, such as cultural norms and spiritual belief systems (macrosystem); and time in history (chronosystem). The use of this framework is consistent with previous research paradigms that stress the importance of considering the broader context of individuals when addressing climate anxiety (Crandon et al., 2022; Ma et al., 2022).

The Current Study

The current study aimed to investigate opinions from a range of disciplines regarding climate anxiety features and factors. This contributes to the ongoing identification of risk and resilience factors related to climate anxiety, providing insights for appropriate supports and interventions. This research provides a unique contribution to the literature regarding the mental health impacts of climate change by investigating a diverse range of professional voices interested in understanding climate anxiety. Furthermore, to our knowledge, this is the first study of its kind to explore this topic using the 5P Model of Case Formulation.

Method

An international interdisciplinary survey of individuals who self-identified as having a professional interest in climate anxiety was conducted from November 2020 to February 2021. Self-selection in this survey was facilitated through voluntary participation in which respondents chose to engage after encountering the invitation to participate.

Materials

The survey included a participant information sheet, the definition of climate anxiety adopted for this study, and questions focused on the features of climate

anxiety, contributing factors, and possible interventions. An example of the qualitative survey questions is: "How would you describe the main feature/s (or 'symptoms') of climate anxiety?" Results pertaining to climate anxiety features and factors are presented in this paper (Tables 28.3 and 28.4 of the results), along with an additional publication presenting the results of interventions (Pitt et al., 2024). Participants completed demographic information, including a four-item questionnaire regarding their risk perceptions and attitudes towards climate change (Six Americas Short Survey [SASSY]; Chryst et al., 2018). The survey is available in online supplementary material.

Procedure

Ethical approval was obtained from the Tasmanian Human Research Ethics Committee (No. 20,567). Email invitations were sent by the first author to professionals identified by a search of publications, conference proceedings, and websites. The international interdisciplinary sample included mental health professionals and those interested in climate anxiety due to their professional roles and potential personal experiences of climate anxiety. The research team posted invitations on social media, and participants were asked to share the survey within their professional networks.

Qualitative data were analysed using the six-step reflexive thematic analysis process outlined by Braun and Clarke (2022). We used a combination of theory-driven deductive and inductive coding. Inductive coding involves identifying codes as data is read, without considering their relevance to existing research and literature, while deductive coding involves applying a set of predetermined codes derived from previous literature to identify which existing themes were found within the current dataset. The analysis of qualitative data involved initial familiarisation with the data (CP) using QSR NVivo (version 1.7.1) qualitative analysis software to generate initial codes (CP), generating themes through reviewing and regrouping codes (CP, KN), theme review until consensus was reached (CP, KN), and finally, defining and organising connections between themes in order to report on them (Braun & Clarke, 2022).

Results

Participant Demographics

A total of 230 Participants completed the full survey, and their responses were included in the data analysis. Data from incomplete surveys were excluded from the analysis as participants gave consent for their responses to be used at the end of the survey. The majority of participants identified as female ($n = 154$; 70%), which is congruent with research suggesting that females are more concerned about

Table 28.2 Prticipant profession category

	n	%
Psychologist, mental health professional, counsellor, social worker, eco-psychologist	57	25%
Academic, researcher	49	21%
Activist, community organiser, facilitator	27	12%
Scientist, climate scientist	23	10%
Artist, writer, works in the arts (including curator, journalist, and podcaster)	19	8%
General practitioner, nurse	12	5%
Teacher, education	8	3%
Consultant, analyst, public servant	7	3%
Wilderness, outdoor guide, environmental educator, conservationist	7	3%
Other: [one each for] accountant, archaeologist, engineer, geographer, IT consultant, international development	6	3%
Did not respond	15	7%

climate change compared to nonfemales (Ballew et al., 2023). Almost half of the participants resided in Australia ($n = 113$; 49%), followed by the United States ($n = 65$; 28%) and the United Kingdom ($n = 13$; 6%). The majority (70%) held a master's degree ($n = 71$) or doctoral degree ($n = 80$), and most identified as Caucasian ($n = 195$; 85%), with ages ranging from 18 to over 74 years. A variety of professional backgrounds is represented in the sample (Table 28.2). Further participant demographics have been previously reported by Pitt et al. (2024).

Further Demographics

The findings of the SASSY revealed that the majority of participants were categorised as "alarmed" (92%), suggesting they were actively concerned and prepared to act on climate change (Chryst et al., 2018). Given this result, these individuals may have some firsthand experience of the mental health impact of climate change. Furthermore, the majority of participants agreed with the statement "Climate anxiety is a rational response to the threat of global climate change" (93%), while 2% disagreed and 5% were unsure.

Climate Anxiety Features

Respondents identified numerous features of climate anxiety that aligned with the CBT model, with interacting cognitive, emotional, physical, and behavioural elements (Beck, 1979; Table 28.3).

Table 28.3 Most prevalent features of climate anxiety

Cognitive	Emotional	Physical	Behavioural
Defence mechanisms	**Fear**	Insomnia	Impacts on daily life
Indecisiveness	**Helplessness, powerlessness**	Racing heart	Behaviours impacting relationships
Uncertainty	**Overwhelm**	Panic attacks	Pro-environmental behaviours
Negative thoughts	**Anger, frustration**	Breathlessness	Obsessive behaviours
Rumination	**Sadness**	Physically ill	
	Despair	Physical stress	
	Grief		
	Isolation		
	Guilt		

Note Bolded text indicates features endorsed by over 20% of respondents

Results regarding cognitive features suggest a number of ways that climate anxiety can manifest in an individual's thought processes. For example, defence mechanisms are a way of coping with uncomfortable feelings by using denial and repression, in this instance involve a refusal to accept the gravity of climate change or only engaging with the issue superficially, and they can be used as a form of detachment and a coping mechanism. Alternatively, an individual who connects with the severity and complexity of the unpredictable climate change impacts can experience a sense of uncertainty, an inability to plan and make decisions, negative thoughts, and rumination. Results suggest that the primary emotional features of climate anxiety include fear, helplessness, powerlessness, overwhelm, anger, frustration, sadness, despair, and grief. While the cognitive and emotional factors were the most highly endorsed, climate anxiety symptoms as reported by the participant sample were distributed across cognitive, emotional, physical and behavioural domains.

Climate Anxiety Factors

Participants provided insights into climate anxiety factors (predisposing, precipitating, perpetuating, and protective) that correspond to distinct levels within the socioecological systems framework (Bronfenbrenner, 1979). Table 28.4 outlines the most frequently suggested factors contributing to climate anxiety.

A key finding was the frequently endorsed perspective that government inaction on climate change can increase the likelihood of climate anxiety, as well as trigger or prolong that experience. In contrast, participants saw government action on climate change as a protective factor for climate anxiety. Further central findings were that precipitating and predisposing factors for climate anxiety include witnessing a climate event or local climate change impact, along with being educated about climate change. Other frequently endorsed individual factors that can increase the risk of experiencing climate anxiety include not having an effective

Table 28.4 Most frequently suggested factors contributing to climate anxiety

Socioecological level	Predisposing factors	Precipitating factors	Perpetuating factors	Protective factors
Individual	**Being educated in CC** **Other MH** **No support network or resources** Working in CC Having empathy Young people Parents	**Being educated in CC** No support network Feeling powerless Making life decisions	Not participating in CC action Disempowerment Not expressing CC emotions Lack of support networks Other MH No help or support Isolated	**Problem-focused coping: e.g., CC action** Meaning-focused coping: e.g., optimism, acceptance, purpose, Emotion-focused coping: e.g., denial, mindfulness, processing feelings, self-care Lack of risk factors
Relationship (micro)	Connection with living things Social group views on CC Talking to others about CC	Being around others who do not care about CC Being around others with climate anxiety Being parents	Other people's climate anxiety Not being validated for CC feelings Not having others to talk to Deniers Socially insecure No climate-aware practitioners	Connection with others Climate-aware practitioners Talking about CC Validation of CC feelings
Community local physical environment (meso)	**Witnessing local impact of CC** Living in a high-risk area	Witnessing CC event Reminders of environmental situation Social media and documentaries	Social media Connection with nature Lack of access with nature	Nature connection Support groups Other community-based interests
Government, society, global physical environment (exo)	**Climate inaction by governments** **Climate media** Witnessing global impact of CC CC denial Individualised society Climate injustice	**Climate media** **Climate inaction by governments** Evidence of CC School strikes	**Climate inaction by governments** Evidence of CC Cultural pressure of current society Climate media	**Government action on CC**

(continued)

Table 28.4 (continued)

Socioecological level	Predisposing factors	Precipitating factors	Perpetuating factors	Protective factors
Culture, spiritualist (macro)	Cultural attitudes and norms regarding emotions Not being religious Dualism between human–nature Being Indigenous/ First Nations	Realisation of inherent connection of humans with nature	Inadequate spiritual container Death denial	Religion Faith Spirituality Indigenous knowledge Spiritual practices
Time in history (chronosystem)	Anyone anywhere	Potential triggers always present	Current state of the world Pandemic	Connection to those that are currently working on CC Contextualising CC in history

Note Bolded text indicates features endorsed by over 20% of respondents; CC = climate change; MH = mental health

social support network, or resources such as infrastructure, finances, and social capital, and the presence of previous mental health concerns. Key protective factors identified by participants included problem-focused coping strategies, such as taking action related to climate change related.

Further Themes

Inductive qualitative analysis revealed the following themes: (a) Climate anxiety can focus on a wide range of subjects, from the self, family, and local community to society, all humans, future generations, and all species and nature; (b) climate anxiety is relational; it can impact our connections with other people, other species, and the environment; and (c) climate anxiety is a "rational response to the current situation." Many participants expressed that pathologising emotional responses to climate change would not be beneficial, seeing emotional responses such as fear or anxiety as "justified given the severity of the issue," the scientific evidence and observed impacts. Participants advocated for understanding climate anxiety experiences as an "understandable reaction" to an "urgent and complex global challenge" while still being worthy of preventative and intervention focus to reduce cognitive-emotional and functional impairment.

Discussion

This study reports the perceptions of self-identified professionals with an interest in climate anxiety regarding the features of climate anxiety and the factors that may be associated with an individual's experience of it. The diverse group of participants in this study included formally trained mental health practitioners, educators, scientists, and researchers. Incorporating perceptions of climate anxiety from a broad range of disciplines is an important contribution to working towards multidisciplinary, multisystemic approaches to understand and reduce the negative mental health implications of climate change. These results assist in the ongoing research and development of appropriate interventions and supports for individuals and communities experiencing climate anxiety. The finding that climate anxiety is perceived as a rational response to the situation is consistent with previous literature, which emphasises the need for continued focus on support strategies that avoid unnecessary pathologisation (Bhullar et al., 2022; Chiu, 2023).

Climate Anxiety Features

Participants suggested that climate anxiety features exist across cognitive, emotional, physical, and behavioural domains, with a larger number of emotional. These domains provide a useful way to map climate anxiety features; however, consistent with CBT theory, it is important to acknowledge there is overlapping impact between each of these. For example, guilt can emerge as an emotion and become intertwined with cognitive responses, such as self-blame for emissions contributions or for not doing enough to act on climate change. In turn, these emotions and cognitions can impact behavioural responses, which may lead to a strengthening cycle of self-blaming cognitions. Furthermore, negative thoughts (cognitive processes) can evoke fear and despair (emotional responses) as people engage with the reality of the climate crisis, thus illustrating the complex interplay between climate change emotions and cognitions. A further notable result was that respondents did not suggest any "positive" emotions as features of climate anxiety; however, research suggests that along with emotions such as anger, powerlessness, guilt, isolation, anxiety, and sorrow, more optimistic responses to climate change mitigation and adaption, such as enthusiasm and hope, can emerge (Böhm et al., 2023; Marczak et al., 2023; Westoby & McNamara, 2019).

The finding that defence mechanisms are a highly endorsed component of climate anxiety relates to research in which distancing is considered a part of coping with eco-anxiety and can be deemed both adaptive (e.g., for self-care, having a break to reduce anxiety) or maladaptive (e.g., problematic disavowal to distance oneself from reality; Bechard et al., 2023; Pihkala, 2022). This relates to stress and coping literature more broadly, which can view cognitive and emotional activity as either approaching or avoiding threat, with avoidant denial sometimes viewed as a potential benefit, however can become detrimental when overused or when it interferes with

appropriate action (Roth & Cohen, 1986). Ongoing research in this area is important for increasing understanding of which populations tend towards adaptive versus maladaptive coping strategies for dealing with climate anxiety.

Climate Anxiety Factors

Current results indicate that individual factors, the environment, and the influence of peers and family, school and community, government and media, and culture are all systems that can influence the experience of climate anxiety. This aligns with previous research using Bronfenbrenner's (1979) social–ecological model, which suggests an individual's experience of climate anxiety is influenced by multiple interconnected factors across different levels of their environment (Crandon et al., 2022; Lawrance et al., 2022). Key results suggest that a lack of global government action to reduce climate change impacts is a predisposing, precipitating, and perpetuating factor of climate anxiety and that action at this level would be a protective factor. This strongly implies that advocacy for climate action is vital for reducing the mental health impacts of climate change and corresponds with calls from key authors in this area for meaningful global action as an urgent requirement in addressing the effects of climate change on mental health (Clayton et al., 2023). This finding links to previous research that describes higher climate distress as being connected to frustration over inaction and a feeling of a lack of control (Vercammen et al., 2023), as well as feelings of climate anxiety correlating with perceived lack of adequate government response and feelings of betrayal as a result (Hickman et al., 2021). Further research in this area might consider frameworks such as learned helplessness and posttraumatic growth when investigating appropriate responses to climate anxiety.

A further key finding was that witnessing climate-related impacts or a climate event is a predisposing and precipitating factor for experiencing climate anxiety, which aligns with research suggesting the relationship between climate exposure, climate anxiety, and other mental health impacts such as distress or adjustment (Asgarizadeh et al., 2023; Heeren et al., 2022; Lykins et al., 2023). Being educated about climate change was suggested to be a precipitating factor for climate anxiety; however, there is mixed evidence regarding the relationship between climate change knowledge and climate change anxiety, as some research has found that less environmental knowledge is associated with higher climate anxiety (Asgarizadeh et al., 2023; Zacher & Rudolph, 2023), whereas other studies have found positive correlations (Ediz & Yanik, 2023; Ramirez-Lopez et al., 2023).

Implications for Climate Anxiety Interventions

The importance placed on the emotional features of climate anxiety suggests that these are a key target for supportive interventions. This aligns with previous

suggestions that climate anxiety interventions involving emotional regulation strategies, including mindfulness and acceptance, such as acceptance and commitment therapy (Hayes et al., 2006; see also Doherty et al., 2022; Motisi, 2022; van Valkengoed et al., 2023), may be more useful than cognitive reappraisal (van Valkengoed et al., 2023). However, these results suggest that it is important for interventions to consider multiple domains, such as emotional expression, connecting with others, and working towards action, given the range of climate anxiety features across all domains and their overlap. A framework with potential utility for further investigation in this area is posttraumatic growth, as it considers how one might grow or experience positive change as a result of struggling with challenging life crises (Tedeschi & Calhoun, 2004). Further results from this study suggest that problem-focused coping (such as problem-solving or acting to reduce climate change) can be a potential protective factor or support for climate anxiety. This aligns with previous research suggesting that engaging in climate-related behaviour can support people experiencing climate anxiety (Lukacs et al., 2023; Marinkovic Chavez et al., 2023; Wullenkord & Ojala, 2023). These results, in combination, have implications for the future development of climate anxiety interventions, as targeting behaviours or emotional processing independently is not necessarily sufficient; rather, a combination may be more useful.

The findings regarding the factors contributing to the experience of climate anxiety suggest that effective interventions must address multiple socioecological levels by acknowledging the impact on individuals across their local physical environment, government, and society. This can assist with ensuring climate anxiety is not unnecessarily reduced to an individual pathology. For example, community-level supports are emerging as important considerations in climate anxiety interventions, with research suggesting that community wellbeing requires climate change adaption and mitigation strategies (Dorji et al., 2023). Communities need support to prepare for the impacts of climate change through collective action that is community led, moving beyond an individual focus to building networks and social connectedness (Cianconi et al., 2023; Longman et al., 2023).

Strengths and Limitations of Current Study

A strength of this study is the breadth of participants, which incorporates a wide range of knowledge and perspectives to enable more comprehensive findings and mitigate potential biases from a narrower sample. Another notable strength of the participant population is their elevated level of engagement with climate change, as most (92%) sat in the "alarmed" category, compared with 24.9% in a national audience segmentation study (Neumann et al., 2022). Given their interest and knowledge of the subject matter, the participants were more likely to provide comprehensive responses based on both their professional and individual experiences. This study incorporated mixed-methods research, allowing for a rich contribution that may not have been otherwise captured with quantitative or qualitative data.

Limitations of this current study include that participants were a self-selected sample; therefore, it is unclear what influenced their decision to respond. It is suggested that the results be interpreted with caution, as the current sample may not be representative of all those interested in climate anxiety. A further potential limitation is the exclusion of data from participants who did not complete the study, as there may be differences in their responses compared to those who did complete it. Furthermore, given the impact of direct exposure to events related to climate change, future research in this area could incorporate this as a participant demographic question. As the participants were English-speaking professionals, the majority of whom identified as Caucasian, a further limitation is the restricted generalisability of the findings to non-English-speaking populations and those from diverse cultural backgrounds.

Suggestions for Future Research

It is likely that the prevalence of climate anxiety will continue to increase; therefore, further research adopting international and interdisciplinary perspectives is required to inform communities, policymakers, and practitioners working in this space. Further studies could continue to consider wider populations and adopt research paradigms led by members of these communities, especially First Nations communities and those living in low- and middle-income countries, as they continue to be the most impacted by climate change (IPCC, 2023). Given that research in adolescents suggests that climate distress is not necessarily a permanent experience, but rather an ongoing development. Therefore, further longitudinal research is required to investigate how climate anxiety changes over time and which factors may lead to more adaptive outcomes (Vercammen et al., 2023). Further research into developing, implementing, and evaluating the efficacy of interventions for climate anxiety is an important avenue for ongoing studies that support individuals and communities experiencing it.

Conclusion

This research provides a unique contribution to the growing literature that seeks to conceptualise the mental health impacts of climate change by investigating a diverse range of professional voices concerned with climate anxiety. Responses suggest there are a number of diverse features of climate anxiety; it is a wide-ranging and highly individual experience and may not fit into a pathological framework. Further, findings suggest that a variety of levels contribute to a person's experience of climate anxiety, indicating a range of system-level approaches required to address this issue. Overarchingly, these results suggest that climate anxiety is a highly complex, individualised, and multifaceted experience. The key way to prevent or reduce

climate anxiety is for global governments to take meaningful action to reduce the impact of climate change, along with "climate resilient development," which includes international cooperation and governments at all levels developing partnerships with communities, scientific and other institutions, and traditionally marginalised groups to prioritise equity, justice, and risk reduction (IPCC, 2023).

Supplementary Information
Available at https://doi.org/10.1007/s42322-023-00156-y

Acknowledgements Thank you to survey participants.

Author Contributions

Clare Pitt: Conceptualisation, methodology, formal analysis, investigation, and writing—original draft preparation.

Kimberley Norris: Conceptualisation, methodology, formal analysis, investigation, review and editing, and supervision.

Gretta Pecl: Methodology, review and editing, supervision.

Funding No funding was received.

Data Availability Data are available from the corresponding author, CP, upon reasonable request.

Declarations Ethical approval was obtained from the Tasmanian Social Sciences Human Research Ethics Committee (20567).

Competing Interests There is no conflict of interest.

References

Albrecht, G. (2011). Chronic environmental change: Emerging "psychoterratic" syndromes. In I. Weissbecker (Ed.), *Climate change and human well-being* (p. 43–56). Springer. https://doi.org/10.1007/978-1-4419-9742-5_3

American Psychological Association. (2020, February 6). *Majority of US adults believe climate change is most important issue today* [Press release]. https://www.apa.org/news/press/releases/2020/02/climate-change

Asgarizadeh, Z., Gifford, R., & Colborne, L. (2023). Predicting climate change anxiety. *Journal of Environmental Psychology*, *90*. https://doi.org/10.1016/j.jenvp.2023.102087

Ballew, M., Verner, M., Carman, J., Rosenthal, S., Maibach, E., Kotcher, J., & Leiserowitz, A. (2023). *Global warming's Six Americas across age, race/ethnicity, and gender*. Yale Program on Climate Change Communication, Yale University and George Mason University.

Barnwell, G., & Wood, N. (2022). Climate justice is central to addressing the climate emergency's psychological consequences in the Global South: A narrative review. *South African Journal of Psychology*, *52*(4), 486–497. https://doi.org/10.1177/00812463211073384

Bechard, E., Silverstein, J., & Walke, J. (2023). What are the Impacts of concern about climate change on the emotional dimensions of parents' mental health? A literature review. *Journal of Health Care Communications*, *08*(04). https://doi.org/10.2139/ssrn.4524397

Beck, A. T. (1979). *Cognitive therapy and the emotional disorders*. Penguin.

Bhullar, N., Davis, M., Kumar, R., Nunn, P., & Rickwood, D. (2022). Climate anxiety does not need a diagnosis of a mental health disorder. *The Lancet Planetary Health*, *5*, e383. https://doi.org/10.1016/s2542-5196(22)00072-9

Böhm, G., Pfister, H. R., Doran, R., Ogunbode, C. A., Poortinga, W., Tvinnereim, E., Steentjes, K., Mays, C., Bertoldo, R., Sonnberger, M., & Pidgeon, N. (2023). Emotional reactions to climate change: A comparison across France, Germany, Norway, and the United Kingdom. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1139133

Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. SAGE.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.

Charlson, F., Ali, S., Benmarhnia, T., Pearl, M., Massazza, A., Augustinavicius, J., & Scott, J. G. (2021). Climate change and mental health: A scoping review. *Public Health*, *18*, 4486. https://doi.org/10.3390/ijerph

Chiu, L. (2023). Climate change and mental health: Global challenges for psychosocial resilience and recovery. *Australasian Psychiatry*, *31*(6), 795–797. https://doi.org/10.1177/10398562231211115

Chryst, B., Marlon, J., van der Linden, S., Leiserowitz, A., Maibach, E., & Roser-Renouf, C. (2018). Global warming's "Six Americas Short Survey": Audience segmentation of climate change views using a four question instrument. *Environmental Communication*, *12*(8), 1109–1122. https://doi.org/10.1080/17524032.2018.1508047

Cianconi, P., Hanife, B., Grillo, F., Betro', D. S., Bagus, C., Lesmana, J., & Janiri, L. (2023). Eco-emotions and psychoterratic syndromes: Reshaping mental health assessment under climate change. *Yale Journal of Biology and Medicine*, *96*.

Clayton, S. (2020). Climate anxiety: Psychological responses to climate change. *Journal of Anxiety Disorders*, *74*. https://doi.org/10.1016/j.janxdis.2020.102263

Clayton, S., & Karazsia, B. T. (2020). Development and validation of a measure of climate change anxiety. *Journal of Environmental Psychology*, *69*, 101434. https://doi.org/10.1016/j.jenvp.2020.101434

Clayton, S., Manning, C. M., Hill, A. N., & Speiser, M. (2023). *Mental health and our changing climate: Children and youth report*. American Psychological Association and ecoAmerica. https://www.apa.org/news/press/releases/2023/10/mental-health-youth-report-2023.pdf

Coates, Z., Kelly, M., & Brown, S. (2024). The relationship between climate anxiety and pro-environment behaviours. *Sustainability*, *16*(12), 5211.

Crandon, T. J., Scott, J. G., Charlson, F. J., & Thomas, H. J. (2022). A social–ecological perspective on climate anxiety in children and adolescents. *Nature Climate Change*, *12*(2), 123–131. https://doi.org/10.1038/s41558-021-01251-y

Cunsolo, A., & Ellis, N. R. (2018). Ecological grief as a mental health response to climate change-related loss. *Nature Climate Change*, *8*(4), 275–281. https://doi.org/10.1038/s41558-018-0092-2

Cunsolo, A., Harper, S. L., Minor, K., Hayes, K., Williams, K. G., & Howard, C. (2020). Ecological grief and anxiety: The start of a healthy response to climate change? *The Lancet Planetary Health*, *4*(7), e261–e263. https://doi.org/10.1016/S2542-5196(20)30144-3

Daeninck, C., Kioupi, V., & Vercammen, A. (2023). Climate anxiety, coping strategies and planning for the future in environmental degree students in the UK. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1126031

Doherty, T. J., & Clayton, S. (2011). The psychological impacts of global climate change. *American Psychologist*, *66*(4), 265–276. https://doi.org/10.1037/a0023141

Doherty, T. J., Lykins, A. D., Piotrowski, N. A., Rogers, Z., Sebree, D. D., & White, K. E. (2022). Clinical psychology responses to the climate crisis. In G. J. G. Asmundson (Ed.), *Comprehensive clinical psychology* (pp. 167–183). Elsevier. https://doi.org/10.1016/b978-0-12-818697-8.00236-3

Dorji, T., Morrison-Saunders, A., & Blake, D. (2023). Understanding how community wellbeing is affected by climate change: Evidence from a systematic literature review. *Environmental Management*, *72*(3), 568–586. https://doi.org/10.1007/s00267-023-01833-w

Ediz, Ç., & Yanik, D. (2023). The effects of climate change awareness on mental health: Comparison of climate anxiety and hopelessness levels in Turkish youth. *International Journal of Social Psychiatry*, *69*(8), 2154–2166. https://doi.org/10.1177/00207640231206060

Eells, T. D. (2022). *Handbook of psychotherapy case formulation*. Guildford Publications.

Ellis, N. R., & Albrecht, G. A. (2017). Climate change threats to family farmers' sense of place and mental wellbeing: A case study from the Western Australian Wheatbelt. *Social Science and Medicine*, *175*, 161–168. https://doi.org/10.1016/j.socscimed.2017.01.009

Feather, G., & Williams, M. (2022). The moderating effects of psychological flexibility and psychological inflexibility on the relationship between climate concern and climate-related distress. *Journal of Contextual Behavioral Science*, *23*, 137–143. https://doi.org/10.1016/j.jcbs.2021.12.007

Gago, T., Sargisson, R. J., & Milfont, T. L. (2024). A meta-analysis on the relationship between climate anxiety and wellbeing. In *Journal of Environmental Psychology*, 102230. https://doi.org/10.1016/j.jenvp.2024.102230

Gibson, K. E., Barnett, J., Haslam, N., & Kaplan, I. (2020). The mental health impacts of climate change: Findings from a Pacific Island atoll nation. *Journal of Anxiety Disorders*, *73*. https://doi.org/10.1016/j.janxdis.2020.102237

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, *44* (1), 1–25. https://doi.org/10.1016/j.brat.2005.06.006

Heeren, A., Mouguiama-Daouda, C., & McNally, R. J. (2022). A network approach to climate change anxiety and its key related features. *Journal of Anxiety Disorders*, *93*. https://doi.org/10.1016/j.janxdis.2022.102625

Hickman, C., Marks, E., Pihkala, P., Clayton, S., Lewandowski, E., Mayall, E. E., Wray, B., Mellor, C., & Van Susteren, L. (2021). Climate anxiety in children and young people and their beliefs about government responses to climate change: A global survey. *The Lancet. Planetary Health*, *5*, 863–873. https://doi.org/10.1016/S2542-5196(21)00278-3

Innocenti, M., Santarelli, G., Faggi, V., Ciabini, L, Castellini, G., Galassi, F., & Ricca, V. (2022). Psychometric properties of the Italian version of the climate change worry scale. *The Journal of Climate Change and Health*, *6*, 100140. https://doi.org/10.1016/j.joclim.2021.100080

Intergovernmental Panel on Climate Change (IPCC). (2023). *Climate change 2022: Impacts, adaptation and vulnerability: Working Group II contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press.

Lawrance, E. L., Thompson, R., Newberry Le Vay, J., Page, L., & Jennings, N. (2022). The impact of climate change on mental health and emotional wellbeing: A narrative review of current evidence, and its implications. *International Review of Psychiatry*, *34*(5), 443–498. https://doi.org/10.1080/09540261.2022.2128725

Longman, J., Braddon, M., Verlie, B., Schlosberg, D., Hampshire, L., Hawke, C., Noonan, A., & Saurman, E. (2023). Building resilience to the mental health impacts of climate change in rural Australia. *Journal of Climate Change and Health*, *12*. https://doi.org/10.1016/j.joclim.2023.100240

Lukacs, J. N., Bratu, A., Adams, S., Logie, C., Tok, N., McCunn, L. J., Lem, M., Henley, A., Closson, K., Martin, G., Gislason, M. K., Takaro, T., & Card, K. G. (2023). The concerned steward effect: Exploring the relationship between climate anxiety, psychological distress, and self-reported climate related behavioural engagement. *Journal of Environmental Psychology*, *90*. https://doi.org/10.1016/j.jenvp.2023.102091

Lykins, A. D., Parsons, M., Craig, B. M., Cosh, S. M., Hine, D. W., & Murray, C. (2023). Australian youth mental health and climate change concern after the Black Summer bushfires. *EcoHealth*, *20*, 3–8. https://doi.org/10.1007/s10393-023-01630-1

Ma, T., Moore, J., & Cleary, A. (2022). Climate change impacts on the mental health and wellbeing of young people: A scoping review of risk and protective factors. *Social Science and Medicine*, *301*. https://doi.org/10.1016/j.socscimed.2022.114888

Marczak, M., Wierzba, M., Zaremba, D., Kulesza, M., Szczypiński, J., Kossowski, B., Budziszewska, M., Michałowski, J. M., Klöckner, C. A., & Marchewka, A. (2023). Beyond climate anxiety: Development and validation of the inventory of climate emotions (ICE): A measure of multiple emotions experienced in relation to climate change. *Global Environmental Change*, *83*, 102764. https://doi.org/10.1016/j.gloenvcha.2023.102764

Marinkovic Chavez, K., Quinn, P., Gibbs, L., Block, K., Leppold, C., Stanley, J., & Vella-Brodrick, D. (2023). Growing up in Victoria, Australia, in the midst of the climate emergency. *International Journal of Behavioral Development*, *48*(2), 125–131. https://doi.org/10.1177/01650254231205239

Marshall, N., Adger, W. N., Benham, C., Brown, K., Curnock, M. I., Gurney, G. G., Marshall, P., Pert, P. L., & Thiault, L. (2019). Reef grief: Investigating the relationship between place meanings and place change on the Great Barrier Reef, Australia. *Sustainability Science*, *14*(3), 579–587. https://doi.org/10.1007/s11625-019-00666-z

McBride, S. E., Hammond, M. D., Sibley, C. G., & Milfont, T. L. (2021). Longitudinal relations between climate change concern and psychological wellbeing. *Journal of Environmental Psychology*, *78*. https://doi.org/10.1016/j.jenvp.2021.101713

Middleton, J., Cunsolo, A., Jones-Bitton, A., Wright, C. J., & Harper, S. L. (2020). Indigenous mental health in a changing climate: A systematic scoping review of the global literature. *Environmental Research Letters*, *15*(5). https://doi.org/10.1088/1748-9326/ab68a9

Motisi, M. (2022). *Treating youth with eco-anxiety: An acceptance and commitment therapy model* [Dissertation]. Widener University.

Mouguiama-Daouda, C., Blanchard, M. A., Coussement, C., & Heeren, A. (2022). On the measurement of climate change anxiety: French validation of the Climate Anxiety Scale. *Psychologica Belgica*, *62*(1), 123–135. https://doi.org/10.5334/pb.1137

Neumann, C., Stanley, S. K., Leviston, Z., & Walker, I. (2022). The Six Australias: Concern about climate change (and global warming) is rising. *Environmental Communication*, *16*(94), 433–444. https://doi.org/10.1080/17524032.2022.2048407

Ogunbode, C. A., Pallesen, S., Böhm, G., Doran, R., Bhullar, N., Aquino, S., Marot, T., Schermer, J. A., Wlodarczyk, A., Lu, S., Jiang, F., Salmela-Aro, K., Hanss, D., Maran, D. A., Ardi, R., Chegeni, R., Tahir, H., Ghanbarian, E., Park, J., & Lomas, M. J. (2021). Negative emotions about climate change are related to insomnia symptoms and mental health: Cross-sectional evidence from 25 countries. *Current Psychology*, *42*, 845–854. https://doi.org/10.1007/s12144-021-01385-4

Patrick, R., Snell, T., Gunasiri, H., Garad, R., Meadows, G., & Enticott, J. (2022). Prevalence and determinants of mental health related to climate change in Australia. *Australian & New Zealand Journal of Psychiatry*, 000486742211078. https://doi.org/10.1177/00048674221107872

Pihkala, P. (2020). Anxiety and the ecological crisis: An analysis of eco-anxiety and climate anxiety. *Sustainability (Switzerland)*, *12*(19). https://doi.org/10.3390/SU12197836

Pihkala, P. (2022). The process of eco-anxiety and ecological grief: A narrative review and a new proposal. *Sustainability (Switzerland)*, *14*(24). https://doi.org/10.3390/su142416628

Pitt, C., Norris, K., & Pecl, G. (2023). A systematic review of climate emotions and mental health in adults. *Global Environmental Psychology*, *1*, 1–40. https://doi.org/10.5964/gep.11405

Pitt, C., Norris, K., & Pecl, G. (2024). Informing future directions for climate anxiety interventions: A mixed-method study of professional perspectives. *Journal of Outdoor and Environmental Education*, *27*(1), 209–234. https://doi.org/10.1007/s42322-023-00156-y

Ramirez-Lopez, A., Rosetti, M. F., & Poma, A. (2023). Gender, exposure to news, knowledge about climate change, and prosociality predict climate anxiety scores in Mexican students. *Ecopsychology*, *15*(2).

Roth, S., & Cohen, L. J. (1986). Approach, avoidance, and coping with stress. *American Psychologist*, *41*(7), 813–819.

Schwartz, S. E. O., Benoit, L., Clayton, S., Parnes, M. K. F., Swenson, L., & Lowe, S. R. (2022). Climate change anxiety and mental health: Environmental activism as buffer. *Current Psychology*, *42*, 16708–16721. https://doi.org/10.1007/s12144-022-02735-6

Stanley, S. K., Hogg, T. L., Leviston, Z., & Walker, I. (2021). From anger to action: Differential impacts of eco-anxiety, eco-depression, and eco-anger on climate action and wellbeing. *The Journal of Climate Change and Health*, *1*, 100003. https://doi.org/10.1016/j.joclim.2021.100003

Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, *15*(1), 1–18. https://doi.org/10.1207/s15327965pli1501_01

Usher, K., Durkin, J., & Bhullar, N. (2019). Eco-anxiety: How thinking about climate change-related environmental decline is affecting our mental health. *International Journal of Mental Health Nursing*, *28*(6), 1233–1234. https://doi.org/10.1111/inm.12673

van Valkengoed, A. M., Steg, L., & de Jonge, P. (2023). Climate anxiety: A research agenda inspired by emotion research. *Emotion Review*, *15*(4), 258–262. https://doi.org/10.1177/17540739231193752

Vercammen, A., Oswald, T., & Lawrance, E. (2023). Psycho-social factors associated with climate distress, hope and behavioural intentions in young UK residents. *PLOS Global Public Health*, *3*(8), e0001938. https://doi.org/10.1371/journal.pgph.0001938

Wang, H., Safer, D. L., Cosentino, M., Cooper, R., van Susteren, L., Coren, E., Nosek, G., Lertzman, R., & Sutton, S. (2023). Coping with eco-anxiety: An interdisciplinary perspective for collective learning and strategic communication. *The Journal of Climate Change and Health*, 100211. https://doi.org/10.1016/j.joclim.2023.100211

Westoby, R., & McNamara, K. E. (2019). Fear, grief, hope and action. *Nature Climate Change*, *9*(7), 500–501. https://doi.org/10.1038/s41558-019-0511-z

Whitmarsh, L., Player, L., Jiongco, A., James, M., Williams, M., Marks, E., & Kennedy-Williams, P. (2022). Climate anxiety: What predicts it and how is it related to climate action? *Journal of Environmental Psychology*, *83*. https://doi.org/10.1016/j.jenvp.2022.101866

World Health Organization. (2021). *COP26 Special Report on Climate Change and Health. The health argument for climate action*.

Wullenkord, M., & Ojala, M. (2023). Climate-change worry among two cohorts of late adolescents: Exploring macro and micro worries, coping, and relations to climate engagement, pessimism, and well-being. *Journal of Environmental Psychology*, *90*. https://doi.org/10.1016/j.jenvp.2023.102093

Wullenkord, M., Tröger, J., Hamann, K. R. S., Loy, L. S., & Reese, G. (2021). Anxiety and climate change: A validation of the Climate Anxiety Scale in a German-speaking quota sample and an investigation of psychological correlates. *Climatic Change*, *168*(3–4). https://doi.org/10.1007/s10584-021-03234-6

Zacher, H., & Rudolph, C. W. (2023). Environmental knowledge is inversely associated with climate change anxiety. *Climatic Change*, *176*(4). https://doi.org/10.1007/s10584-023-03518-z

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 29
Developing Choice-Making Skills Grounded in an Ethic of Care Through Adventure Therapy

Denise Mitten and Tanya Ginwala

Sociocultural Positioning

Denise: I grew up on a farm in Dover, Delaware, United States. I have lived in more than 10 states, now residing in Prescott, Arizona. My parents were from working poor and working-class backgrounds; I am a first generation college graduate. My outdoor positionality resulted from my immersion into Girl Scout summer camp from about 7 years old, coupled with my constant relationship with the natural world.

My background is eclectic, including ecology, sustainability, adventure trip leading, counselling, complementary medicine, corporate and nonprofit management, and higher education. Now in my eighth decade, I understand more about age-related discrimination and being temporarily able-bodied. I identify as part of the LGBTQAI2 + community. Being a mother is an important aspect of my identity.

Tanya: Born in Gujarat and now settled in the lower Himalayas of Dharamshala, India, I am a cisgender, able-bodied woman with Persian (Zoroastrian) and Indian heritage. With a background in clinical psychology, narrative therapy, somatic healing approaches, and applied Mahayana Buddhist psychology and ethics, I centre social justice, decoloniality, cultural safety, and inclusion in my adventure therapy practice.

I am committed to a regenerative approach to therapy that honours and revitalises both people and place by offering nature-based mental health interventions

D. Mitten
Faculty Emerita Prescott College Graduate Program, Prescott, AZ, USA
e-mail: dmitten@prescott.edu; denisemittenphd@gmail.com

T. Ginwala (✉)
Qualia Outdoor Therapy, Dharamshala, India
e-mail: tanya.ginwala@gmail.com

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_29

that support and nurture local communities, foster environmental care, and facilitate personal and collective healing.

Background

> Care is a species activity that includes everything that we do to maintain, continue, and repair our "world" so that we can live in it as well as possible. That world includes our bodies, our selves, and our environment, all of which we seek to interweave in a complex, life-sustaining web.—Fisher & Tronto (1990)

It is evident that care is essential for human survival and the overall sustenance of life. But what does it mean to care? How can we learn to make choices grounded in care for our bodies, ourselves, our communities, and our environment? What unique opportunities does adventure therapy offer for participants towards developing an ethic of care and learning skills to make healthy choices? In this chapter, we explore these questions and propose that adventure therapy grounded in an ethic of care fosters a more caring and inclusive world by supporting people to experience, learn about, and practise making choices consciously. Central to this perspective is our belief that helping participants learn how to make choices that consider themselves, others, and the natural environment—and grow into compassionate community contributors—is a primary intended outcome of the adventure therapy programs that we offer. This is in contrast to the ways adventure therapy has often been used to reinforce individualistic values of self-reliance, personal success, and growth through individual accomplishments and other methods (Gass et al., 2020).

Choice is often defined as "an act of selecting between two or more possibilities" (Oxford Learners Dictionaries, n.d.). Similarly, *care* may be defined as "feeling concern or interest" or "looking after" someone or something (Merriam-Webster, n.d.). Although these definitions may sound simple and straightforward, we authors see both choice and care as complex, dynamic, and relational processes and believe that consciously making choices grounded in an ethic of care requires nuanced analysis and reflexive awareness. Among many other factors, one's cultural context and emotional and cognitive development influence both one's practice of care and one's choice-making process and abilities. Choice, ranging from the trivial to the life-altering, in its presence and absence, is a part of life stories (Iyengar, 2011). Daily, people must make multiple choices ranging from relatively fleeting choices, such as which ice cream flavour to get, to more personally consequential and far-reaching choices, such as picking a career or vocation or whether to support environmental protection actions. Some sources say that an average human makes up to 35,000 choices in a day (Sahakian & LaBuzetta, 2013). In light of this, we authors view making choices as a life skill. We advocate for choice-making as a skill that can be learned and practised with intentionality in adventure therapy programs and believe that this skill can transfer to other contexts and areas of life.

The terms *making choices*, *choice-making*, and *decision-making* are often used synonymously. In this chapter, we use these terms—along with *choice* and sometimes *conscious choice*—to refer to decisions made with awareness, intentionality, and alignment with one's core values. Related terms such as *agency*, *conscious choice*, *authentic choice*, *self-affirming choice*, and similar expressions highlight different aspects of the decision-making process and its outcomes. Our intent is not to delve into the definitions and distinctions between these terms, review the extensive literature on choice, or describe the numerous theories of choice from psychology, education, and related fields.

Based on our field experience, we have observed that when facilitated with intentionality, care, and safety, adventure therapy can help participants learn to make choices within a group context and reflect on the impacts of their choices on themselves, others, and the natural environment. However, current training and facilitation practices may not fully recognise and leverage these learning opportunities. Drawing on scholarly literature, field observations, and professional facilitation and teaching practices, we offer theoretical and practical insights into the role of choice and how to help participants develop choice-making skills grounded in an ethic of care in the context of adventure therapy programs.

In this chapter, we advocate for adventure therapy facilitators to create and recognise opportunities to help participants develop choice-making skills that involve care for oneself, others, and the natural environment. While questions surrounding the ethics of program participation and participant agency have been examined elsewhere (Magnuson et al., 2022; Tucker et al., 2018), our focus lies in the facilitation of meaningful choice-making processes once individuals are engaged in a program.

The Choice Process

When making conscious choices, individuals actively consider their options, reflect on their values, commitments, and goals, and weigh the potential consequences of various decisions. This process requires reflection (Sugerman, 2000) and reflexive awareness, which can be taught and practised during adventure therapy programs. Reflexive awareness or practice (Bruno et al., 2011) entails critically examining one's beliefs, assumptions, choices, and actions, considering how they are shaped by identity, social position, and context, and evaluating whether they align with one's values and principles. It often involves stepping back from immediate impulses or judgements to reflect on the broader relational and ethical context within which a choice is being made. Reflexive awareness helps individuals build the emotional, cognitive, and relational capacity to consider their own needs, the impact of their choices on others, and the larger social and ecological context. By integrating cognitive skills (reflection) and reflexive awareness, individuals can better understand the layers of a situation and make conscious and compassionate choices that reflect an ethic of care. Both reflexive awareness and an ethic of care

emphasise relational responsiveness and thoughtful, context-sensitive, ethical choice-making. Thus, we advocate for practitioners to use reflection as well as help participants develop reflexive awareness during adventure therapy programs to help them fully understand implications of their choices.

Conscious Choice Vs Habitual Choice

In our practices as adventure therapists, we see the ability to make healthy choices as central to wellbeing and help participants evaluate what it means to consciously make choices that are aligned with their needs and values, rather than habitually making choices rooted in past experiences or survival responses. Somatic practitioner Staci Haines (2019) distinguished between habitual and conscious choices, particularly in the context of healing and growth. Haines explained that when individuals perceive a threat to their fundamental survival needs for safety, belonging, or dignity—often as a result of trauma, systemic oppression, or marginalisation—they are likely to respond with automatic coping mechanisms and conditioned behaviour patterns. These automatic responses are rooted in survival instincts and reinforced through habit, which results in a reduced capacity for responding intentionally in the present (p. 46).

In contrast, when individuals feel held and supported in their core needs of safety, belonging, and dignity, they can learn to access a wider range of choices and have the capacity to make decisions that align with their values and beliefs. Caring adventure therapy settings that address participants' fundamental needs can help them move out of habitual survival patterns and engage in opportunities to practise making choices consciously. In situations where participants are activated, facilitators can guide and support them to develop the ability to notice and attune to their thoughts, bodily sensations, and emotions so that they can more easily identify when they are reacting based on ingrained patterns—such as fight, flight, freeze, or fawn—rather than engaging with the needs and circumstances of the present moment. This practice enables them to interrupt automatic responses and consider internal and external factors shaping their decisions and the values they want their choice to be guided by. Over time and with practice, they can learn to move beyond habitual reactions and make choices consciously.

For example, a participant who feels an urge to withdraw during group discussions may—with the facilitator's guidance and support—pause to notice and reflect on the physical sensations, thoughts, and emotions arising. Through reflection and reflexive awareness, they might recognise their response to withdraw as rooted in past experiences or relational dynamics and see it as a strategy that was keeping them safe in previous group contexts. Upon acknowledging this, they may reflect on whether this action of withdrawing from people aligns with their values and long-term relational hopes for themselves and consciously choose to allow connections. Thereby, a participant with a habitual pattern of mistrust and withdrawal may, over time, build the capacity for trust through small acts, such as being helped

by a fellow participant during a hike, listening to other participants share personal stories, or experiencing safety in relationship with the facilitator. This allows them to shift their behaviours and responses from automatic and survival-driven patterns to intentional actions aligned with their current needs and values. This process enhances agency and supports participants in developing the skills needed to make choices consciously and care for themselves and others. It reflects Haines's assertion that conscious choice-making is integral to healing and becoming responsible, caring, and life-affirming individuals (pp. 44, 56). By weaving these concepts into adventure therapy, facilitators can create a therapeutic environment where participants feel safe, valued, and empowered to make conscious choices, leading to healing and personal growth.

Theoretical Framework

Care and reciprocity drive our theoretical framework. In the face of political polarisation, climate crisis, and accelerating environmental degradation, finding ways to deepen our understanding of care, on both an individual and collective level, is imperative because it fosters connection, responsibility, and justice, inspiring actions that address causes while building resilience and equity. Appropriate adventure therapy pedagogy and facilitation can help people recognise their interdependence in the world and help them "consider themselves and their choices as a part of a narrative of relationships that extends over time" (Gilligan, 1982, p. 28). Through intentional learning, reflection, practice, and engagement with others and the environment, adventure therapy facilitators can offer opportunities for participants to develop an ethic of care and make conscious choices.

Grounding adventure therapy in an ethic of care helps ensure a supportive environment for participants to learn how to consciously make value-aligned choices while fostering a future guided by mutual respect, relational accountability, and sustainable coexistence with the natural world. Thus, the focus of adventure therapy programs broadens beyond individual accomplishments and personal growth to include relational and communal healing.

Indigenous Perspectives

Indigenous knowledge systems are rooted in care ethics that prioritise community well-being. These systems organise economic exchange to strengthen social bonds rather than generate profit. Instead of centralised power structures, communities rely on mutual aid networks where members share resources and support based on collective responsibility and reciprocal relationships. These perspectives can be found across various Indigenous worldviews as well as cultural traditions such as African communitarianism, Confucianism, and Buddhism. They collectively

predate and challenge the dominance of rational individualism in Western thought, which is often found in typical adventure therapy pedagogy. Kimmerer (2015) noted that Indigenous views are often relational and recognise that human survival is intertwined with the health of our natural environment. In alignment with Kimmerer, TallBear's (2013) scholarship focuses on relationships and engages with questions of ethics, care, and responsibility in the context of Indigenous communities, as she explores the intersections of science, race, and Indigenous identity. Concepts such as *ubuntu*, an African concept emphasising interconnectedness; *suma qamaña*, a collective wellbeing concept adopted in the Bolivian constitution of 2009; and Māori principles such as *whanaungatanga* (kinship), *kaitiakitanga* (guardianship), and *manaakitanga* (care) value mutual interdependent relationships with others and resonate with care ethics (Boulton & Brannelly, 2015). These principles extend to ancestors, future generations, and the land itself, stressing the responsibility to safeguard and nurture both human and nonhuman entities alike.

Perspectives From Feminist Scholars

Vina Mazumdar (1994), an Indian activist and feminist scholar, viewed care as a moral and political act, essential for addressing systemic injustices and fostering social transformation. She was a strong proponent of intersectionality in feminism, advocating for the rights of women from marginalised communities, including rural and tribal populations. Mazumdar believed that empathy and care are tools of resistance to challenge patriarchal and exploitative systems. Her work highlighted the importance of nurturing communities through shared responsibilities and mutual aid, particularly in grassroots movements. She advocated fostering empathetic, inclusive, and sustainable communities where care is both a value and a practice. Her approach serves as a reminder that care is not merely a private or personal virtue but a powerful tool for collective liberation and social justice. Similarly, Indian ecofeminist scholar and activist Vandana Shiva (2022) has written about care as a currency of life both in nature and society. For Shiva, the ethic of care is foundational to ecological responsibility and sustainability, emphasising interconnectedness, regeneration, and mutual respect. Shiva (2008) maintained that care is both a creative and transformative act that fosters harmony and abundance through practices of mutuality and giving, inspired by nature's principles of cooperation and renewal. Central to her vision is the rejection of extractive systems of greed that exploit natural resources and communities, in favour of circular economies that prioritise sharing, regeneration, and respect for the Earth's limits. This ethic aligns with ecofeminist values.

Like Shiva, Black queer feminist and activist bell Hooks (2000b) highlighted care as a transformative force in personal and social contexts, often connecting it to feminist and anti-oppression ethics. hooks critiqued how Western societal norms often neglect the ethic of care, particularly under capitalism, which devalues

emotional labour and community. Hooks (2000a, 2000b, 2014) argued in multiple works that care and compassion are acts of resistance, especially for marginalised communities. By centring care, humans can counteract systems of domination, such as patriarchy, racism, and capitalism, that negatively impact their ability to form healthy attachment and relationships to themselves, other humans, and the natural environment.

Hooks (2000a) elaborated on embracing a "love ethic," which involves practising the dimensions of love—such as care, commitment, trust, responsibility, respect, and knowledge—in everyday life (p. 131). She emphasised the importance of cultivating awareness and critically examining one's actions to practise love in a meaningful and transformative way. This process of self-reflection and reflexive awareness is central to her broader arguments about the role of love in both personal relationships and social justice. The works of Mazumdar, Shiva, and hooks provide valuable insights into feminist approaches to care ethics in relation to self, community, and natural environment.

Western feminist scholarship continues the discussion. Noddings's (1984) definition of care highlights the vulnerability of the human condition and emphasised that ethics is about relationships—including parent–child relationships, relationships with other people, societal structures, and the natural world. She stated that humans are part of an intricate web of relationships that make our existence possible. Noddings (1984) highlighted that empathy and compassion may be intrinsic to human nature and potentially accessible to everyone and that taking action in response to situations from a place of empathy and compassion is an ethic of care. In this context, in an ethic of care, the focus is on the intention or consciousness of the individual before acting. While caring actions may follow general patterns, the specifics of how care is expressed can vary.

Held (2006) distinguished between an ethic of care and an ethic of justice, stating, "An ethic of justice focuses on questions of fairness, equality, individual rights, abstract principles, and the consistent application of them. An ethic of care focuses on attentiveness, trust, responsiveness to need, narrative nuance, and cultivating caring relations" (p. 15). Tronto and Fisher (1998) identified key elements of care—attentiveness, responsibility, competence, responsiveness, and plurality—as virtues to be cultivated. These elements are particularly relevant when considering the moral significance of choices, which can profoundly affect individuals, communities, and natural environments.

Dewey's Theory of Valuation

In his theory of valuation (Dewey & Tufts, 1909/2012), Dewey argued that moral judgements should be made with careful attention to the specific circumstances, emphasising that their nature cannot be fully understood without considering the context in which they arise. Dewey's conception of choice-making implies an ethic of care akin to the work of ecofeminist and feminist scholars. Like these scholars,

Dewey believed that people ought to make decisions based on a sense of connection with others and that ethics are formed through relational living. He noted that every choice is likely to satisfy some interests while frustrating others—whether for the person making the choice, other people, or the environment. He believed that making choices requires conscious effort, including knowing what options are available, thinking through the consequences of various options, and recognising one's responsibility to consider self-interest with the needs of others (Wuthnow, 1998). Dewey (1938) believed people learn to make choices through life experiences and experiential education opportunities.

The perspectives of an ethic of care in this chapter are grounded in the work of feminist and ecofeminist scholars Fisher, Gilligan, Haines, Held, hooks, Mazumdar, Noddings, Shiva, TallBear, and Tronto and Dewey's theory of valuation. Needless to say, while care ethics may be said to originate from women's and feminist perspectives, they are meant to guide everyone regardless of gender in making ethical decisions.

Adventure Therapy and Choice

Historically in Western countries in adventure therapy programs, little consideration has been given to the complexity or necessity of choice. These early outdoor and adventure therapy practices advocated impelling participants into experiences—including literally pushing them off cliffs to begin a rappel (Hogan, 1968; Outward Bound, 1968). Inspired by Kurt Hahn's Outward Bound (started in the United Kingdom in 1941), many practitioners believed that "doing" the activities would convince participants that they could achieve goals and that they had power over their lives. This attitude was adopted by many other countries. Personal growth was thought to happen through achievement.

According to Berman et al. (1998), many outdoor adventure therapy programs used stress and disequilibrium to motivate and test participants and had norms such as "everyone must participate in all activities," which they critiqued as possibly harmful rather than helpful to participants' development. Building on outdoor educator Joy Hardin's (1979) research, Mitten (1985) also questioned such norms and practices and suggested that offering choice to participants is an ethical and prudent practice and needs to include participants being able to say no to activities when that is a safe option. Additionally, Mitten (1994), leaning on Fedele and Harrington's (1990) work with women in therapy, asserted that when participants in adventure therapy perceive their engagement in activities as a personal choice, they gain greater confidence in their skills and competence because they feel ownership over their outcomes—such as building a fire or completing a challenging climb. When participants choose to engage in an activity, they experience a sense of agency, recognising that their results are because of their own decisions and efforts. This personal choice reinforces their belief in their capabilities and fosters intrinsic motivation, in contrast to situations where

participants feel coerced, pressured, or overly assisted, which can lead to feeling disconnected from the experience and less satisfied and confident in their achievements or participation.

Tyson and Asmus (2008) published a critique of challenge by choice, citing a "lack of support and education about how to make healthy choices" (p. 267) in that model. They advocated for teaching participants how to make conscious choices as well as offering them opportunities to practise choice-making. This learning about making conscious choices contrasts with many adventure therapy programs that operate using challenge by choice—typically as a way for participants to opt out of an activity but with little guidance and support to deepen learning about making choices. Additionally, the underlying values of the facilitator and/or program can create a culture that rewards certain choices over others. Often, practitioners see their role as moving individuals towards a desired outcome, which compromises choice-making.

As practising adventure therapists, we agree with Tyson and Asmus about the importance of learning to make conscious choices. Time and again, we have seen the potential adventure therapy holds to support participants in learning to make choices that are grounded in care for themselves, others, and the natural environment. At an individual level, people come into adventure therapy programs to address mental, emotional, and physical health challenges and have vastly different experiences and relationships with choice. Some participants may have had overbearing parents, have made few choices for themselves, and have had to frequently ask for permission. Others may have been allowed to make choices but made poor choices (for example, engaging inappropriately with drugs or alcohol) because they were allowed to make choices they were not developmentally prepared for or did not have guidance in developing the skills to consciously make healthy choices. Some have experienced trauma, which affects their capacity to make choices. In each case, participants need to learn or regain healthy choice-making skills.

Adventure therapy can offer opportunities for participants to make choices consciously and develop an ethic of care through intentional learning, reflection, practice, and engagement with others and the environment.

Case Vignettes

The following case vignettes illustrate why it is essential for facilitators to deepen their understanding of choice and show how adventure therapy helps participants learn about making conscious choices grounded in an ethic of care. The Caring for the Natural Environment vignette illustrates how participants can practise reflection and reflexive awareness to learn how to care for and understand their impact on the natural environment. The Reclaiming Choice vignette demonstrates the power of creating a safe enough environment for participants to access their agency and practise conscious choice-making. The Honouring Boundaries vignette demonstrates how adventure therapy can support participants to learn about boundaries

and limits and highlights the need for facilitators to examine definitions of success that have the potential to overrun developmental needs. We encourage readers to keep these vignettes in mind while exploring the rest of this chapter.

Caring for the Natural Environment

Hiking through a sensitive ecosystem such as a forest or wetland, a facilitator might discuss the importance of minimising human impact on the environment and encourage participants to be mindful of the natural world and beings around them. As the group members hike, they are faced with choices such as how to interact with the flora and fauna or whether to stray from the designated trail to explore an area of interest. A participant might be tempted to take a shortcut, creating a social trail, or to step off the trail to get a better view of a rare plant or animal, and the facilitator might encourage them to reflect on how this action could damage the plant life or wildlife habitat and disturb the ecosystem. The facilitator might ask the group members to think about the long-term impact of such actions and whether the temporary pleasure of the experience outweighs the potential harm to nature. The facilitator may ask participants to think critically about the impact of their choices throughout the hike, including disposing waste and litter, walking on sensitive soil, and gathering wild foods. Group members may gather to discuss and reflect together on how to engage with natural environments meaningfully while minimally disrupting them. A goal is to encourage participants to develop a heightened awareness of their relationship with nature and the ethical implications of their choices and at the same time to remember that humans are nature and belong in natural environments.

Reclaiming Choice

Anna, a 34-year-old woman who wanted to learn to rock climb, signed up for a series of lessons. At her first lesson, after putting on her harness and tying in, she said she needed to leave because she felt too exposed. The facilitator helped her gracefully leave. Anna came back on a different day and finished the session. She continued this pattern for each level of rock climbing. In the end, she was delighted that she learned rock-climbing skills. Later, she also disclosed that concurrently with learning to rock climb, she was in therapy, working on issues around incest. In an incestual relationship, the young child feels they have no choice but to do what the parent says because they cannot survive alone. The facilitator, supporting Anna's choice to leave the rock-climbing area when she felt too exposed and encouraging her to come back when she was ready, helped Anna regain a sense of agency and a sense of being able to make healthy and caring choices for herself. Letting participants choose when to step out of an activity can create an

opportunity for them to access their agency and practise choice-making that supports their nervous system health and overall wellbeing. Often, saying no or "sitting it out" can be an act of reclaiming choice and respecting one's own boundaries after years, or a lifetime, of being denied the opportunity or experience of doing so. As facilitators, we cannot know the entirety of participants' histories and lived experiences and therefore are likely not in a position to dictate what is best for them. We authors believe it can be supportive for facilitators to examine and expand their definition of "success" in a program. This is an example of the facilitator being guided by an ethic of care by centring the participant (the one being cared for) over a predefined standard of success that has been established as a norm.

Honouring Boundaries

Rosa, a 6-year-old girl, is climbing on a rock wall. One of her parents at the session encourages Rosa to continue up the rock wall after she requests to come down. The parent says things such as "It's good for you to finish the climb. Getting to the top is important. Push yourself; see how far you can go." What might the impact of hearing statements like these be on Rosa? What might she internalise or hear in these statements? At 6 years old, it is developmentally appropriate for a child to want to come down after they have climbed slightly higher than their body length. Often after they come down, they want to climb again and may go higher each time. However, the parent's behaviour during the rock climbing may give a message to Rosa not to trust herself and that somebody else's definition of success is more important than her needs. It tells her that she must push through body sensations and signals that are telling her that it is time to ask for help or stop. If a person participates in an adventure therapy program and has not learned to set these sorts of boundaries, it is important for the facilitator to understand that this missing developmental piece needs to be learned. Climbing can be an avenue for young children, teenagers, and adults to practise communication and making choices when they are learning about setting boundaries and limits. It can encourage people to think for themselves and engage in activities that may feel risky only as they feel prepared. Mitten explored ways to raise caring adults who can honour their boundaries when they are asked to go further or push themselves beyond their comfort or capacity (The Association for Experiential Education, 2018).

Factors Influencing Choice-Making Skills

People's agency and their ability to make choices are influenced by factors such as socialisation, degree of will, and history of habitual or adaptive choices (Tyson & Asmus, 2008). These aspects, in turn, are shaped by broader influences, including

culture, human development, trauma, social positioning, and group dynamics. In this section, we explore these interconnected factors in greater depth and encourage facilitators to acquire skills in these areas as needed.

The Impacts of Culture and Sociopolitical Factors on Making Choices

As mental health practitioners facilitating adventure therapy in two different contexts—India and the United States—we recognise that systemic, cultural, and sociopolitical factors play an integral role in shaping how individuals and communities navigate care and choice-making processes. Cultures have inherent social norms, values, belief systems, and ways of being that people internalise, and this influences choice-making. Different aspects of a person's identity interact with culture and influence how they relate to care and choice. Becoming aware of how culture and identity impact one's choices can help facilitators support participants to engage in conscious choice-making that is grounded in an ethic of care.

In cross-cultural research, we found little written about choice and decision-making. However, among the many constructs and dimensions of describing cultural differences, "dependence–interdependence" or "individualism–collectivism" has been given considerable thought (Yates & de Oliveira, 2016), as has, to a lesser extent, holistic vs analytical thinking cultures and cultural norm strength (see Gelfand et al., 2011). Nisbett et al. (2001) found holistic thinking is prevalent predominantly in East Asian cultures and is defined by tolerance for seeming contradictions, a focus on relationships, an awareness of context, and the belief that the world continually evolves.

In individualistic cultural contexts like the United States, goals driven by independent values such as self-expression, uniqueness, and self-reliance or autonomy are socially accepted (Snibbe & Markus, 2005), and making decisions independently is recognised as a positive form of self-expression and exercising independence.

According to Akosah-Twumasi et al. (2018), in collectivist cultures, a person is viewed as an interdependent identity. Considering the needs and feelings of others is directly connected to individual survival and safety because the survival and success of the group ensures the wellbeing of the individual. Miller et al. (2011) noted that people from predominantly collectivist cultures derive meaning and connection from caring for those in their community and may make choices that seem to override an individual need. Social expectations to meet the needs of family and friends tend to be more internalised, and role-related social expectations have a relatively greater impact on the choices people make. Many predominantly collectivist societies, such as India, also tend to have hierarchical social structures influenced by factors such as age, gender, birth order, and financial status. In the Indian

context, we observe that many individuals participate in adventure therapy programs to navigate the internal conflicts and pressures associated with making choices that defy these hierarchical social norms. To uphold social harmony, people may accommodate others' expectations and involve others in their choice-making process (Yates & de Oliveira, 2016). By doing so, they may default to a decision socially accepted by others and not explore the wider issues of care for self or the environment.

We observe in both India and the United States that women tend to be gendered to relinquish their needs for the needs of others, illustrating nuances in cultural considerations. As practitioners from different cultural contexts, we intersect in advocating for healthy interdependence and want to help participants learn to make choices grounded in an ethic of care.

Social Context and Positioning

Adventure therapy participants coming from marginalised communities facing ongoing systemic oppression are often denied equal access to choice and environments supportive of their agency on a day-to-day level. Furthermore, across cultures, those who are disenfranchised by society—such as people with disabilities, people of colour, Indigenous people, LGBTQIA2+ individuals, and immigrants—are more likely to be at risk for multiple traumatic events, a finding supported by Matheson et al. (2019), who found that individuals experiencing trauma are often part of marginalised or vulnerable populations.

Trauma

Trauma, including complex trauma, involves a multifaceted loss of agency by threatening an individual's psychological, physical, and emotional safety and, in many cases, spiritual safety as well (Atkinson, 2002), resulting in emotional overwhelm and nervous system dysregulation. Many people who have experienced trauma have historically been denied voice and choice and may have experienced coercive treatment. They may develop adaptive coping strategies and survival responses that impact their relationship with choice and how they communicate their needs. This may look like inaccurately perceiving choices that are presented or not having healthy, well-developed choice-making abilities. Substance Abuse and Mental Health Services Administration's (SAMHSA) (2014) Concept of Trauma and Guidance for a Trauma Informed Approach guidelines recommend supporting participants in shared decision-making with their treatment providers, choice, self-advocacy, and goal-setting to determine the treatment plan moving forward. Their recommendations can be incorporated into adventure therapy.

Human Development

Early childhood development can lay the foundation for crucial choice-making skills that shape individuals throughout their lives. During these formative years, children begin to explore their surroundings, make choices, and learn from the consequences of their actions. Through play, interaction with caregivers, and exposure to various experiences, they can develop cognitive abilities, emotional regulation, and social skills that underpin effective choice-making—though many children do not have the support to develop these skills well (see Narvaez, 2014; Narvaez et al., 2016).

Worldwide, children are being introduced to technology in their early years. This may shape or limit how they learn about making choices by emphasising external validation, curated options, and instant gratification. Additionally, overindulgence and neglective parenting pose significant challenges and adversely impact choice-making skills. For example, a child who has been overindulged materially can substitute feelings of attachment to the material items and make choices aimed at acquiring more material things rather than caring for others and the environment. Helping to develop secure feelings of attachment in healthy human relationships can be an outcome of adventure therapy.

Group Dynamics and Power

The first group experience most people have (and when choice-making skills are first learned) is with their family. Some participants from dysfunctional families do not have healthy experiences, which negatively impacts their ability to make choices. For example, in a group setting, participants' choice to engage in an activity might be externally driven and impacted by myriad factors, including a sense of loyalty to the group or not wanting to let other members down, a desire to impress the facilitator or comply with instructions, or the pressure to succeed in front of peers and avoid feeling shame.

How a choice is presented, who presents the choice, the group dynamics, and people's beliefs and expectations impact decision-making. For example, many mothers and other caregivers fear that peer pressure could cause their teens to engage in high-risk drug and sexual activities. Tyson and Asmus (2008) and others have noted that facilitators' expectations and biases often enter into the way a choice is offered. If a participant believes that the facilitator has an agenda for them to do something or not to do something, the participant, because of the power difference, may make choices they believe the facilitator expects them to (Hardin, 1979), or in some cases, it causes them to become rigid or obstinate. In these cases, the power difference affects their choice-making.

Practical Considerations and Application: Creating a Container Grounded in an Ethic of Care to Learn Choice-Making Skills

In this section, we share practical considerations that weave together trauma-informed concepts and practices (Mitten, 1985; Mitten & Dutton, 1993). Although these interrelated practices may appear straightforward, we invite facilitators to recognise the nuance and layers involved and reflect on how their application can vary based on specific contexts and the diverse needs and identities of participants. Our vision is for more outdoor therapists to ground their work in an ethic of care, integrating practices that ensure participants' security and safety while nurturing conditions where they can learn, develop, and reinforce choice-making skills.

Adventure therapy grounded in an ethic of care opens the door for learning how to make choices consciously and compassionately. Facilitators play a key role by inviting participants to pause, reflect on available options, and consider nonhabitual, conscious ways of engaging with the world. As Haines (2019) noted, when facilitators nurture environments that meet participants' fundamental needs for safety, belonging, and dignity, they set the stage for participants to practise making choices consciously rather than reacting from a habitual or survival-driven state. This method aligns with trauma-informed principles, which aim to prevent retraumatisation and promote healing for individuals from diverse backgrounds, including those who may not have explicit trauma histories.

Honouring Power Differentials Between Participants and Facilitators

As with most care practices, adventure therapy involves inherent power differentials between facilitators (carers) and participants (those being cared for). Facilitators typically have more information, experience, skills, and contextual knowledge than participants, and therefore, by default, they hold more power in these situations. This power differential inherently carries the risk of abuse. Facilitators must remain vigilant and aware of the power dynamics, control tactics, and patterns of manipulation that often characterise abusive relationships—intended or not. This vigilance helps prevent unintentional replication of such harmful dynamics, ensuring space for fostering trust, equality, and respect. Facilitators' underlying beliefs, values, and practices around power play a critical role in shaping the environment. Depending on how these are expressed, they may foster an environment conducive to the development of an ethic of care and choice-making skills, have no impact, or hinder growth by reinforcing habitual and maladaptive behaviours. When expressed mindfully and in healthy ways, power differences can contribute to participants' sense of safety. For instance, participants need to know that facilitators will provide reliable

information about safety and risk and dependable guidance in emergencies. Honouring power differentials involves navigating consent, practising assertive care, facilitators explaining what they are doing and why, sharing knowledge and skills, and using invitational language.

- **Navigating consent.** Actively engaging with consent is a continual process during all phases of adventure therapy. While consent can be defined as an enthusiastic "yes," what is equally powerful is creating the space and opportunity for participants to say a guilt-free, self-assured "no." For many, especially those who have experienced trauma or abuse linked to nonconsensual or coercive experiences, the space to make choices without feeling pressured (internally or externally) is a fundamental step towards making choices consciously and reclaiming agency. Facilitators play a key role in normalising and reinforcing consent by encouraging participants to express discomfort, voice when they feel unsafe, and make choices that prioritise their wellbeing. Acknowledging and affirming a participant's decision to step back from an activity reinforces that saying "no" or "not now" is acceptable and respected. For example, allowing participants to step in and out of an activity where possible supports their emotional regulation and helps them to recognise their emotional state and personal boundaries and act accordingly. This seemingly simple practice has profound implications for learning about consent and choice-making skills, as it demonstrates that participants have agency of their own involvement. For some, the concept of consent or noncoercive relationships may be new. When participants have the opportunity to negotiate consent, they gain control over their involvement and can better self-pace their participation—two critical factors in developing a sense of agency. Experiencing, learning about, and practising consent within a caring environment and community that actively encourages and supports agency can be deeply restorative and healing.
- **Practising assertive care**. In adventure therapy, there are times when certain aspects are nonnegotiable, and decisions must be made solely by the leader or facilitator. This is referred to as *assertive care* (Clarke & Dawson, 2009), a practice that is particularly relevant when participants' physical, emotional, social, or spiritual safety is at stake in an adventure therapy context. While adventure therapy emphasises agency and choice, clear and assertive guidance in high-risk situations can help participants feel taken care of and experience a deeper sense of safety. When facilitators establish and clearly and assertively present nonnegotiable rules in situations where the risks are high, they create a structured environment where participants can engage fully. Assertive care takes many forms, such as requiring participants to wear life jackets and other safety equipment during an adventure activity, intervening when someone is being bullied through racist or sexist remarks, ensuring access to nutritious food, being inclusive of the different ways people find meaning in and understand the sacred, or reminding participants to stay hydrated on hot days. In these

instances, facilitators model care that is firm yet considerate, reinforcing that boundaries and structure can coexist with care, support, and respect.

- **Facilitators explaining what they are doing and why.** Facilitators having a collaborative mindset and way of working can enhance engagement and rebalance power dynamics. Additionally, participants cocreating their experiences can be powerful testaments to their agency while affirming their role in shaping their experiences. When facilitators recognise and value participants' agency, then they can cocreate the program to the extent that it is practical and safe. Sharing information is a first step in cocreating the experience. For example, in outdoor contexts, information is often directly linked to safety and survival, and participants can be anxious about the unknown. Facilitators can help participants decrease anxiety and reinforce participant agency by explaining what they are doing and why. Providing context helps create a shared understanding of upcoming activities and associated risks, supporting participants to engage with greater confidence. When developmentally appropriate, greater transparency about the program or environment generally helps participants be more involved in shared decision-making and overall processes. Facilitators can further support this by encouraging participants to recognise and celebrate their contributions, reinforcing their capacity to make meaningful choices within the adventure therapy process.
- **Empowering participants by sharing knowledge and skills.** During adventure activities, participants may benefit from understanding the safety equipment and learning the specific skills required, rather than simply being "taken" up the mountain or having their tents pitched for them. This encourages participants to acknowledge their contributions and the choices they make, fostering a deeper sense of agency, personal achievement, and responsibility. Another advantage of learning outdoor skills is that participants may feel empowered and supported to spend more time in nature after the program, knowing they have the skills to navigate such environments safely.
- **Using invitational language.** Facilitators can foster a welcoming and inclusive environment by using invitational language and exploratory questions rather than directives or binary choices whenever possible. For instance, they might invite participants to write in a group diary or help start the campfire. If a participant says no, when appropriate, a facilitator might ask if they can check in again and revisit the invitation at a different time. The facilitator might also present open-ended options such as "Would you like to do A, B, or something else?" This offers participants structure and opportunities to explore their own ideas, and make decisions that align with their needs and values. These approaches respect and reinforce participant agency and sovereignty, by signalling that they are being invited to engage rather than directed or obligated to act in specific ways. As mentioned, in situations involving participant health and safety, it may be necessary for facilitators to practice assertive care and limit options and choices.

Building Safety and Context

An atmosphere grounded in an ethic of care requires establishing a foundational background, parameters, and shared understanding to shape subsequent interactions and experiences. This process begins well before participants arrive. The goal is to ensure they have a clear sense of the program's purpose and environment, which helps them feel as secure as they can amid the inevitable uncertainties of stepping into an unfamiliar setting, joining a new group, and navigating the unknowns of the program. Foundational to this process is fostering a sense of emotional, social, spiritual, and physical safety before, during, and after a program. When participants feel safe enough, they are better able to make conscious choices. Facilitators play a key role in building this sense of safety by establishing context, clarifying expectations, and creating a supportive environment for learning about care and choice. Providing participants with adequate and accurate information, responding timely to questions, and clarifying boundaries are practices that help participants feel informed, respected, and empowered as they step into their experiences.

- **Providing participants with adequate and accurate information**—without assuming prior knowledge—helps build trust and preparedness. Sharing comprehensive information about the terrain, weather, expected activities, physical exertions, and the program objectives empowers participants to make informed choices and sets expectations. Guiding participants on essential details, such as gear and physical fitness requirements, food arrangements, and travel logistics, helps assure them their basic needs will be met, boost their confidence, and enable more effective engagement. Additionally, sending relevant documents ahead of time—such as those related to consent for therapy, health information, and potential risks—allows participants to process this material in familiar settings. This preparation ensures they arrive informed about the program's parameters and boundaries.
- **Welcoming and answering participants' questions** directly and patiently builds trust and rapport by signalling to participants that their needs are important. Especially at the start of a program, participants may have many questions. While it can be tempting to defer answers about later parts of the program with "We'll get to that later," providing at least a brief answer immediately helps participants feel valued and establishes trust. Offering information also helps level the playing field, since participants arrive with varying skills, knowledge levels, and outdoor experience. By prioritising timely communication, facilitators convey to participants they are respected and integral cocreators of the program. In some programs, adventure therapy facilitators may inappropriately withhold relevant information before or during programs to challenge participants to "overcome" their fear of the unknown or "get out of their comfort zone."[1] For example, a facilitator might mislead a participant about the difficulty

[1] Mitten (2018, 2021) critiqued the traditional emphasis on pushing individuals out of their comfort zones, particularly when working with trauma survivors. She advocated for creating

level of a trail or an adventure activity, suggesting it is shorter or less challenging than it actually is, with the goal of encouraging the participant to attempt it and potentially "succeed." Or, a facilitator might tell participants an activity is harder or longer than it actually is, in hopes that when they "succeed," they have a sense of accomplishment. However, these tactics may not support participants—particularly those impacted by trauma or systemic oppression—in feeling safe. Instead, they can heighten distress levels, pulling participants away from the present moment and the therapeutic process. It is essential to critically examine whether withholding information supports participants' growth and larger goals in therapy or whether it reflects the facilitator's attachment to a specific outcome or other motive. If facilitators pull surprises, such as an extra mile of hiking or losing the tent poles, which sometimes is done with the intention of creating learning experiences that are thought to build character, it typically erodes trust, increases anxiety, heightens the power differences, and discourages participants from cocreating the program or activity. Instead, we authors advocate for facilitators building safety and predictability by providing adequate context and information and thoroughly explaining what they are doing and why. This reflects respect for participants' agency and creates an environment conducive to growth and healing.

- **Clarifying boundaries, roles, and responsibilities**—before, during, and after a program—helps set expectations and create a sense of safety and context. Participants often feel secure when they understand the rules and boundaries of the space, including knowing the general structure of the program, what to expect during the program and activities, and distinguishing between their responsibilities and those of the facilitator.

  Some rules are nonnegotiable and set with assertive care, while others may be collaboratively shaped with group members. Defined roles provide structure, reduce uncertainty, and foster security. For example, when setting up camp, a facilitator might demonstrate proper tent-pitching techniques and oversee fire-building safety, while participants take responsibility for gathering firewood or preparing meals. Communicating boundaries involves outlining areas where participants have freedom to make choices—such as selecting a partner for an activity—from areas where choice is limited, such as following safety protocols. Clarity with autonomy and structure supports participants in navigating their choices within a safe and well-defined framework.

---

emotionally safe, relational environments that prioritise agency and wellbeing rather than relying on stress-based models. Mitten highlighted that for individuals with complex trauma and those facing ongoing systemic oppression and marginalisation, the concept of a comfort zone might be elusive, and it might be more restorative and healing for nature to be a place of solace rather than stress. This approach fosters healing by allowing individuals to process their experiences at their own pace and with a sense of agency and control over their participation.

Creating an Inclusive and Equitable Environment

Especially in Western contexts, the outdoors has long been framed—both culturally and structurally—as a space primarily for affluent White men, shaping who feels welcome, represented, and safe in outdoor recreation and professional fields like adventure therapy. This exclusionary narrative is reinforced by media representation, historical access barriers, and systemic inequities that create limited opportunities for marginalised communities, including people of colour, women, LGBTQIA+ individuals, and people with disabilities. As a result, many face additional challenges in accessing outdoor spaces, from financial and logistical barriers to concerns about safety, discrimination, and a lack of culturally relevant programming. Expanding inclusivity in the outdoors requires dismantling these barriers, amplifying diverse voices, and ensuring that outdoor spaces are welcoming, accessible, and affirming for all populations.

Creating supportive environments for diverse audiences begins with facilitators valuing and respecting participants' voices, recognising that individual needs vary and can be met in various ways. This also means recognising that participants from marginalised communities bring unique strengths, creativity, histories, skills and adaptability shaped by their lived experiences. These contributions enrich the adventure therapy experience for everyone involved and create a more inclusive environment. It is important for facilitators to approach participants with respect and curiosity, honouring their perspectives and contributions without imposing a one-size-fits-all model of participation or a normative framework of what participation should look like. Rather than seeing some participants as needing to be fixed, changed, or taught remedial skills to be "good enough," facilitators can learn to see resilience as an innate natural capacity that can be uncovered and nurtured and adapt programs to be inclusive and responsive to diverse needs and strengths. This affirms the value of participants' identities, inner resources, and experiences while challenging biases and assumptions that perpetuate marginalisation within therapeutic spaces. For example, inclusivity means understanding that "equal" does not mean everyone carries the same weight in their pack. A participant with a back ailment may carry less but contribute by cooking meals or leading songs around the campfire. Flexibility around goals and an openness to multiple ways of engaging with outdoor activities create a more equitable program environment. In doing so, facilitators can shift away from a success–failure mindset, detach from fixed outcomes, and recognise that individual accomplishments are unique and special to each person. Encouraging self-determined choices, personal goals, and individual ways of relating with nature and activities can help participants relax, engage more fully, and come to know and express themselves authentically.

By fostering environments that prioritise equity and inclusivity, facilitators create spaces where participants can feel seen, valued, and empowered to engage authentically, on their own terms. In addition to facilitators having inclusive and collaborative mindsets, actions they may use are described.

- Facilitators can take the time to interact individually with participants and ask questions to gather detailed understanding of participants' histories, motivations, and individual safety and accessibility needs before a program. Asking questions about what helps people stay present in the process and feel safe in a group context can be an effective way to foster equity and inclusion by acknowledging that people's needs differ and ensuring that, as far as possible, the program is tailored to each participant to enable them to participate to their full capacity (Aylward & Mitten, 2022).
- Participants need to feel assured that facilitators are available for emotional support. Fun and celebration are program components that signal that facilitators are approachable, while aiding participants' learning and helping facilitate a warm, inclusive, and equitable program environment. While a warm and welcoming tone from facilitators can help many participants feel more secure, some participants may have experienced harm from individuals who initially appeared warm and welcoming. Therefore, patience and sensitivity are essential, as building trust may require more time and care.
- Encouraging shared responsibility and striving for collectivity by sharing decision-making, as safety permits, supports inclusion. Using shared decision-making as much as appropriate given safety and developmental concerns provides participants ownership of the program and their choices.

Modelling Care

Humans learn how to care by receiving care. Creating supportive environments and modelling care in various ways provides the foundation for participants to learn how to make choices consciously, including taking the time and space needed to identify their needs and wants. Observing and feeling caring attitudes and behaviours from facilitators as they make care-centred choices in the interests of the participants can serve as powerful examples and inspiration for participants. While there are times facilitators need to postpone their needs to care for participants, they may also model self-care by managing a schedule to get appropriate rest and nutrition and explicitly stating and taking care of their needs, such as stopping for water and snack breaks and, when appropriate, acknowledging that they need a rest. Facilitators displaying genuine feelings of comfort and ease in the outdoors, especially in the area chosen for the program, model a positive relationship with the natural environment, which helps participants' sense of security.

We authors advocate for modelling a caring, reciprocal relationship with the natural environment and engaging in outdoor experiences for their inherent value. We challenge notions of building resilience by asserting dominance over nature or using it as a testing ground for Western ideals of strength and success (Mitten, 1994, 2018). We are careful to avoid "survival mode" language that implies

conflict or conquering nature, such as "attack the trail," "battle the elements," or "hit the water." Instead, we use adapting or coping language that focuses on collaboration, respect, coexistence and partnership with nature.

Conclusions

Choice and care are complex, dynamic, and relational processes integral to living in community. Worldwide, societies face overlapping crises, including the climate crisis, political crisis, familial crisis, economic crisis, and the healthcare crisis. At the core of these crises is a lack of caring relationships and an abundance of competition and capitalisation—reinforced through patriarchy. Adventure therapy provides opportunities to experience caring environments and practise making choices within that environment. Facilitators need to be experts in creating inclusive environments and modelling an ethic of care. In a caring atmosphere, there is unconditional belonging. There is no need for external validation or possessions to define a person's value. Value is derived from being part of a web of relationships.

In creating a caring atmosphere where relationships are grounded in an ethic of care, a number of beliefs exemplified by past adventure therapy pedagogy may need to be discarded, such as fostering the ideal of independent people and self-mastery. Many adventure therapy programs focus primarily on individualistic values of self-reliance and personal success and personal achievement (Bowen & Neill, 2013), positioning the individual as the primary unit of moral and political consideration. The emphasis on individualism and framing challenges as opportunities for self-improvement can be in contrast to creating relationships based on acceptance. The focus on risk taking and pushing personal limits may be counter to forming caring relationships with participants. Finally, the commodification of outdoor experiences into therapeutic products where nature is framed as a resource for personal development is contrary to an ethic of care. We advocate for broadening adventure therapy's focus to include relational and communal healing. As adventure therapy facilitators, we cocreate with participants an equitable, inclusive, and caring adventure therapy environment, intentionally incorporating choice-making skills grounded in an ethic of care.

We authors propose that adventure therapy, with a pedagogical goal of aiding participants to develop choice-making skills, increase their understanding of the ethical implications of their choices, and reflect on the impacts of their choices, can contribute to a more caring and compassionate world. Participants' deepened understanding of their process and skills around making choices are transferable to other aspects of their lives and enhance resilience, relationships, and overall wellbeing, extending to their communities and the natural environment.

References

Akosah-Twumasi, P. I., Emeto, T., Lindsay, D., Tsey, K., & Malau-Aduli, B. S. (2018). A systematic review of factors that influence youths career choices: The role of culture. *Frontiers in Education*, *3*. https://doi.org/10.3389/feduc.2018.00058

Atkinson, J. (2002). *Trauma trails, recreating song lines: The transgenerational effects of trauma in Indigenous Australia*. Spinifex Press.

Aylward, T., & Mitten, D. (2022). Celebrating diversity and inclusion in the outdoors. *Journal of Outdoor and Environmental Education*, *25*(1), 1–10. https://doi.org/10.1007/s42322-022-00104-2

Berman, D. S., Davis-Berman, J., & Gillen, M. (1998). Behavioral and emotional crisis management in adventure education. *Journal of Experiential Education*, *21*(2), 96–101. https://doi.org/10.1177/105382599802100205

Boulton, A., & Brannelly, T. (2015). Care ethics and indigenous values: Political, tribal and personal. In M. Barnes, T. Brannelly, L. Ward, & N. Ward (Eds.), *Ethics of Care: Critical Advances in International Perspective* (p. 69–82). Bristol University Press. https://doi.org/10.1332/policypress/9781447316510.003.0006

Bowen, D. J., & Neill, J. T. (2013). A meta-analysis of adventure therapy outcomes and moderators. *The Open Psychology Journal*, *6*, 28–53. https://doi.org/10.2174/1874350120130802001

Bruno, A., Galuppo, L., & Gilardi, S. (2011). Evaluating the reflexive practices in a learning experience. *European Journal of Psychology of Education*, *26*, 527–543.

Clarke, J. I., & Dawson, C. (2009). *Growing up again: Parenting ourselves, parenting our children*. Simon and Schuster.

Dewey, J. (1938). *Experience and education*. MacMillan.

Dewey, J., & Tufts, J. H. (2012). *Ethics.* The Project Gutenberg eBook of Ethics. (Original work published in 1909). https://www.gutenberg.org/files/39551/39551-h/39551-h.htm

Fedele, N., & Harrington, E. A. (1990). *Women's groups: How connections heal* (Vol. 47). Stone Center, Wellesly College.

Fisher, B., & Tronto, J. (1990). Toward a feminist theory of care. In E. K. Abel & M. K. Nelson (Eds.), *Circles of care: Work and identity in women's lives* (35–62). State University of New York Press.Fisher and Tronto.

Gass, M. A., Gillis, H. L., & Russell, K. C. (2020). *Adventure therapy: Theory, research, and practice* (2nd ed.). Routledge.

Gelfand, M. J., Raver, J. L., Nishii, L., Leslie, L. M., Lun, J., Lim, B. C., Duan, L., Almaliach, A., Ang, S., Arnadottir, J., Aycan, Z., Boehnke, K., Boski, P., Cabecinhas, R., Chan, D., Chhokar, J., D'Amato, A., Ferrer, M. S., Fischlmayr, I. C., & Yamaguchi, S. (2011). Differences between tight and loose cultures: A 33-nation study. *Science (New York, N.Y.)*, *332*(6033), 1100–1104. https://doi.org/10.1126/science.1197754

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development*. Harvard University Press.

Haines, S. (2019). *The politics of trauma: Somatics, healing, and social justice*. North Atlantic Books.

Hardin, J. (1979). Outdoor/wilderness approaches to psychological education for women: A descriptive study [Unpublished doctoral dissertation]. University of Massachusetts.

Held, V. (2006). *The ethics of care: Personal, political, and global*. Oxford University Press.

Hogan, J. M. (1968). *Impelled into experiences: The story of the Outward Bound schools*. Educational Productions.

Hooks, B. (2000a). *All about love: New visions*.

Hooks, B. (2000b). *Feminism is for everybody: Passionate politics*. Pluto Press.

Hooks, B. (2014). *Teaching to transgress*. Routledge.

Iyengar, S. (2011). *The art of choosing*. Abacus.

Kimmerer, R. W. (2015, March 30). *Nature needs a new pronoun: To stop the age of extinction, let's start by ditching "it."* YES! Magazine. https://www.yesmagazine.org/issue/together-earth/2015/03/30/alternative-grammar-a-new-language-of-kinship

Magnuson, D., Dobud, W., & Harper, N. J. (2022). Can involuntary youth transport into outdoor behavioral healthcare treatment programs (wilderness therapy) ever be ethical? *Child & Adolescent Social Work Journal*, 1–9. https://doi.org/10.1007/s10560-022-00864-2

Shiva, V. (2022, July 14). *Manifesto on economies of care and Earth Democracy*. Navdanya International. https://navdanyainternational.org/publications/manifesto-on-economies-of-care-and-earth-democracy/

Matheson, K., Foster, M. D., Bombay, A., McQuaid, R. J., & Anisman, H. (2019). Traumatic experiences, perceived discrimination, and psychological distress among members of various socially marginalized groups. *Frontiers in Psychology*, *10*, 409087416. https://doi.org/10.3389/fpsyg.2019.00416

Mazumdar, V. (1994). Towards a feminist perspective on peace. In U. Butalia (Ed.), *Women and peace: A feminist perspective* (79–93). Kali for Women.

Merriam-Webster. (n.d.). Care. In *Merriam-Webster.com dictionary*. Retrieved May 27, 2025, from https://www.merriam-webster.com/dictionary/care

Miller, J. G., Das, R., & Chakravarthy, S. (2011). Culture and the role of choice in agency. *Journal of Personality and Social Psychology*, *101*(1), 46–61. https://doi.org/10.1037/a0023330

Mitten, D. (1985). A philosophical basis for a women's outdoor adventure program. *Journal of Experiential Education*, *8*(2), 20–24.

Mitten, D. (1994). Ethical considerations in adventure therapy: A feminist critique. In E. Cole, E. Erdman, & E. Rothblum (Eds.), *Wilderness therapy for women: The power of adventure* (55–84). Harrington Press.

Mitten, D. (2018). Women and leadership: Commitments to nurturing, more-than-human worlds, and fun. In T. Gray & D. Mitten (Eds.), *The Palgrave international handbook of women and outdoor learning* (109–128). Palgrave MacMillan.

Mitten, D. (2021). Critical perspectives on outdoor therapy practices. In N. J. Harper & W. W. Dobud (Eds.), *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives* (175–187). Routledge.

Mitten, D., & Dutton, R. (1993). Outdoor leadership considerations with women survivors of sexual abuse. *Journal of Experiential Education*, *16*(1), 130–140.

Narvaez, D. (2014). *Neurobiology and the development of human morality: Evolution, culture and wisdom*.

Narvaez, D., Gettler, L., Braungart-Rieker, J., Miller Graff, L., & Hastings, P. (2016). The flourishing of young children: Evolutionary baselines. In D. Narvaez, J. Braungart Rieker, L. Miller, L. Gettler, & P. Hastings (Eds.), *Contexts for young child flourishing: Evolution, family and society* (3–27). Oxford University Press.

Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review*, *108*(2), 291–310. https://doi.org/10.1037/0033-295X.108.2.291

Noddings, N. (1984). *Caring: A feminine approach to ethics & moral education*. University of California Press.

Outward Bound. (1968). *Outward bound*. ERIC Clearinghouse.

Oxford Learners Dictionaries. (n.d.). Choice. In *Oxford Advanced American Dictionary*. Retrieved May 27, 2025, from https://www.oxfordlearnersdictionaries.com/definition/american_english/choice_1

Sahakian, B., & LaBuzetta, J. N. (2013). *Bad moves: How decision making goes wrong, and the ethics of smart drugs*. Oxford University Press.

Substance Abuse and Mental Health Services Administration. (2014). *SAMHSA's concept of trauma and guidance for a trauma-informed approach*. HHS Publication No. (SMA 14-4884). https://scholarworks.boisestate.edu/covid/7/

Shiva, V. (2008). *Soil not oil: Environmental justice in an age of climate crisis*. South End Press.
Snibbe, A. C., & Markus, H. R. (2005). You can't always get what you want: Educational attainment, agency, and choice. *Journal of Personality and Social Psychology*, *88*(4), 703–720. https://doi.org/10.1037/0022-3514.88.4.703
Sugerman, D. A. (2000). *Reflective learning: Theory and practice*. Kendall Hunt.
TallBear. (2013). *Native American DNA: Tribal belonging and the false promise of genetic science*. University of Minnesota Press.
The Association for Experiential Education. (2018, July 18). *Lessons from the field: Setting boundaries* [Video]. YouTube. https://www.youtube.com/watch?v=klwWTqsaevs
Tucker, A. R., Combs, K. M., Bettmann, J. E., Chang, T.-H., Graham, S., Hoag, M., & Tatum, C. (2018). Longitudinal outcomes for youth transported to wilderness therapy programs. *Research on Social Work Practice*, *28*(4), 438–451. https://doi.org/10.1177/1049731516647486
Tyson, L., & Asmus, K. (2008). Deepening the paradigm of choice: Exploring choice and power in experiential education. In K. Warren, D. Mitten, & T. A. Loeffler (Eds.), *Theory and practice of experiential education* (262–281). Association for Experiential Education.
Wuthnow, R. (1998). Morality, spirituality, and democracy. *Society*, *35*, 37–43. https://doi.org/10.1007/BF02686134
Yates, J. F., & de Oliveira, S. (2016). Culture and decision making. *Organizational Behavior and Human Decision Processes*, *136*, 106–118. https://doi.org/10.1016/j.obhdp.2016.05.003

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 30
Human Rights and Environmental Justice in Outdoor Health Practices

Christine Lynn Norton, Starla Simmons, Uncle Ken Jones, and Sarah O'Connell

Sociocultural Positioning

We recognise that three of the authors of this chapter are citizens of the United States and live in a nation that has not fully embraced the concept of human rights and environmental justice; we bring a critical lens and own our positionality in this work. All three U.S. authors are social workers and adhere to the International Federation of Social Workers *Global Social Work Statement of Ethical Principles* (IFSW, International Federation of Social Workers, 2018), which includes a focus on human rights, social justice, and treating people as whole persons with the right to self-determination, participation, and access to resources. Our team of authors also includes a non-U.S. Australian Aboriginal cultural elder and outdoor practitioner, who brings his critical lens and positionality to this work. Although the four authors cannot represent the spectrum of global cultural diversity, we hope that our

C. L. Norton (✉)
Texas State University, School of Social Work, San Marcos, USA;
Outdoor Research Collaborative for Health, Wellbeing, and Experiential Engagement, San Marcos, USA
e-mail: cn19@txstate.edu

S. Simmons
Earl Maxwell Scholar Program at the UT School of Social Work, Austin, USA
e-mail: starla.simmons@utexas.edu

U. K. Jones
Bush Adventures and Bush Repair, Advisor to PIRSA Fisheries, Aboriginal Heritage and Outdoor Health Australia, Consultant to Flinders University and several other Government agencies, Adelaide, Australia
e-mail: info@bushrepair.com.au

S. O'Connell
Alpine Integrative Wellness, Idaho, USA
e-mail: sarah@alpineintegrativewellness.com

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_30

human rights and environmental justice frameworks will have applicability in outdoor health practices and programs around the world.

Introduction

There has been a dramatic rise in mental health problems around the world, especially following the COVID-19 Pandemic (Penninx et al., 2022). Rates of depression, anxiety, posttraumatic stress disorder (PTSD), and addiction have increased, and there is often a lack of equity and access when it comes to being able to seek formal help and support (Kola et al., 2021). The quality of global mental health has decreased, affecting the wellbeing of individuals, families, and communities (Moitra et al., 2023).

The World Health Organization (WHO, 2022a) defines mental health as a state of wellbeing in which every individual realises their own potential, can cope with the normal stresses of life, can work productively and fruitfully, and can contribute to their community. Mann et al. (2016) reminded us that "mental health is reliant on the wide array of supports and resources that facilitate individual engagement" (para. 2). However, the conditions of social and environmental determinants of health are decreasing around the world, putting citizens at higher risk of developing mental health conditions. Protective factors such as quality education, health care, a living wage, safe and affordable housing, and access to safe outdoor spaces are diminishing as nationalism and capitalism fuel war, terrorism, and climate change around the world. All these risk factors further increase psychological vulnerability to mental health disorders.

In the face of these overwhelming risk factors, this chapter seeks to do several things. First, it aims to present an honest account of the global and historical context, which encompasses colonisation, conquest, and capitalism, all rooted in power-driven dynamics. Within our species, many cultures have focused on domination over rather than collaboration with, and some cultures have travelled the world enforcing their beliefs, attitudes, and languages on others. The continuation of aggressive colonising behaviours, such as war, ecological destruction, and racism, contributes to cultural destabilisation for minorities and political struggles (Koshy et al., 2022). This exacerbates climate change, chronic poverty, and oppression, particularly for women and girls around the world, as well as people facing intersecting disadvantages (Koshy et al., 2022). Writing about health and wellbeing needs to acknowledge these realities.

While this chapter does not seek to add to the false dichotomy between physical and mental health, given that outdoor health programs around the world often focus on promoting recovery from mental health disorders, trauma, and addiction, we do centre mental health in this chapter. We also centre mental health because people with mental health conditions worldwide lack access to quality care and experience various human rights violations (WHO, 2023). These include violations around informed consent, involuntary treatment, and overly restrictive environments, as

well as exclusion, isolation, and discrimination (WHO, 2023), which we review later in this chapter.

When it comes to mental health, human rights and environmental justice matter. There may be practitioners and researchers who have not fully considered the implications of these frameworks within mental health care. We aim to define the human rights and environmental justice frameworks needed to fully support physical and mental health. This is critical because the medical model of treatment, and sociopolitical coercions, have often ignored these important concepts; despite the advances in technology, medication, and theoretical approaches, human beings and the planet are sicker than ever (Fraser, 2023).

This chapter examines human rights and environmental justice in outdoor health practices, largely focusing on mental health and wellbeing. We review outdoor health practices that focus on therapeutic intervention for mental health, addiction, and trauma, and advocate for practices that promote human rights and environmental justice. We also examine barriers to implementing a human rights-based approach (HRBA) to outdoor therapy and discuss ethical dilemmas in various cultural contexts that may threaten human rights. Finally, we provide implications for practice and research.

Defining a Human Rights Framework

According to the United Nations (UN, n.d.-b), human rights are

> rights inherent to all human beings, regardless of race, sex, nationality, ethnicity, language, religion, or any other status. Human rights include the right to life and liberty, freedom from slavery and torture, freedom of opinion and expression, the right to work and education, and many more. Everyone is entitled to these rights, without discrimination (para. 1).

Human rights include social and environmental determinants of health that can mitigate the risk factors for developing mental health problems in the first place. Social and environmental determinants of health "are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks" (U.S. Department of Health and Human Services [DHHS], n.d.). They include economic stability, education access and quality, healthcare access and quality, a healthy environment, safe neighbourhoods and housing, and social and community support. When these protective factors are missing or, even worse, when overt human rights violations occur, such as torture, forced displacement, genocide, or other types of systematic oppression, mental health suffers greatly (Steel et al., 2009).

Indigenous views on human rights must also shape our human rights framework. According to Boandik elder Uncle Ken Jones, in the Australian context, traditional Boandik culture values respect and care for country (land and sea), the fostering of family and community wellbeing, celebrating spirituality through

ceremony, song, and dance, and yarning (equal circle talking) (K. Jones, personal communication, May 24, 2024).

The invasion of Indigenous peoples' lands, the murder of individuals and families, and the erasure of cultures have threatened survival, as well as family and community values, freedom of choice, and freedom of movement related to traditional practices. Due to the harmful effects of colonisation, Indigenous communities have also been disproportionately affected by a lack of access to safe drinking water, suitable housing, nutritious food, and physical and behavioural health care, reinforcing the role of social–environmental determinants of health within a human rights framework for practice.

Though outdoor health practices do not target all these areas, we recognise the systemic nature of health as being a condition of being deeply connected—to oneself, to others, and to the natural environment—and having access to the resources needed for growth and survival. This systemic approach to health, outlined by the UN/WHO *International Classification of Functioning, Disability and Health* (*ICF*), is fundamental to health promotion and human rights (Casteneda, 2018). As Mann et al. (2016) wrote, "The relationship between mental health and human rights is complex and bidirectional" (para. 1). In defining a human rights framework for outdoor practices, we believe that it is essential to consider human rights as a protective factor in promoting mental health, while also adopting a client-centred approach that upholds the dignity, self-determination, and worth of the individuals participating in mental health treatment.

Mann et al. (2016) referred to a client-centred model as a HRBA to mental health. Utilising a HRBA "means placing emphasis not only on avoiding human rights violations but making sure that human rights principles are at the center of a service-providing organisation" (Mann et al., p. 4). The UN *Universal Declaration of Human Rights* (1948), the *Convention on the Rights of the Child* (1989), and the *Convention on the Rights of People with Disabilities* (2006) all provide guidance for how to protect and maintain the human rights of all people, especially of those who are most vulnerable in society. However, these treaties are not always at the forefront of mental health treatment around the world.

To address the potential for harm in outdoor therapy, and to support safe and effective practice in the Australian context, in 2009, the Australian Association for Bush Adventure Therapy (AABAT) endorsed a set of 13 ethical principles for practice (Pryor, 2018). Because AABAT is a volunteer-led, unfunded community-based national body, the monitoring of adherence to the principles has not been possible, yet the absence of significant harms and deaths in bush adventure therapy services in Australia suggests that these statements may have helped establish a relatively safe culture of practice and assisted practitioners and organisations to consider their own practices when facing ethical practice-related dilemmas. AABAT's ethical principles are

- positive regard for all people;
- respect for differences in culture, gender, age, and identity;
- strong family and community connections;

- transparency, informed consent, and confidentiality;
- voluntary participation (within the confines of service type);
- selection for "readiness" to participate;
- attention to individual and group needs and hopes;
- supportive physical, psychological, and social environments;
- tailored adventure experiences;
- provision of options and choices (including supported exits);
- respect for cultural custodianship of country;
- increasing self-awareness and reflexive practice;
- safety and no harm to self, others, or natural environments.

Outdoor behavioural health researchers in the United States have acknowledged that some wilderness therapy programs "were developed in isolation without consideration of best practices and client voice" (Tucker et al., 2022, p. 389), which is in direct opposition to a HRBA. These same researchers have advocated for increasing client consent and participation in the treatment process, creating an ethical framework for practice and enhancing practice standards (Tucker et al., 2022), but not all outdoor practices apply a HRBA. It is unknown if and how many outdoor practices and programs around the world fall short of a HRBA to client-centred care. This is an area worthy of further investigation.

Harper (2017) addressed the importance of human ethics and autonomy in outdoor programs, and Harper and Fernee (2022) noted a "lack of dialogue and research on ethics related to common understandings of care concepts such as relational dignity and human rights" (p.2) and issued a call to action to centre client dignity, client voice, and choice, and an ethic of care in outdoor therapies. Pringle (2022) also issued a call to action for all adventure therapy providers to recognise and adhere to human rights international standards and provided key recommendations, which included a focus on client rights, client grievances, oversight, and reparations. The voices of these scholars raise important questions and highlight the importance of a robust ethical framework to guide international outdoor therapy practice.

Creating a human rights framework for practice is essential, yet according to Curtice and Exworthy (2010), "The general understanding of human rights has not progressed from legal concepts into values that could meaningfully inform the decision-making processes within provider organisations or positively enhance the experience of service users" (p. 154). Like these authors, we believe that meaningful enhancement of service users experiences can be achieved by focusing on adherence to the underlying core values of fairness, respect, equality, dignity and autonomy, or FREDA. FREDA was introduced by Curtice and Exworthy as a HRBA to health care, with case studies that illustrate the implementation of each principle. FREDA is defined by Curtice and Exworthy as the following:

> **Fairness:** The consideration of the client's opinion and point of view and the opportunity to have that point of view expressed, listened to, and weighed, alongside other factors relevant to the decision to be taken.

> **Respect:** Respect is the objective, unbiased consideration and regard for the rights, values, beliefs, and property of other people. This includes respect for their value systems and implies that these are fully considered before decisions that may overrule them are taken.
>
> **Equality:** Equality includes non-discrimination and overlaps with respect. It also includes equity of access and equity of treatment, as well as the need to have clinical procedures that remove arbitrariness from the decision-making process.
>
> **Dignity:** Dignity in care means the kind of care, in any setting, that supports and promotes, and does not undermine, a person's self-respect regardless of any difference. Dignity arises from the dynamic between a person's own sense of worth and how others treat them.
>
> **Autonomy:** Autonomy is based on the principle of self-determination, whereby a person can make choices about what happens to them, based on clear, sufficient, and relevant information and opportunities to participate in the decision-making. (pp. 150–156)

The application of these values may look different depending on sociocultural context, the client's mental health needs, and the need to balance client and community safety; however, they should always be at the forefront of the clinical decision-making process, which should be collaborative and transparent. Like all mental health treatment, outdoor therapy is implemented differently in various cultural contexts, and though many practitioners and scholars have tried to enhance ethical decision-making (Gass et al., 2022; Harper & Fernee, 2022; Knowles at al., 2024; Magnuson et al., 2022; Norton & Fanlo, 2023; Priest, 2020; Pringle, 2022; Tucker et al., 2022); we believe the outdoor health field needs to continue to align globally with a HRBA, combined with a strong consideration of social and environmental determinants of health.

Defining an Environmental Justice Framework

Author of *Braiding Sweetgrass*, Robin Wall Kimmerer (2013) wrote,

> But to our people, [land] was everything: identity, the connection to our ancestors, the home of our nonhuman kinfolk, our pharmacy, our library, the source of all that sustained us. Our lands were where our responsibility to the world was enacted, sacred ground. It belonged to itself; it was a gift, not a commodity, so it could never be sold. These are the meanings people took with them when they were forced from their ancient homelands to new places. Whether it was their homeland, or the new land forced upon them, land held in common gave people strength; it gave them something to fight for. And so—in the eyes of the federal government—that belief was a threat. (p. 17)

Outdoor health practices will be stronger and safer by honouring and acknowledging the ancestral practices and experiences of Indigenous communities. The Australian bush adventure therapy and outdoor health community has demonstrated the benefits of this approach over the last two decades, highlighted in the national Outdoor Health Forum 2024, which was led by Aboriginal cultural mentors and prioritised the inclusion and safety of all attendees: "Being on Country, healing yourself and healing country, it's intrinsic, it goes hand in

hand … that's what Outdoor Health is" (L. Mabb, personal communication, August 24, 2022).

Many outdoor health interventions, particularly within the ecotherapy lens, approach the work grounded around the concept of "reciprocity," engaging in a give and take with the land. (Buzzell & Chalquist, 2009; Song et al., 2023). Reciprocity towards the Earth has long been an Indigenous practice, as communities support their health through holistic practices that engage in a right relationship with the Earth (Kimmerer, 2013; Song et al., 2023; Sveiby & Skuthorpe, 2006). The symbiosis between the health of the land and the health of the people must be considered when engaging in outdoor health practices. This means we must think critically about the correlation between environmental health and human health, land stewardship, and social justice. With this knowledge, we can begin making connections around the importance of integrating an environmental justice framework into outdoor health practices.

The research overlapping environmental justice and outdoor health practices is very limited; however, the negative impact of urban lifestyles and toxic facilities on human health is well supported. In a society where profit rules, harmful industrialisation and agricultural practices have created a toxic environment, putting human beings' health at risk. Furthermore, marginalised populations are at a greater risk of adverse health effects due to systemic environmental racism and discrimination (Bullard, 1993; U.S. Environmental Protection Agency [EPA], 2024). This is a global issue. Due to social and economic disadvantage, Black, Indigenous, and People of Colour (BIPOC) communities living in poverty around the world have less access to clean and healthy air, water, and land (EPA, 2024). There is a long history of how specific communities have been systematically displaced through racial segregation to live in environments with high toxicity and pollution. These occurrences, fuelled by capitalism, colonisation, imperialism, and racism, have been documented (Van Sant et al., 2021) and are important narratives in outdoor health practices. It is imperative to understand these historical environmental injustices and the continued advocacy required to bring about change.

A brief historical walk through the environmental movement in the United States shows that environmentalism, like other social change movements, is often characterised by waves. In Environmental *Justice as Social Work Practice* Erickson (2018) outlined the environmentalism movement through four waves. During the first wave, in the late 1800s, prominent nature lover John Muir and writer Henry David Thoreau inspired a romanticised relationship with the great wild. Supported by President Theodore Roosevelt, the United States established its first national parks with the goal of conservation (Merchant, 2018). However, Muir's vision and reality of protecting the wilderness proved to be exclusionary; it was rooted in the erasure and displacement of Indigenous peoples, the original caretakers of the land, and the exclusion of Black people (Merchant, 2018). During this period, entire Native American communities were being forcibly removed from their land and placed on reservations. One could assert that the original environmental injustice in the United States was the domination and removal of Indigenous communities from their ancestral lands.

Erickson (2018) noted that in the second wave, in the mid-1900s, the negative impact of the agricultural industry and land development became apparent. *Silent Spring,* a book written by Carson in 1962, loudly uncovered the harmful impact of pesticides and other agricultural agents on nature. Shortly afterward, the Wilderness Act passed in 1964, providing permanent protection to over 800 federally regulated wilderness spaces (National Park Service, 2025. In 1969, Ohio's Cuyahoga River was so polluted that it caught on fire, creating a tipping point for federal regulations around pollution. Heightened awareness around human rights and the health of the land resulted in important legislation being passed to limit pesticide use (EPA; 2024). The Civil Rights Movement was in full swing, with long-lasting legislative impacts on human rights. In 1970, the United States held its first Earth Day and established the Environmental Protection Agency (EPA, 2024). The EPA's mission, which is to protect human health and the environment, later incorporated initiatives around equity, lifting environmental justice as priority. This important timeline in history established a precedent for environmental advocacy and equity.

During the third wave, Erickson (2018) highlighted, was the emergence of two important concepts: ecofeminism and environmental racism. Amid civil demands for equality, discourse around the intersection of identity and relationship with the natural environment ensued, giving birth to new awareness and thinking.

Ecofeminism, a concept developed by women environmental activists, highlights where nature and gender inequality intersect. Mies and Shiva (2014) suggested that the power dynamic between humans and the natural environment (exploitation and dominance) mirrors the patriarchal dynamic in society. It also explores the unique relationship that women have with nature as caregivers and healers. Ecofeminism highlights the contributions that women have made in creating a healthier world through activism and advocacy. Ecofeminism offers a useful justice-oriented framework for understanding environmental power dynamics, despite critiques that it lacks a nuanced understanding of race and class (Erikson, 2018). Ecofeminism continues to evolve today, integrating both racial and global experiences into the narrative.

Environmental racism refers to the intentional placement of toxic and health-hazardous facilities in neighbourhoods with high concentrations of people of colour—Black, Latino, and Indigenous neighbourhoods (Bullard, 1993). In 1982, a groundbreaking demonstration in a rural Black community of Warren County, North Carolina, began a wave of environmental justice action. Despite protests, the state dumped over 6,000 truckloads of toxic soil into the land. More than 400 people were arrested, spurring ongoing resistance, collaboration, and action against toxic waste facilities (Zimring, 2015). In 1987, a national landmark report titled *Toxic Waste and Race in the United States: A National Report on the Racial and Socio-Economic Characteristics of Communities with Hazardous Waste Sites* (Commission for Racial Justice, United Church of Christ, 1987), found that uncontrolled hazardous waste facilities were consistently found in "Black and ethnic" neighbourhoods, shedding light on the structural racism embedded in society.

Dr. Robert Bullard, often referred to as a "Father of Environmental Justice," bolstered this fight in the United States by collecting extensive data, narratives, and case studies that exemplified the horrendous accounts of environmental racism in the United States (Bullard, 1993; Bullard & Wright, 1993). Bullard brought special attention to the areas in the South, where BIPOC and low-income communities were experiencing high rates of lead poisoning, air and land pollution, and workplace hazards. Bullard continues his work advocating for a public health approach to environmental justice.

In 1991, a coalition of environmental justice advocates gathered to establish The *Principles of Environmental Justice*. These principles, presented in Table 30.1, developed at the multinational People of Color Environmental Leadership Summit, speak to the ancestral and reciprocal relationship that BIPOC communities have with nature. They acknowledge the structural harm and oppression experienced by people of colour in the natural environment, while offering a vision for future healing. Outdoor health practitioners can use these foundational principles to create a more just and liberated practice model.

Currently, we are seated in the fourth wave of environmentalism—with environmental justice at the forefront. Erickson (2018) writes that this wave "is deeply exploring the intersection of human social identity categories, lived experiences, and access to the benefits and burdens of nature. It has environmental justice as its nexus" (p. 8).

The EPA (2024) defines environmental justice, as "the just treatment and meaningful involvement of all people—regardless of income, race, color, national origin, Tribal affiliation, or disability—in agency decision-making and other Federal activities that affect human health and the environment" (p.5) so that people:

- are fully protected from disproportionate and adverse human health and environmental effects (including risks) and hazards, including those related to climate change, the cumulative impacts of environmental and other burdens, and the legacy of racism or other structural or systemic barriers; and
- have equitable access to a healthy, sustainable, and resilient environment in which to live, play, work, learn, grow, worship, and engage in cultural and subsistence practices. (EPA, 2024, p.5)

During this fourth wave of environmentalism and environmental justice, we see the harm that environmental racism continues to inflict on the health and wellbeing of BIPOC communities around the world. Globally, environmental injustices continue to be seen widespread, exacerbated by war, manufacturing, and agricultural industries, and climate change. Scientists have confirmed the negative impact the human footprint has left on Earth, as climate change has been named a major threat to human health (UN, n.d.-a). The UN (n.d.-a) reports that the major effects of climate change include hotter temperatures, more severe storms, increased drought, food shortages, rising ocean levels, loss of biodiversity, increased health risks, rising poverty, and displacement. Vulnerable communities will experience

Table 30.1 The first national people of color environmental leadership summit's 17 principles of environmental justice (First national people of color environmental leadership summit, 1991)

SI No.	Environmental Justice Principles
1.	Environmental Justice affirms the sacredness of Mother Earth, ecological unity and the interdependence of all species, and the right to be free from ecological destruction.
2.	Environmental Justice demands that public policy be based on mutual respect and justice for all peoples, free from any form of discrimination or bias.
3.	Environmental Justice mandates the right to ethical, balanced and responsible uses of land and renewable resources in the interest of a sustainable planet for humans and other living things.
4.	Environmental Justice calls for universal protection from nuclear testing, extraction, production and disposal of toxic/hazardous wastes and poisons and nuclear testing that threaten the fundamental right to clean air, land, water, and food.
5.	Environmental Justice affirms the fundamental right to political, economic, cultural and environmental self-determination of all peoples.
6.	Environmental Justice demands the cessation of the production of all toxins, hazardous wastes, and radioactive materials, and that all past and current producers be held strictly accountable to the people for detoxification and the containment at the point of production.
7.	Environmental Justice demands the right to participate as equal partners at every level of decision-making, including needs assessment, planning, implementation, enforcement and evaluation.
8.	Environmental Justice affirms the right of all workers to a safe and healthy work environment without being forced to choose between an unsafe livelihood and unemployment. It also affirms the right of those who work at home to be free from environmental hazards.
9.	Environmental Justice protects the right of victims of environmental injustice to receive full compensation and reparations for damages as well as quality health care.
10.	Environmental Justice considers governmental acts of environmental injustice a violation of international law, the Universal Declaration On Human Rights, and the United Nations Convention on Genocide.
11.	Environmental Justice must recognise a special legal and natural relationship of Native Peoples to the U.S. government through treaties, agreements, compacts, and covenants affirming sovereignty and self-determination.
12.	Environmental Justice affirms the need for urban and rural ecological policies to clean up and rebuild our cities and rural areas in balance with nature, honoring the cultural integrity of all our communities, and provided fair access for all to the full range of resources.
13.	Environmental Justice calls for the strict enforcement of principles of informed consent, and a halt to the testing of experimental reproductive and medical procedures and vaccinations on people of color.
14.	Environmental Justice opposes the destructive operations of multi-national corporations.
15.	Environmental Justice opposes military occupation, repression and exploitation of lands, peoples and cultures, and other life forms.

(continued)

Table 30.1 (continued)

SI No.	Environmental Justice Principles
16.	Environmental Justice calls for the education of present and future generations which emphasizes social and environmental issues, based on our experience and an appreciation of our diverse cultural perspective.
17.	Environmental Justice requires that we, as individuals, make personal and consumer choices to consume as little of Mother Earth's resources and to produce as little waste as possible; and make the conscious decision to challenge and reprioritise our lifestyles to ensure the health of the natural world for present and future generations.

a disproportionate impact of climate change. Schlosberg and Collins (2014) outlined the transitional discourse from environmental justice to climate justice.

Climate justice has evolved from environmental justice and developed alongside the movement's work to address disparities. "Climate justice is a framework that brings into view the intersection between climate change and the way social inequalities are experienced as structural violence" (Porter et al., 2020). While environmental justice focuses on the harm embedded in the built environment, climate justice focuses on addressing the disparate harm caused by climate change. Specifically, it calls to take care of the populations who are *least responsible* for climate change but are impacted the most (Porter et al., 2020; Schlosberg & Collins, 2014). Vulnerable and marginalised populations around the globe are experiencing crises due to climate change. The climate crisis is fuelling anxiety and exacerbating mental health issues, particularly in youth (Pennea et al., 2021). Outdoor health practitioners and programs have a unique role in fostering stewardship and healing relationships between the land and people, as well as a potential role in helping to alleviate mental health distress, such as climate anxiety, as it becomes more prevalent in societies.

A contemporary approach to environmental justice centres *access and belonging* in nature. Gaps and inequalities in access to nature continue to exist, despite research and advocacy demonstrating that spending time in nature improves mental health and wellbeing (Rigolon & Flohr, 2014; Rowland-Shea et al., 2020). Access to nature and the outdoors can serve as a protective factor for mental health. *The Nature Gap*, a report by the Center for American Progress and the Hispanic Access Foundation (Rowland-Shea et al., 2020) outlines "the scale of racial and economic disparities in U.S. nature access" (p.2). The report states,

> In particular … the United States has fewer forests, streams, wetlands, and other natural places near where Black, Latino, and Asian American people live. Notably, families with children—especially families of color with children—have less access to nature nearby than the rest of the country. In other words, these communities are nature deprived. (Rowland-Shea et al., 2020, p. 2)

The report outlines the impact of environmental racism, including a history of displacement, segregation, and the erasure of BIPOC communities as a major factor in the nature gap. In addition, it highlights barriers to inclusion for

LGBTQ, disabled, and economically disadvantaged communities (Rowland-Shea et al., 2020). This has significant implications for outdoor health; Access to nature is not just an amenity, but a necessity for health and well-being. Marginalised communities have less access to and experience in outdoor spaces, which has implications for access to, engagement in, and therefore the effectiveness of outdoor health practices.

In recent years, especially after the COVID-19 Pandemic, there has been an urgent public response to increasing diversity and access to the outdoors. Outdoor organisations and nonprofits have published scores of "think pieces" and "how-to" articles, with suggestions for making outdoor experiences more inclusive for marginalised communities. It is unclear whether these organisations have named the problem and applied performative solutions or adapted deeper approaches to transform outcomes. Considering the history of environmental injustices and continuing disproportionate access to nature, we, as the authors of this chapter, encourage outdoor health practitioners to adopt a justice-oriented framework. Outdoor health must integrate environmental justice principles into its practices and uplift the leadership and voices of those most impacted.

As Di Benedetto (2013) stated, "Environmental justice is about the intersection of human rights, infrastructure and how people—rich and poor, living in rich or developing countries—equitably and sustainably access the resources and things they need to survive and prosper" (para. 2). Therefore, when we talk about a HRBA to outdoor therapy in this chapter, we need to include environmental justice in that framework as well.

Why are Human Rights and Environmental Justice Important in Mental Health?

Human rights are critical for safeguarding mental health, and their absence in society creates pathology. We know that "social conditions, especially widespread poverty, disasters, violence, and war, can precipitate the breakdown of vulnerable individuals and social systems," (Dhanda et al., 2007, p. 1197); therefore, it is essential to acknowledge the role that human rights play as a protective factor in mental health.

It is also important to acknowledge that when human rights are threatened, people often experience trauma. This requires a trauma-informed approach to mental health treatment that is implemented gently with empathy, flexibility, and love. When working with BIPOC communities who have suffered severe racism, powerful punishment, racial pressures, massacres, whitewashing, and physical and sexual abuse, an antibullying approach to mental health care is needed that considers social and environmental risk factors, identifies client strengths, and resists retraumatisation. HRBA and trauma-informed care are complementary approaches that can address human suffering on both micro and macro levels (Butler et al., 2019).

To avoid retraumatisation, we must preserve human rights and consider the social and environmental determinants of health for those experiencing mental health disorders, especially in the treatment process. In particular, the UN *Convention on the Rights of Persons with Disabilities* (2006), an international human rights treaty, advocates for active participation of individuals with disabilities, including those living with mental illness. Active participation includes voice and choice in the decision-making process related to their mental health treatment and recognises the importance of individual autonomy and independence, including the freedom to make their own choices.

Article 3 General Principles of the Convention are as follows:

(a) Respect for inherent dignity, individual autonomy including the freedom to make one's own choices, and independence of persons;
(b) Non-discrimination;
(c) Full and effective participation and inclusion in society;
(d) Respect for difference and acceptance of persons with disabilities as part of human diversity and humanity;
(e) Equality of opportunity;
(f) Accessibility;
(g) Equality between men and women;
(h) Respect for the evolving capacities of children with disabilities and respect for the right of children with disabilities to preserve their identities. (UN, 2006, p. 5)

Clearly, these are high-level goals that require a shift in the way we perceive people with mental health disorders, along with our approach to client involvement in the treatment process. Unfortunately, paternalism is often the prevailing attitude among mental health professionals (Pelto-Piri et al., 2013), and though paternalism may come from a desire to promote and restore the client's safety and health through expert care, it cannot replace the need for autonomy and reciprocity in the treatment process. Pelto-Piri and colleagues defined these important concepts as follows:

> **Autonomy:** (1) respecting the client's right to self-determination and information, (2) respecting the client's integrity and (3) protecting human rights.
>
> **Reciprocity:** (1) involving clients in the planning and implementation of their care and (2) building trust between staff and clients. (p. 4)

There are clearly humanistic reasons for implementing a HRBA; however, there are also clinical and fiscal incentives. According to Mann et al. (2016), HRBAs can lead to clinical improvements at relatively low costs. This is due in part to the fact that a HRBA leads to a more collaborative treatment environment in which client engagement happens in a more equitable and less coercive manner. According to Mann et al., training for mental health staff, advocacy groups, and other stakeholders in human rights also can benefit all involved at low cost.

Only recently, the intersection of human rights and environmental justice has become more apparently critical within the mental health field. While there are

several reasons for this, one reason at the forefront is the biodiversity loss and climate change crisis occurring around the world.

Although scientists have been highlighting climate change and the risk of catastrophic consequences for decades (Porter et al., 2020), climate change gained public interest—and therefore political traction—in the late 1900s due to the increasing overtness of depletion of valuable resources, causing the UN to begin adding the issue to political agendas (Jackson, 2007). Since then, climate change has continued to rise as a global health issue and a public discourse that cannot be ignored. As this issue has risen in importance for global health, mental health care has also seen a rise in importance simultaneously. The intersection of the two represents a needed change in both realms.

There are deep connections between climate change, human rights, and mental health, especially among BIPOC communities who may experience the disproportionate effects of environmental degradation. Research has shown that environmental factors related to climate change will have different impacts on those of varying socioeconomic status (SES), races, living areas, cultures, and so on, and may bring extreme consequences for those in low-income, disadvantaged communities (Levy & Patz, 2015). This is a threat to mental health and wellbeing and requires a shift in our approach to mental health wherein we view environmental justice as linked to a community's ability to integrate physical, social, cultural, and spiritual health (Lee, 2002).

The effects of climate change can impact mental health by creating feelings of despair, worry, and hopelessness, often referred to as eco-anxiety (Coffey et al., 2021). Eco-anxiety is a result of feeling an existential threat related to one's relationship with the natural environment. According to Ingle and Mikulewicz (2020), "The degree of distress a person feels about climate change is often related to how directly their environment is altered or threatened" (p. 128). Therefore, individuals facing low SES, poor living conditions, and environments that feel unsafe or unhygienic are likely to experience mental health challenges directly related to these stressors and risks (e.g., contaminated water, lack of access to healthy food), which understandably contribute to anxiety about their health and wellbeing. According to Ingle and Mikulewicz (2020),

> Mental health disorders caused by climate change are less visible than physical ones, particularly in developing countries where mental health sits relatively low on the agendas of governments, aid agencies, and NGOs [nongovernment organisations]. Therefore, the task that lies ahead is to make eco-anxiety and other mental health issues related to climate change more visible among scholars and practitioners (p. 130)

There is an appropriate degree of ecological worrying that can help spur environmental activism (Verplanken & Roy, 2013), which can be a buffer against climate change anxiety and mental health problems (Schwarz et al., 2023). However, eco-anxiety can shut down our ability to respond behaviourally and often results in immobilisation when considering actions that could evoke change. Sometimes, the need for change feels too large, especially when someone is living within unsupportive conditions. Ironically, those experiencing negative environmental conditions are

often not the ones who have caused it, nor feel they can stop it due to financial or social barriers. This requires outdoor health professionals to be advocates for climate and environmental justice.

A Human Rights and Environmental Justice Approach to Outdoor Health

Outdoor health practices span the continuum of care, ranging from promotion and prevention, such as outdoor recreation and education, to treatment and maintenance, like outdoor therapy and peer support. Ritchie et al. (2023b) provided evidence of the therapeutic benefits of various types of outdoor health practices, ranging from camping and recreation to outdoor education and outdoor therapy. All these outdoor health practices support a holistic model of ecohealth promotion that spans the continuum of care (Ritchie et al., 2023b).

One important aspect of the continuum of care approach in outdoor health is a sequenced step-up and step-down element to a person's progression through care (Tucker et al., 2022). A stepped-care approach is one that helps people receive support "matched to their level of need; that is, the right level of the right type of clinical care is received at the right time" (Ngo et al., 2020). If people do not have the right level of care that matches their level of need, they risk being in a setting that is either too restrictive or does not provide enough structure and containment to manage client safety. This idea is aligned with accurate assessment and clinical decision-making in outdoor therapy, which is essential for determining what level of intervention meets the client's needs (Richards et al., 2020; Tucker et al., 2022).

When considering outdoor health options, one should never make claims of "absolute efficacy," especially pertaining to outdoor therapy (W. Dobud, 2023). Though outcome data are important and have allowed outdoor therapy to become a research-informed field reimbursable by third-party insurance providers in some countries (Tucker et al., 2022), it is always essential to explore contraindications (Priest, 2020). According to Ritchie et al. (2023a), "Ecohealth promotion is not necessarily appropriate for all people, at all times, in all outdoor and natural contexts" (p. 10). A human rights and environmental justice approach to outdoor health requires that clients be involved in the process of deciding whether this type of intervention is best for them based on their perceptions of both therapy and nature, which are influenced by their history, culture, lived experiences, and past traumas.

Outdoor Therapy

Outdoor therapy is one modality or approach within the global outdoor health sector that addresses mental health, addiction, and trauma through structured mental health

interventions outdoors. According to Harper and Dobud (Harper & Dobud, 2020), outdoor therapies include a range of therapeutic approaches identified as nature-based therapy, adventure therapy, wilderness therapy, animal-assisted therapy, forest therapy, surf therapy, and more. These approaches often utilise outdoor activities to help clients connect with themselves, others, and the natural world to promote wellbeing. These approaches "serve as valued components of a 'continuum of care' for children, youth, and families" (Harper, 2017, p. 77).

All outdoor therapy interventions focus on the client's physical and emotional safety. However, a HRBA, with consideration of environmental justice, moves beyond client safety by also focusing on the client's voice in the treatment process. Too often, outdoor therapy programs have replicated paternalistic medical models of treatment outdoors, when in fact, a more contextual approach is needed (Dobud, 2023). The process of outdoor therapy should be a nondeliberative process in which clients have autonomy in deciding the direction of the treatment (Tucker et al., 2016). According to Tucker et al. (2016), "Nondeliberative group work allows group members to generate their own solutions and provides experiential opportunities to transfer learning to life outside of a therapeutic setting" (p.196). Outdoor therapy should be a strengths-based, solution-focused intervention that focuses on the client's capacity rather than deficits or pathology (Alvarez et al., 2020; Dobud & Natynczuk, 2022; Gass & Gillis, 1995; Pryor, 2006).

Research supports the restorative effects of nature and its impact on trauma and mental health (Hung et al., 2023). There is also a robust body of literature that supports the effectiveness of structured mental health interventions that incorporate nature, such as ecotherapy (Williams et al., 2020), adventure therapy (Bowen & Neill, 2013), and wilderness therapy (Bettmann et al., 2016; Norton et al., 2014, 2019). However, some scholars question the validity of this research and encourage the field to move beyond outcome research to focus on process variables and client experience through more qualitative studies (Harper, 2017). Researchers like Cooley et al. (2020) believe it is difficult to determine the effectiveness of outdoor therapies due to myriad modalities utilised in the field. To fill in some of these gaps, researchers have begun studying process variables as well as exploring client voice and experience of outdoor therapy (Dobud, 2022; Fernee et al., 2017) and ethical considerations (Knowles et al., 2024).

It is important to note that outdoor therapy interventions look different around the world, and some programs and practices centre a HRBA more than others. This is, in part, due to the impact of sociocultural and contextual influences on mental health (Gonzalez-Guarda et al., 2024). For example, in the United States, there is a heavy emphasis on parental rights, sometimes at the expense of the rights of the child. This might play out in how a parent can consent to their child to engage in mental health treatment, whereas in other countries, the rights of the child are given greater weight, requiring the child to consent to care (Kerwin et al., 2015). As mentioned earlier, in the Australian context, where Aboriginal-informed outdoor practices are more prevalent, the family, community, and natural environments are more often considered central (K. Jones, personal communication, May 24, 2024).

For this reason, outdoor therapy researchers have focused their attention on ethical dilemmas, particularly in U.S.-based wilderness therapy programs where some clients are mandated to attend treatment (Harper et al., 2021). Though prevalence rates are hard to find, involuntary treatment of minors is a common practice in the mental health system in the United States in general, with an overrepresentation of adults from Black and minority ethnic groups (Walker et al., 2021). Residential wilderness therapy programs are only a small portion of that; however, some residential and wilderness programs not only treat youth involuntarily but also transport them to treatment involuntarily, which is legal but ethically questionable (Gass et al., 2022; Harper et al., 2021; Magnuson et al., 2022). Becker (2010) made the point early on that "although parents may legally commit children and adolescents to residential treatments, there are clear ethical challenges that arise when this occurs" (p. 53).

Several outdoor therapy researchers have tried to address practices that have the potential to violate human rights, including the involuntary transport of minors to residential or wilderness therapy programs, by creating ethical guidelines to safeguard clients and improve checks and balances in the assessment process (Gass et al., 2022), and organisations have strengthened practice standards to support safety through accreditation and professional certifications (Association for Experiential Education [AEE], 2024). However, other scholars have questioned whether practices like this can ever be ethical (Magnuson et al., 2022). Some question the idea of mandated treatment altogether and believe that outdoor therapy should always be a choice-based intervention (AABAT, n.d.; Pringle et al., 2024). These controversies and ethical dilemmas remind us of the need to attend to "the increased potential for coercion as youth are placed in increasingly restrictive treatment environments" (Becker, 2010, p. 53) like residential wilderness therapy programs. It is therefore critical to identify and address potential barriers to implementing a HRBA in outdoor therapy.

Potential Barriers to Implementing a Human Rights-Based Approach in Outdoor Therapy

According to Curtice and Exworthy (2010), it is difficult to embed human rights-based "principles into the everyday working practices of frontline clinical staff or into the decision-making processes of the boards of public and private providers of healthcare" (p. 154). Scholars have identified barriers beyond paternalism that can usurp a HRBA in mental health treatment. These barriers exist in all mental health treatment; however, our focus in this chapter is on outdoor therapy and the need to address these barriers in our field of practice so that outdoor therapy can serve as a more humane treatment option.

The Nature Gap

According to Rowland-Shea et al. (2020), 27 million children (about the population of Texas in the United States) lack access to a quality park close to home. Lack of access to nature is disproportionally higher for BIPOC individuals and those living in poverty. The nature gap exists in other places around the world due to unsafe conflict zones, destructive land use, and decreasing habitats, all of which affect people's healthy development and overall quality of life (Greenfield & Weston, 2021). When people lack access to nearby nature, they are denied "the physical, social, and emotional benefits of spending time in nature" (Bourdeau, n.d., para. 1). This is a human rights issue in and of itself and is exacerbated by the disproportionate effects of climate change. Policy advocacy is required to support "legislation that improves access to green spaces in urban areas, or policies that address environmental hazards disproportionately affecting these communities" (Bourdeau, n.d., para. 16).

Economic Inequality

A primary barrier is economic inequality (De Falco et al., 2023). Not everyone has access to quality care, especially in nations that do not have universal health care. Limited resources, inadequate funding, and a shortage of mental health professionals can prevent individuals from receiving timely and appropriate care, infringing on their right to high-quality care. Often, a major barrier to care for individuals receiving or hoping to receive outdoor behavioural health care in the United States is the cost of services. This issue is exacerbated in outdoor therapy provided by private pay programs. This results in the issue of economic inequality in the United States and around the world, leading to lesser representation from all socioeconomic groups, which is a human rights issue.

Stigma and Isolation

Stigma regarding mental illness and discrimination based on disability, race, gender, and other forms of prejudice can further undermine human rights and lead to isolation. Often, individuals with mental health conditions are disproportionately represented in mandated treatment programs and taken out of community-based care. When this occurs, it can create additional stigma, discrimination, and inadequate mental health care in detention facilities or other mandated care settings. Some scholars believe that wilderness therapy adds to this stigma and isolation due to a lack of reunification with families, schools, and communities

(Harper et al., 2021). However, outdoor programs can reduce stigma when mental health consumers can use their voice (Stuhlmiller, 2003).

Involuntary Treatment and Coercion

Striking a balance between ensuring safety and respecting individual autonomy is crucial in a HRBA. Some mental health interventions, especially involuntary or coercive treatments, not only violate a client's autonomy but may also threaten their dignity (Harper & Fernee, 2022). Although many coercive treatments are implemented in the name of client safety,

> coercion also has a deterring effect on persons with mental health conditions who avoid or delay contact with the health-care system for fear of losing their dignity and autonomy, which ultimately leads to negative health outcomes, including intense life-threatening distress and crisis situations, which in turn lead to more coercion. (European Union Parliamentary Assembly, 2019, para. 4).

Outdoor therapy scholars have identified harms associated with coercive treatments, such as involuntary transport, restraints, use of food as punishment, isolation, and overly restrictive treatment settings (Magnuson et al., 2022; Pringle, 2022). According to the U.S. DHHS (2015), depending on the state, there are anywhere between 5 and 32% of children in foster care who are placed in congregate care settings that do not require such high levels of surveillance. Most of these youth go to residential treatment and not wilderness therapy; however, according to Harper et al. (2024), this is also an issue in some wilderness therapy programs, particularly in the United States. For this reason, accurate assessment that takes youth voice into consideration, along with informed consent, parental education, and family therapy, may help avoid treatment coercion.

Lack of Informed Consent

Informed consent is how clients fully understand the risks, benefits, and alternatives available in treatment (Scholten et al., 2021). Informed consent is a fundamental aspect of human rights in health care. However, individuals with mental health conditions may face challenges in fully understanding outdoor therapy treatment options and providing informed consent, particularly in cases where their decision-making capacity is questioned. Likewise, when clients are minors, adult parents or caregivers may make treatment decisions deceptively, without the full knowledge of the client, which may be unethical (Gass et al., 2022). The difficulty with informed consent in wilderness therapy or remote outdoor therapy programs is that the client may change their mind, yet the group may be in the backcountry where the client's choice is limited. This presents challenges to safeguarding human rights.

Cultural Insensitivity and Appropriateness

Mental health interventions must be culturally relevant, sensitive, and appropriate (Huang & Zane, 2016). Ignoring cultural contexts and imposing Western-centric models of treatment and ignoring cultural contexts can threaten the effectiveness of care and may violate the right to cultural identity and dignity. This includes cultural appropriation and/or disregard for Indigenous or Ancestral perspectives, which has occurred in the field of wilderness therapy in the United States (Skidmore, 2017).

Inadequate Legal Safeguards

Though there is movement towards regulation and best practices in the United States, Australia, and in many nations, weak legal frameworks and regulatory enforcement mechanisms may fail to protect the rights of individuals with mental health conditions. Adequate legal safeguards are essential to ensure that human rights principles are upheld in mental health treatment. Legal safeguards are determined by national governments, along with state or regional entities. In a nation like the United States, which places a lot of importance on "states' rights," general policies related to child and adolescent mental health are lacking (Shatkin et al., 2008). Furthermore, the ratification of the Convention on the Rights of the Child does not appear to make it more likely that a given country will have a national policy for the provision of child and adolescent mental health services (Shatkin et al.).

Implications for Practice and Research: A Call to Action

This overview of barriers to a HRBA in outdoor health should not deter us from working towards implementation of human rights and environmental justice-based approaches to outdoor therapy, grounded in understandings of the social and environmental determinants of health. In fact, the challenges should be a call to action to ensure outdoor therapy is *different* from a coercive, medical model of treatment, even if cultural norms do not support this. Throughout the four-decade history of contemporary outdoor therapies, entities like the AEE, the Therapeutic Adventure Professional Group (TAPG), Outdoor Health Australia (OHA), Adventure Therapy Europe (ATE), the International Association for Adventure and Nature Based Therapies (IAANT), and national regulatory bodies all over the world have tried to establish ethical guidelines that apply to outdoor health practices. However, the field at large has yet to fully embrace a human rights and environmental justice-based approach to outdoor therapy. We believe that the following important steps can help us all move in that direction together.

Advocate for Social and Environmental Determinants of Health

According to the WHO (2022b), "Together, individual, family, community and structural factors determine our mental health" (p. 18). Because human rights are bidirectional in mental health, the first thing we need to do as outdoor health practitioners is advocate for the protection and promotion of social and environmental determinants of health. This includes advocating for security and safety in our countries and regions, as well as progressive beliefs, norms, and values about race, gender, and sexuality (WHO, 2022b). These values can be protective factors against human rights violations; therefore, outdoor health practitioners and researchers should stand for values that reflect social justice (Warren et al., 2014).

Close the Nature Gap: Outdoors for All

Safe, equitable access to nearby nature across human development and the lifespan is critical. Children need healthy greenspaces to promote healthy development (Walker & Ray, 2024). BIPOC are disproportionately affected by the nature gap; therefore, it is essential to prioritise diversity, equity, inclusion, and belonging in the outdoors (Yerkes et al., 2022). However, a human rights and environmental justice-based approach must also focus on decolonising the outdoors by deconstructing the roots of institutionalised racism and cultural colonialism that have shaped many outdoor health practices.

Skidmore (2017) echoed these sentiments and provided a reciprocal path forward:

> Considering the long history of both appropriation and land use, the outdoor field seems an ideal venue for bringing change and inviting discussion into what is a wider social problem. The outdoor world is often symbolic of healing and growth, connection, wholeness, simplicity and purity, while the contemporary cultural reality for many [BIPOC] people is one of brokenness, disadvantage, struggle, identity distortion and complexity . . . Rather than damaging with mimicry and facsimile, adventure therapy and the outdoor camping realm could foster an environment which allows [BIPOC] communities to strengthen and cultivate their own cultures, and to communicate that in a dynamic manner both within their own communities, and to the non-indigenous community. (para. 41)

Affordability of Care

This is a difficult concept to advocate for cross-culturally. Some nations have universal health care, in which outdoor health may play a key role. However, other nations do not have the infrastructure for universal care and may have many people who lack access to quality health care. In the United States, citizens need third-party health insurance, often tied to their employment, and they need to

advocate for outdoor therapy to be recognised as a reimbursable treatment. This is one reason why so much outcome research has come from outdoor therapy researchers in the United States, which has led to a billable code for third-party insurance providers. Still, this leaves a huge group of people without treatment, so providers in the United States, as well as in other countries that have a private health insurance system, should seek funding through Medicaid or other public aid programs. In the Australian context, outdoor health has yet to be recognised as an allied health modality or an appropriate clinical setting for mental health treatment, and therefore has yet to be included in the national universal healthcare framework, the Medicare Benefits Scheme.

Increase Community-Based Outdoor Therapy Options

According to the UN (2017), "In some countries, the absence of community-based mental health care means the only care available is in psychiatric institutions, which are associated with gross human rights violations, including inhuman and degrading treatment and living conditions" (p. 6). Because of this, there is a strong movement in mental health practice to replace institutional care with community care. According to the WHO (2021), large institutions, which are often associated with human rights violations, should be replaced by community mental health services (para. 1). Community-based care may allow people struggling with mental health or addiction to continue to have connections with their families, schools, and other supports in the community. Though some outdoor therapy programs utilise a residential treatment approach, which may be clinically indicated, there is a need for more outpatient or even intensive outpatient options in the community. Community-based outdoor therapy options would allow for systems approaches that engage the whole family, leading to possible increases in closeness, communication, and problem-solving (Stea et al., 2022).

Enhance Noncoercive Client Engagement

According to the UN (United Nations, 2017), "Article 14 of the Convention on the Rights of Persons with Disabilities establishes an absolute ban on deprivation of liberty based on impairments, which precludes nonconsensual commitment and treatment" (p. 10). While there is a need to balance individual and community safety, practices such as involuntary transport and mandated treatment in outdoor therapy programs must be addressed through an ethical lens to decrease and even abolish these practices altogether, to ensure the rights of the client (Gass et al., 2022; Magnuson et al., 2022). Mental health consumers who have been retraumatised by coercive treatment have spoken out and "have been permanently scarred by loss of liberty or basic human dignity" (Dhanda et al., 2007, p. 3). Outdoor therapy scholars

have begun incorporating the voices of participants who have had negative experiences into their research and efforts to reform the field (Dobud, 2022; Norton & Fanlo, 2023). Engaging clients in the treatment process through the establishment of a therapeutic alliance, rather than coercion, is ethically warranted and can enhance overall safety and motivation (Becker, 2010; Harper et al., 2024). The issue of coercion may be the most entrenched in the field of outdoor therapy in the United States. Though it may seem daunting, it is essential "to develop, as a first step, a roadmap to radically reduce recourse to coercive measures, with the participation of all stakeholders, including in particular persons with mental health conditions and service providers" (Council of Europe, 2019, p. 2).

Holistic Assessment

Holistic, strengths-based, biopsychosocial assessment of the client has been called for in outdoor therapy, particularly in adventure therapy practices (Alvarez et al., 2020; Gass et al., 2020). This is particularly important when working with individuals who have experienced complex trauma, for whom wilderness therapy may need to be adapted to account for the complexity and developmental consequences of trauma (Pringle et al., 2021). However, more focus should be placed on determining goodness of fit. Given that outdoor therapy is not for everyone, it is important to accurately assess and screen participants to make sure that outdoor therapy is an appropriate intervention (Harper et al., 2024). Inclusion and exclusion criteria have been determined (Tucker et al., 2022), and "prescriptive screening to determine eligibility, indications for treatment, as well as the identification of contra-indicated conditions" should take place and include "a review of treatment history, physical health history, and specific screenings for pain, nutrition, disabilities, trauma, and other related symptomatology and conditions that may limit one's ability to participate in an OBH program" (Tucker et al., 2022, pp. 18–19). This type of thorough assessment can help to ascertain treatment fit; however, the client's perspective and voice should also play a key role in the assessment process.

Enhance Client Voice and Client Rights

One of the best ways to move away from coercive practices is to centre client voice, client preference, and client rights. We know that when clients feel a sense of control and have choices in the therapeutic process, they have better treatment outcomes (Zoellner et al., 2019). Clients should be involved in their treatment planning and given opportunities to exercise self-determination and choice whenever possible (WHO, 2021). According to Stea et al. (2022), "Adolescents' self-determination and active choice to participate are suggested to function as a catalyst for change in wilderness therapy" (p. 17). All outdoor therapy programs

should contain a client bill of rights or similar statement on the intended rights of participating individuals, in order to promote informed consent and ensure a transparent process for handling client grievances.

Implement Trauma-Informed Care

Trauma-informed care "acknowledges the need to understand a patient's [participant's] life experiences in order to deliver effective care and has the potential to improve patient [participant] engagement, treatment adherence, health outcomes, and provider and staff wellness" (Menschner & Maul, 2016, p.4). Outdoor therapy scholars have advocated for trauma-informed approaches (Norton et al., 2019; Pringle et al., 2023). Pringle (2023) also highlighted the link between trauma-informed care and human rights and advocated for a human rights standard in outdoor therapy as a means of reducing retraumatisation and abusive practices.

Increase Accountability

National and regional laws can help outdoor therapy programs follow safe, ethical, inclusive, and effective practices. Accreditation from regulatory and trade organisations adds more accountability; however, laws with consequences for violations may be necessary to protect clients. An example in the United States is the recently passed "Stop Institutional Child Abuse" legislation, signed into law in 2024. The Stop Institutional Child Abuse Act mandates the Department of Health and Human Services to work with the National Academies of Sciences, Engineering, and Medicine to study youth residential programs (Social Current, 2025). This study will gather data to guide reforms to prevent child abuse and oversight gaps in private youth programs, including outdoor therapy programs. This legislation received broad support from the National Association of Therapeutic Schools and Programs and other organisations in the United States that engage in outdoor therapy research and practice (NATSAP, 2023).

Methodological Diversity, Accountability, and Collaboration in Research

Outdoor therapy researchers have conducted outcome research in several important areas, such as mental health, substance abuse, trauma, and family functioning; however, outcome research alone does not address safe and ethical programming, nor does it address human rights and environmental justice. To follow a more HRBA, researchers have called for more methodological diversity, such as

qualitative research that centres client voice (Dobud, 2022), culturally relevant methodologies like counternarratives to promote cultural representation (Bobilya et al., 2024), and participatory action research that empowers research subjects as active participants (Thomas et al., 2024). Along with varying methodologies, researchers are also accountable for following research ethics. They should be transparent about reporting any issues they might uncover to their Internal Review Board or Ethics Board. This can be hard to do in large, quantitative studies based on secondary data analysis, which is why practitioner–researcher collaboration is so important. This way, the researcher has a relationship with the program and can maintain a closer eye on ethics and client rights.

Recently in the United States, the Outdoor Research Collaborative for Health, Wellbeing, and Experiential Engagement (ORC) was established to support ethical, transparent research and share findings on outdoor and experiential interventions across various behavioural health settings (Outdoor Research Collaborative for Health, Wellbeing, and Experiential Engagement, n.d.). Formerly known as the Outdoor Behavioral Healthcare Center, the ORC has expanded its scope beyond outcome-based research to include more focus on client-centred approaches. It now emphasizes collaboration and a strong dedication to diversity, equity, inclusion, and belonging (DEIB) throughout its work. Other similar initiatives in the outdoor therapy field aim to promote collaboration, transparency, and ethics in research, such as the Outdoor Therapy Centre for Research and Practice (Outdoor Therapy Centre for Research and Practice, n.d.) and Outdoor Health Australia (Outdoor Health Australia, n.d.), among others.

Conclusion

U.S. poet Maya Angelou once said, “Do the best you can until you know better. Then when you know better, do better” (Winfrey, 1993). This quote epitomises where we are as a field of practice. Rethinking mental health treatment—in outdoor therapy in particular—through a human rights and environmental justice-based framework is a difficult yet important task. It is especially important for paternalistic societies like the United States, which are reluctant to embrace and implement human rights. Moving towards a human rights framework requires international dialogue and shared advocacy to improve programs and practices around the world. It also requires an attitude of evolution, not abolition. If we use coercive means to call for ethical practices, we risk drowning out our intention by the method of the call; it will take all researchers, scholars, and practitioners working together to strengthen the safety and effectiveness of outdoor practices globally. The global mental health crisis, combined with crises of climate change and biodiversity loss, merits that we evolve and change as a field while working to provide diverse, inclusive outdoor health options for people in need.

References

Alvarez, T. G., Stauffer, G., Lung, D. M., Sacksteder, K., Beale, B., & Tucker, A. R. (2020). *Adventure group psychotherapy: An experiential approach to treatment*. Routledge. https://doi.org/10.4324/9781003103103

Association for Experiential Education. (2024). *and organisations have strengthened practice standards to support safety through accreditation and professional certifications*. Association for Experiential Education [AEE], 2024.

Australian Association for Bush Adventure Therapy. (n.d.). *Ethical principles*. https://aabat.org.au/ethical-principles/

Becker, S. P. (2010). Wilderness therapy: Ethical considerations for mental health professionals. *Child & Youth Care Forum*, *39*(1), 47–61.

Bettmann, J. E., Gillis, H. L., Speelman, E. A., Parry, K. J., & Case, J. M. (2016). A meta-analysis of wilderness therapy outcomes for private pay clients. *Journal of Child and Family Studies*, *25*(9), 2659–2673.

Bobilya, A. J., Holman, T., Lindley, B., Ayers, E., Norton, C., Smith, S., & Bell, B. J. (2024). Trends and issues in experiential and outdoor education programs. *Journal of Experiential Education*, *47*(2), 179–198.

Bourdeau, J. (n.d.). *What is the nature gap?* The Momentum. https://www.themomentum.com/articles/what-is-the-nature-gap

Bowen, D., & Neill, J. (2013). A meta-analysis of adventure therapy outcomes and moderators. *The Open Psychology Journal*, *6*(1), 28–53. https://researchsystem.canberra.edu.au/ws/portalfiles/portal/8350104/TOPSYJ_6_28.pdf

Bullard, R. D. (Ed.). (1993). *Confronting environmental racism: Voices from the grassroots*. South End Press.

Bullard, R. D., & Wright, B. H. (1993). Environmental justice for all: Community perspectives on health and research needs. *Toxicology and Industrial Health*, *9*(5), 821–841. https://doi.org/10.1177/074823379300900508

Butler, L. D., Critelli, F. M., & Carello, J. (Eds.). (2019). *Trauma and human rights: Integrating approaches to address human suffering*. Palgrave Macmillan. https://doi.org/10.1007/978-3-030-16395-2

Buzzell, L., & Chalquist, C. (Eds.). (2009). *Ecotherapy: Healing with nature in mind*. Sierra Club Books.

Carson, R. (1962). *Silent Spring*. Houghton Mifflin. https://doi.org/10.1007/978-94-6209-068-2_5

Castaneda, L. (2018). The international classification of functioning, disability and health (ICF): Way to health promotion. *Revista Brasileira de Cineantropometria & Desempenho Humano*, *20*, 229–233. https://doi.org/10.5007/1980-0037.2018v20n2p229

Coffey, Y., Bhullar, N., Durkin, J., Islam, M. S., & Usher, K. (2021). Understanding eco-anxiety: A systematic scoping review of current literature and identified knowledge gaps. *The Journal of Climate Change and Health*, *3*, 100047. https://doi.org/10.1016/j.joclim.2021.100047

Commission for Racial Justice, United Church of Christ (1987). *Toxic wastes and race in the United States: A national report on the racial and socio-economic characteristics of communities with hazardous waste sites*. United Church of Christ.

Cooley, S. J., Jones, C. R., Kurtz, A., & Robertson, N. (2020). "Into the wild": A meta-synthesis of talking therapy in natural outdoor spaces. *Clinical Psychology Review*, 77. https://www.researchgate.net/publication/339680943_%27Into_the_Wild%27_A_meta-synthesis_of_talking_therapy_in_natural_outdoor_spaces

Council of Europe. (2019). *Resolution 2291: Ending coercion in mental health: the need for a human rights-based approach*. Parliamentary Assembly of the Council of Europe. https://assembly.coe.int/nw/xml/XRef/Xref-XML2HTML-EN.asp?fileid=28038

Curtice, M. J., & Exworthy, T. (2010). FREDA: A human rights-based approach to healthcare. *The Psychiatrist*, *34*(4), 150–156. https://doi.org/10.1192/pb.bp.108.024083

De Falco, R., Fish Hodgson, T., McConnell, M., & Ahmed, A. K. (2023). Assessing the human rights framework on private health care actors and economic inequality. *Health & Human Rights: Anales International Journal*, *25*(2), 125–139. https://pubmed.ncbi.nlm.nih.gov/38145134/

Dhanda, A., Narayan, T., Shah, A., & Gruskin, S. (2007). Mental health and human rights. *The Lancet*, *370*(9590), 1197–1198. https://doi.org/10.1016/S0140-6736(07)61578-1

Di Benedetto, B. (2013). *Environmental justice and the structure of human rights*. The Triple Pundit. https://www.triplepundit.com/story/2013/environmental-justice-and-structure-human-rights/59171

Dobud, W. (2023). *Is adventure therapy evidence-based?* [Paper presentation]. 9th International Adventure Therapy Conference. https://researchoutput.csu.edu.au/ws/portalfiles/portal/456065988/423301349_published_paper.pdf

Dobud, W. W. (2022). Experiences of secure transport in outdoor behavioral healthcare: A narrative inquiry. *Qualitative Social Work*, *21*(4), 697–713. https://doi.org/10.1177/1473325021102008

Dobud, W. W., & Natynczuk, S. (2022). *Solution-focused practice in outdoor therapy: Co-adventuring for change*. Taylor & Francis. https://doi.org/10.4324/97810032Dobud17558

Environmental Protection Agency. See U.S. Environmental Protection Agency.

Erickson, C. (2018). *Environmental justice as social work practice*. Oxford University Press.

European Union Parliamentary Assembly. (2019). *Ending coercion in mental health: The need for a human rights-based approach*. *European Union Resolution*, *2291*. https://assembly.coe.int/nw/xml/XRef/Xref-XML2HTML-EN.asp?fileid=28038#:~:text=Coercion%20also%20has%20a%20deterrent,which%20in%20turn%20lead%20to

Fernee, C. R., Gabrielsen, L. E., Andersen, A. J., & Mesel, T. (2017). Unpacking the black box of wilderness therapy: A realist synthesis. *Qualitative Health Research*, *27*(1), 114–129. https://doi.org/10.1177/1049732316655776

First National People of Color Environmental Leadership Summit. (1991). *Principles of environmental justice*. https://ejnet.org/ej/principles/

Fraser, N. (2023). *Cannibal capitalism: How our system is devouring democracy, care, and the planet and what we can do about it*. Verso Books. https://doi.org/10.1017/S0020859024000464

Gass, M., & Gillis, H. L. (1995). Focusing on the "solution" rather than the "problem": Empowering client change in adventure experiences. *Journal of Experiential Education*, *18*(2), 63–69. https://journals.sagepub.com/doi/pdf/10.1177/105382599501800202

Gass, M., Hardy, C., Norton, C., & Priest, S. (2022). Involuntary youth transport (IYT) to treatment programs: Best practices, research, ethics, and future directions. *Child and Adolescent Social Work Journal*, *39*(3), 291–302. https://link.springer.com/article/10.1007/s10560-021-00801-9

Gass, M. A., Gillis, H. L., & Russell, K. C. (2020). *Adventure therapy: Theory, practice, & research*. Routledge. https://doi.org/10.4324/9781003016618

Gonzalez-Guarda, R. M., Gross, D., Lowe, J. R., & Taylor, J. L. (2024). Sociocultural and contextual influences on mental health. *Research in Nursing & Health*, 47(2),107–109. https://doi.org/10.1002/nur.22378

Greenfield, P., & Weston, P. (2021, October 14). *The five biggest threats to our natural world . . . and how we can stop them*. The Guardian. https://www.theguardian.com/environment/2021/oct/14/five-biggest-threats-natural-world-how-we-can-stop-them-aoe

Harper, N., & Fernee, C. (2022). Unpacking relational dignity: In pursuit of an ethic of care for outdoor therapies. *Frontiers in Psychology*, 13. https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2022.766283/full

Harper, N. J. (2017). Wilderness therapy, therapeutic camping, and adventure education in child and youth care literature: A scoping review. *Children & Youth Services Review*, *83*, 68–79. https://www.academia.edu/129207421/Wilderness_therapy_therapeutic_camping_and_adventure_education_in_child_and_youth_care_literature_A_scoping_review

Harper, N. J., & Dobud, W. W. (Eds.). (2020). *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives*. Routledge. https://doi.org/10.4324/9780429352027

Harper, N. J., Dobud, W. W., & Magnuson, D. (2024). Adolescent wilderness therapy: The relationship of client outcomes to reasons for referral, motivation for change, and clinical measures. *Youth*, *4*(1), 382–394. https://doi.org/10.3390/youth4010027

Harper, N. J., Magnuson, D., & Dobud, W. W. (2021). A closer look at involuntary treatment and the use of transport services in outdoor behavioral healthcare (wilderness therapy). *Child and Youth Services*, *42*, 200–219. https://doi.org/10.1080/0145935X.2021.1938526

Huang, C. Y., & Zane, N. (2016). Cultural influences in mental health treatment. *Current Opinion in Psychology*, *8*, 131–136. https://doi.org/10.1016/j.copsyc.2015.10.009

Hung, S. H., Pálsdóttir, A. M., Ode Sang, Å., Shahrad, A., Liao, H. H., Hsu, Y. Y., & Chang, C. Y. (2023). How restorative landscapes can benefit psychological and physiological responses: A pilot study of human–nature relationships in Sweden and Taiwan. *Landscape Research*, *48*(8), 1073–1090. https://doi.org/10.1080/01426397.2023.2213634

Ingle, H. E., & Mikulewicz, M. (2020). Mental health and climate change: Tackling invisible injustice. *The Lancet Planetary Health*, 4(4). https://doi.org/10.1016/s2542-5196(20)30081-4

International Federation of Social Workers. (2018). *Global social work statement of ethical principles*. https://www.ifsw.org/global-social-work-statement-of-ethical-principles/

Jackson, T. (2007). Sustainability and the challenge of growth. In S. C. Moser & L. Dilling (Eds.), *Creating a climate for change: Communicating climate change and facilitating social change* (pp. 27–36). Cambridge University Press.

Kerwin, M. E., Kirby, K. C., Speziali, D., Duggan, M., Mellitz, C., Versek, B., & McNamara, A. (2015). What can parents do? A review of state laws regarding decision-making for adolescent drug abuse and mental health treatment. *Journal of Child & Adolescent Substance Abuse*, *24*(3), 166–176. https://core.ac.uk/download/pdf/214452877.pdf

Kimmerer, R. W. (2013). *Braiding sweetgrass: Indigenous wisdom, scientific knowledge, and the teachings of plants*. Milkweed.

Knowles, B., Marsh, P., Prehn, J., & Maxwell, H. (2024). Addressing ethical issues in outdoor health practice: A scoping review. *Journal of Outdoor and Environmental Education*, 1–29. https://doi.org/10.1007/s42322-024-00160-w

Kola, L., Kohrt, B. A., Hanlon, C., Naslund, J. A., Sikander, S., Balaji, M., Lund, C., van Ommeren, M., Collins, P. Y., Saxena, S., & Patel, V. (2021). COVID-19 mental health impact and responses in low-income and middle-income countries: Reimagining global mental health. *The Lancet Psychiatry*, *8*(6), 535–550. https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366(21)00025-0/fulltext

Koshy, S., Cacho, L. M., Byrd, J., & Jefferson, B. J. (Eds.). (2022). *Colonial racial capitalism*. Duke University Press. https://doi.org/10.1215/9781478023371

Lee, C. (2002). Environmental justice: Building a unified vision of health and the environment. *Environmental Health Perspectives*, *110*(2), 141–144.

Levy, B. S., & Patz, J. A. (2015). Climate change, human rights, and social justice. *Annals of Global Health*, *81*(3), 310–322. https://doi.org/10.1016/j.aogh.2015.08.008

Magnuson, D., Dobud, W., & Harper, N. J. (2022). Can involuntary youth transport into outdoor behavioral healthcare treatment programs (wilderness therapy) ever be ethical? *Child and Adolescent Social Work Journal*, 1–9. https://doi.org/10.1007/s10560-022-00864-2

Mann, S. P., Bradley, V. J., & Sahakian, B. J. (2016). Human rights-based approaches to mental health: A review of programs. *Health and Human Rights*, *18*(1), 263. https://www.hhrjournal.org/2016/05/24/human-rights-based-approaches-to-mental-health-a-review-of-programs/

Menschner, C., & Maul, A. (2016). *Key ingredients for successful trauma-informed care implementation*. Center for Health Care Strategies. https://www.samhsa.gov/sites/default/files/programs_campaigns/childrens_mental_health/atc-whitepaper-040616.pdf

Merchant, C. (2018). Shades of darkness: Race and environmental history. In *Science and nature: Past, present, and future* (1st ed., pp. 208–225). Routledge. https://doi.org/10.4324/9781315111988-16

Mies, M., & Shiva, V. (2014). *Ecofeminism* (2nd ed.). Zed Books.

Moitra, M., Owens, S., Hailemariam, M., Wilson, K. S., Mensa-Kwao, A., Gonese, G., Kamamia, C. K., White, B., Young, D. M., & Collins, P. Y. (2023). Global mental health: Where we are

and where we are going. *Current Psychiatry Reports*, *25*(7), 301–311. https://doi.org/10.1007/s11920-023-01426-8

National Association of Therapeutic Schools and Programs (NATSAP). (2023, October 17). *NATSAP applauds the Stop Institutional Child Abuse Act* [Blog post]. NATSAP. https://members.natsap.org/natsappolicydigest/Details/natsap-applauds-the-stop-institutional-child-abuse-act-218915

National Park Service. (2025). *Law and Policy*. https://www.nps.gov/subjects/wilderness/law-and-policy.htm#:~:text=The%20Wilderness%20Act%20of%201964,Service%2C%20and%20US%20Forest%20Service

Ngo, H., Ennals, P., Turut, S., Geelhoed, E., Celenza, A., & Wolstencroft, K. (2020). Step-up, step-down mental health care service: Evidence from Western Australia's first—a mixed-method cohort study. *BMC Psychiatry*, *20*(1), 1–13. https://doi.org/10.1186/s12888-020-02609-w

Norton, C. L., & Fanlo, C. (2023, July). *Reforming wilderness therapy: Enhancing client voice and client rights [Paper presentation]*. Therapeutic Adventure Professional Group Best Practices Conference, Lewis & Clark University.

Norton, C. L., Tucker, A., Farnham-Stratton, M., Borroel, F., & Pelletier, A. (2019). Family enrichment adventure therapy: A mixed methods study examining the impact of trauma-informed adventure therapy on children and families affected by abuse. *Journal of Child & Adolescent Trauma*, *12*(1), 85–95.

Norton, C. L., Tucker, A., Russell, K. C., Bettmann, J. E., Gass, M. A., Gillis, H. L., & Behrens, E. (2014). Adventure therapy with youth. *Journal of Experiential Education*, *37*(1), 46–59. https://doi.org/10.1177/1053825913518895

Outdoor Health Australia. (n.d.). *Research*. Web page. https://outdoorhealth.org.au/category/research/

Outdoor Research Collaborative for Health, Wellbeing, and Experiential Engagement. (n.d.). *Values [Web page]*. ORC. https://www.orcollab.org/values/

Outdoor Therapy Centre for Research and Practice. (n.d.). *Outdoor Therapy Centre for Research and Practice* [Web page]. https://www.outdoortherapycentre.com/

Pelto-Piri, V., Engström, K., & Engström, I. (2013). Paternalism, autonomy and reciprocity: Ethical perspectives in encounters with patients in psychiatric in-patient care. *BMC Medical Ethics*, *14*, 1–8. http://www.biomedcentral.com/1472-6939/14/49

Pennea, E., Anderko, L., Moore, C., & McDermott-Levy, R. (2021). The nexus of climate change, COVID-19, and environmental justice on children's health. *Journal of Applied Research on Children*, 12(1). https://doi.org/10.58464/2155-5834.1464

Penninx, B. W., Benros, M. E., Klein, R. S., & Vinkers, C. H. (2022). How COVID-19 shaped mental health: From infection to pandemic effects. *Nature Medicine*, *28*(10), 2027–2037. https://doi.org/10.1038/s41591-022-02028-2

Porter, L., Rickards, L., Verlie, B., Bosomworth, K., Moloney, S., Lay, B., Latham, B., Anguelovski, I., & Pellow, D. (2020). Climate justice in a climate changed world. *Planning Theory & Practice*, *21*(2), 293–321. https://www.researchgate.net/publication/341068041_Climate_Justice_in_a_Climate_Changed_World

Priest, S. (2020). *Toward establishing indications and contraindications in outdoor therapies*. Canadian Outdoor Therapy and Healthcare. http://coth.ca/

Pringle, G. (2022, October). *Human rights in adventure therapy* [White paper]. Youth Flourish Outdoors. https://doi.org/10.13140/RG.2.2.30267.28963

Pringle, G. (2023). Adventure therapy for complex trauma: Three phased, ecologically dynamic and human rights based. *International Journal of Adventure Therapy*, Special Edition, Proceedings of the 9th International Adventure Therapy Conference (9IATC) and 3rd Gathering of Adventure Therapy Europe (3rd GATE). https://journal-adventure-therapy.com/product/adventure-therapy-for-complex-trauma-three-phased-ecologically-dynamic-and-human-rights-based/

Pringle, G., Boddy, J., Slattery, M., & Harris, P. (2023). Adventure therapy for adolescents with complex trauma: A scoping review and analysis. *Journal of Experiential Education*, *46*(4),

433–454. https://research-repository.griffith.edu.au/server/api/core/bitstreams/ee5f431e-3d4b-41b9-a4d3-0a90cf87fe31/content

Pringle, G., Dobud, W. W., & Harper, N. J. (2021). The next frontier: Wilderness therapy and the treatment of complex trauma. In E. Brymer, M. Rogerson, & J. Barton (Eds.), *Nature and health: Physical activity in nature* (pp. 191–207). Routledge. https://doi.org/10.4324/9781003154419-17

Pringle, G. D., Mater, S., Keech, J., Danylchuck, C., & Dobud, W. (2024). *The dissociative mechanism of change in wilderness and adventure therapy: Psychological harm and possible malpractice*. Unpublished manuscript. Retrieved from https://www.researchgate.net/publication/380851108

Pryor, A. (2006). Does Adventure Therapy Have Wings? In D. Mitten & C. Itin (Eds.), *Connecting with the Essence: Proceedings of the 4th International Adventure Therapy Conference* (pp. 46–71). Association for Experiential Education.

Pryor, A. (2018). Following the currents of mighty women past and present. In T. Gray & D. Mitten (Eds.), *The Palgrave International Handbook of Women and Outdoor Learning* (pp. 169–187). Palgrave Macmillan. https://doi.org/10.1007/978-3-319-53550-0_10

Richards, K., Hardie, A., & Anderson, N. (2020). *Outdoor mental health interventions and outdoor therapy: A statement of good practice*. Institute for Outdoor Learning. https://researchonline.ljmu.ac.uk/id/eprint/22585/1/Outdoor%20Therapy%20Statement%20of%20Good%20Practice%20V2%20-%20Nov%202023%20Final.pdf

Rigolon, A., & Flohr, T. L. (2014). Access to parks for youth as an environmental justice issue: Access inequalities and possible solutions. *Buildings (Basel, Switzerland)*, *4*(2), 69–94. https://doi.org/10.3390/buildings4020069

Ritchie, S. D., D'Angelo, J., Di Feo, G. M., Takano, T., & Priest, S. (2023a, August 27). *The transdisciplinary case for ecohealth promotion in outdoor learning*. https://osf.io/gjbrn/

Ritchie, S. D., D'Angelo, J., Michel, G., Nault, S., & Little, J. (2023b). A new holistic model of ecohealth promotion. In S. Priest, S. Ritchie, & D. Scott (Eds.), *Outdoor Learning in Canada (Chap.15, pp.1-17)*. Canadian Scholars. https://www.researchgate.net/publication/378858679_A_New_Holistic_Model_of_Ecohealth_Promotion

Rowland-Shea, J., Doshi, S., Edberg, S., & Fanger, R. (2020, July 21). *The nature gap: Confronting racial and economic disparities in the destruction and protection of nature in America*. Center for American Progress. https://www.americanprogress.org/article/the-nature-gap/#:~:text=These%20data%20echo%20the%20Trust,quality%20park%20close%20to%20home.&text=For%20low%2Dincome%20families%20with,access%20are%20even%20more%20acute

Schlosberg, D., & Collins, L. B. (2014). From environmental to climate justice: Climate change and the discourse of environmental justice. *Wiley Interdisciplinary Reviews. Climate Change*, *5*(3), 359–374. https://doi.org/10.1002/wcc.275

Scholten, M., Gather, J., & Vollmann, J. (2021, February). Equality in the informed consent process: Competence to consent, substitute decision-making, and discrimination of persons with mental disorders. *The Journal of Medicine and Philosophy: A Forum of Forest Bioethics and Philosophy of Medicine*, *46*(1), 108–136. https://doi.org/10.1093/jmp/jhaa030

Schwartz, S. E., Benoit, L., Clayton, S., Parnes, M. F., Swenson, L., & Lowe, S. R. (2023). Climate change anxiety and mental health: Environmental activism as buffer. *Current Psychology*, *42*(20), 16708–16721. https://link.springer.com/article/10.1007/s12144-022-02735-6

Shatkin, J. P., Balloge, N., & Belfer, M. L. (2008). Child and adolescent mental health policy worldwide: An update. *International Psychiatry*, *5*(4), 81–84. https://www.cambridge.org/core/services/aop-cambridge-core/content/view/D1FC0F94DBF61A63716321CAB3A3DD3B/S174936760000223Xa.pdf/child_and_adolescent_mental_health_policy_worldwide_an_update.pdf

Skidmore, K.(2017, June25). *Stealing wisdom: Cultural appropriation and misrepresentation within adventure therapy and outdoor education*. OutdoorEd.com. https://www.outdoored.com/articles/stealing-wisdom-cultural-appropriation-and-misrepresentation-within-adventure-therapy-and/

Social Current. (2025, January 24). *Policy brief: S. 1351 – Stop Institutional Child Abuse Act [PDF]*. https://www.social-current.org/wp-content/uploads/2025/01/Stop-Institutional-Child-Abuse-Brief.pdf

Song, K.-S., LePage, B. A., & Fang, W. (2023). The conflict between environmental justice and culture. *AlterNative*, *19*(1), 197–203. https://doi-org.libproxy.txstate.edu/10.1177/11771801221147947

Stea, T. H., Jong, M. C., Fegran, L., Sejersted, E., Jong, M., Wahlgren, S. L. H., & Fernee, C. R. (2022). Mapping the concept, content, and outcome of family-based outdoor therapy for children and adolescents with mental health problems: A scoping review. *International Journal of Environmental Research and Public Health*, *19*(10).

Steel, Z., Chey, T., Silove, D., Marnane, C., Bryant, R. A., & Van Ommeren, M. (2009). Association of torture and other potentially traumatic events with mental health outcomes among populations exposed to mass conflict and displacement: A systematic review and meta-analysis. *Journal of the American Research Association*, *302*(5), 537–549. https://doi.org/10.1001/jama.2009.1132

Stuhlmiller, C. M. (2003). Breaking down the stigma of mental illness through an adventure camp: A collaborative education initiative. *Australian E-Journal Forest the Advancement of Mental Health*, *2*(2), 90–98. https://doi.org/10.5172/jamh.2.2.90

Sveiby, K. E., & Skuthorpe, T. (2006). *Treading lightly: The hidden wisdom of the world's oldest people*. Allen & Unwin.

Thomas, E., Benjamin-Thomas, T. E., Sithambaram, A., Shankar, J., & Chen, S. P. (2024). Participatory action research among people with serious mental illness: A scoping review. *Qualitative Health Research*, *34*(1–2), 3–19. https://doi.org/10.1177/10497323231208111

Tucker, A. R., Norton, C. L., DeMille, S., Talbot, B., & Keefe, M. (2022). Wilderness programs. In J. Loeffler & E. Frazier (Eds.), *Handbook of evidence-based day treatment programs for children and adolescents* (pp. xx–xx). Springer. https://doi.org/10.1007/978-3-031-14567-4

Tucker, A. R., Norton, C. L., Itin, C., Hobson, J., & Alvarez, M. A. (2016). Adventure therapy: Nondeliberative group work in action. *Social Work With Groups*, *39*(2–3), 194–207. https://doi.org/10.1080/01609513.2015.1048416

U.S. Department of Health and Human Services. (2015). *A national look at congregate care in child welfare*. https://www.acf.hhs.gov/sites/default/files/documents/cb/cbcongregatecare_brief.pdf

U.S. Department of Health and Human Services. (n.d.). *Social determinants of health*. https://health.gov/healthypeople/priority-areas/social-determinants-health

U.S. Environmental Protection Agency. (2024). *Environmental Justice Strategic Plan*. https://www.epa.gov/system/files/documents/2024-12/environmental-justice-strategic-plan-december-2024.pdf

United Nations. (1989). Convention on the rights of the child. *Treaty Series*, *1577*, 3. https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-child

United Nations. (2006). Convention on the rights of persons with disabilities. *Treaty Series*, *2515*, 3. https://www.un.org/disabilities/documents/convention/convoptprot-e.pdf

United Nations. (2017). *Mental health and human rights*. https://www.un.org/disabilities/documents/reports/ohchr/a_hrc_34_32_mental_health_and_human_rights_2017.pdf

United Nations. (2021, 10 June). *New WHO guidance aims to stamp our rights violations in mental health services* UN News: Global perspective Human stories. https://news.un.org/en/story/2021/06/1093732

United Nations. (n.d.-b). *Human rights*. https://www.un.org/en/global-issues/human-rights#:~:text=Human%20rights%20are%20rights%20inherent,and%20education%2C%20and%20many%20more

United Nations General Assembly. (1948). *Universal declaration of human rights*, (217 [III] A). Paris. https://www.un.org/en/about-us/universal-declaration-of-human-rights

Van Sant, L., Milligan, R., & Mollett, S. (2021). Political ecologies of race: Settler colonialism and environmental racism in the United States and Canada. *Antipode*, *53*(3), 629–642.

Verplanken, B., & Roy, D. (2013). "My worries are rational, climate change is not": Habitual ecological worrying is an adaptive response. *PLoS ONE*, *8*(9), https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0074708

Walker, K. L. A., & Ray, D. C. (2024). Outdoor child-centered play therapy: A pilot study on outcomes. *International Journal of Playing Therapy*, *33*(1), 52–63. https://doi-org.libproxy.txstate.edu/10.1037/pla0000213

Walker, S., Barnett, P., Srinivasan, R., Abrol, E., & Johnson, C. (2021, July). Clinical and social factors associated with involuntary psychiatric hospitalisation in children and adolescents: A systematic review, meta-analysis, and narrative synthesis. *The Lancet. Child & Adolescent Health*, *5*(7), 501–512. https://pubmed.ncbi.nlm.nih.gov/33930330/

Warren, K., Roberts, N. S., Breunig, M., & Alvarez, M. A. T. G. (2014). Social justice in outdoor experiential education: A state of knowledge review. *Journal of Experiential Education*, *37*(1), 89–103. https://doi.org/10.1177/1053825913518898

Williams, T., Barnwell, G. C., & Stein, D. J. (2020). A systematic review of randomized controlled trials on the effectiveness of ecotherapy interventions for treating mental disorders. *medRxiv : the Preprint Server for Health Sciences*, 2020–2029. https://doi.org/10.1101/2020.09.25.20201525

Winfrey, O. (Host). (1993, January 1). *Maya Angelou: An intimate conversation with Oprah* [Television interview]. *The Oprah Winfrey Show*.

World Health Organization. (2005). *Constitution of the World Health Organization*. https://www.who.int/publications/m/item/constitution-of-the-world-health-organization

World Health Organization. (2021, June 9). *Mental health crisis services: Promoting person-centred and rights-based approaches* Technical Package. https://www.who.int/publications/i/item/9789240025721

World Health Organization. (2022a). *Mental health: A state of well-being*. www.who.int/features/factfiles/mental_health/en/

World Health Organization. (2022b). *World mental health report*. https://iris.who.int/bitstream/handle/10665/356119/9789240049338-eng.pdf?sequence=1

World Health Organization. (2023, October 6). *Mental health: Promoting and protecting human rights*. https://www.who.int/news-room/questions-and-answers/item/mental-health-promoting-and-protecting-human-rights

Yerkes, R., Mitten, D., & Warren, K. (Eds.). (2022). *Diversity equity inclusion & belonging field guide*. Association for Experiential Education.

Zimring, C. A. (2015). *Clean and white: A history of environmental racism in the United States*. New York University Press.

Zoellner, L. A., Roy-Byrne, P. P., Mavissakalian, M., & Feeny, N. C. (2019). Doubly randomized preference trial of prolonged exposure versus sertraline for treatment of PTSD. *American Journal of Psychiatry*, *176*(4), 287–296. https://psychiatryonline.org/doi/pdf/10.1176/appi.ajp.2018.17090995

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Chapter 31
Outdoor Health: Just Keep On, Opening the Possible

Jacob Prehn, Uncle Ken Jones: Boandik Elder, and Anita Pryor

Sociocultural Positioning

We write this concluding chapter as two Aboriginal men and one non-Aboriginal woman, each with our distinct cultural knowledges, familial contexts, and professional journeys. Ken is a Boandik man from the lands now known as South Australia and works in bush regeneration, cultural education, and policy consultancy. Jacob is Worimi, and was born and raised on Palawa Country in Lutruwita (Tasmania) and currently works in the School of Social Sciences at the University of Tasmania. As Aboriginal men, we are shaped by our responsibilities to our respective communities and Countries, while also working within, and often across, Western academic systems (M. N. Nakata, 2007). These dual commitments underpin our engagement with outdoor health, both as an ancient and emerging field of practice and as a space for cultural renewal, healing, and resistance. Our perspectives are grounded in relationships with Country, family,

J. Prehn (✉)
School of Social Sciences, University of Tasmania, Hobart, TAS, Australia
e-mail: jacob.prehn@utas.edu.au

U. K. Jones: Boandik Elder
Bush Adventures and Bush Repair, PIRSA Fisheries, Adelaide, Australia;
Aboriginal Heritage, and Outdoor Health Australia, Adelaide, Australia;
Flinders University and several other government agencies, South Australia, Australia
e-mail: info@bushrepair.com.au

A. Pryor
Adventure Works Australia, Hobart, TAS, Australia;
Outdoor Health Australia, Templestowe, VIC, Australia;
International Association for Adventure and Nature-based Therapies, Templestowe, VIC, Australia
e-mail: anita@adventureworks.org.au

© The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1_31

and community, as well as in the collective responsibilities that come with being Aboriginal men in a time of ecological crisis (Prehn, 2021).

Anita Pryor, a non-Aboriginal woman of Celtic-Kernow and Anglo-European ancestry with immigrant settler background, had the privilege of choosing the place she would put down her roots and grow a family, in Lutruwita (Tasmania). She sees the horrors of invasion, and ongoing oppressive and traumatising structures of colonisation. She acknowledges the deep pain and suffering in the lands that lost so many of its peoples during invasion, and the deep wisdom and beauty in the present Tasmanian Aboriginal community—people who continue to care for each other and the land as best they can.

Like many contributors to this volume, we are acutely aware of the contradictions in working within academic systems and the tools of late modernity while advocating for health practices that are relational, place-based, and ecologically accountable. We approach this work with humility, and a belief in the power and promise of outdoor health to regenerate relationships between people and planet. Yet we add a caution: without humility and respect for Indigenous worldviews, self-determination, and sovereignties, the sector risks reproducing the very extractive logics it seeks to resist, and in doing so, cause harm.

Throughout the book, we have made our social positioning explicit because it matters (M. Nakata, 1998). While much of the academy still glorifies universality and objectivity, transparency about who we are and the knowledge systems we draw upon is essential. We hold ourselves accountable to our communities and to Country, and we invite readers to reflect on their own positioning. How do your relationships with place, people, and the more-than-human world shape the way you understand health? Through which sociocultural lens do you read and understand this chapter? What responsibilities will you carry forward in this work of caring for people and planet?

"Concluding" in a Time of Crisis?

When asked about his primary hope and advice for his children and grandchildren, Uncle Ken Jones, Aboriginal cultural advisor to Outdoor Health Australia and well-loved Elder, said "We need more *slow time*. Enjoy every breath, hug and love one another! Rise and shine early, enjoy lots of sunshine" (Personal communication, 2025). From another continent, Nigerian-born philosopher, poet and postactivist Bayo Akomolafe said, "The time is very urgent; we must slow down" (Akomolafe & Benavides, n.d.).

This book has been written, in part, in response to the profound and intersecting crises of our times, including ecological breakdown, sociopolitical instability, and widespread disconnection from nature (Everett, in press; Giddens, 2023; Korten, 2006; Lumsden, 2021; Machado de Oliveira, 2021; Macy & Johnstone, 2022; Paradies, 2020; Pryor et al., 2024; Weller, 2022). In navigating these challenges, the spirit of interconnectedness, perseverance and patience is especially vital.

Outdoor health emerges in this context not as a nostalgic return to a romanticised "natural" world, or as a panacea, but as a critical, political and transformative field that responds to systemic challenges (Dustin et al., 2009).

Together, the 30 chapters of this book collectively ask what it means to care for people and planet in a moment marked by accelerating climate change, environmental degradation, and deepening social and cultural fragmentation (Twohig-Bennett & Jones, 2018). By situating outdoor health within these broader historical, cultural, and political currents, the book positions itself as part of a necessary rethinking or more accurately a re-membering, of health and wellbeing: one that refuses to separate the individual from the community or human health from planetary health (Verbunt et al., 2021; Wright et al., 2021).

This concluding chapter does not seek to provide a singular or definitive taxonomy of outdoor health practices. Instead, it offers a reflective synthesis, drawing together the insights, tensions, and hopes expressed by contributors across diverse contexts and disciplines. The richness of the book lies precisely in its plurality of dimensions. Whether anecdotal, theoretical, empirical, or embodied, all practices within this book are evidence informed. For precisely this reason, the book does not impose a single model of practice or a uniform theoretical framework. Outdoor health, as the chapters collectively demonstrate, is inherently relational and context specific. It cannot be reduced to a prescriptive set of techniques, nor should it be subsumed entirely within institutionalised health systems that so often privilege individualised and biomedical approaches (Abraham et al., 2010; Gascon et al., 2017). Instead, it must be understood as an evolving suite of practices that engage critically with place, culture, and community, as well as with the historical and political forces that shape health and illness (Harper & Dobud, 2020).

The urgency of this work cannot be overstated. As the global ecological crisis intensifies, the health of human communities and the health of the planet are explicitly bound together (Parker et al., 2019), and the consequences are increasingly unequal. Outdoor health offers not only therapeutic benefits, but also a way of reimagining care itself, one that is ecological, relational, and justice oriented (Twohig-Bennett & Jones, 2018).

This book asks us to consider what healing might look when it includes restoration relationships. It also invites us to consider how we might care for failing systems and cultures through what Machado de Oliveira (2021) calls *hospicing modernity*: a process of compassionately attending to the decline of dominant modern systems such as capitalism and colonialism, not to repair or revive them, but to grieve their passing and make space for new, relational, and life-affirming ways of being. In this sense, outdoor health responds to the failures of, and harms produced by, late modernity (defined in Chapter 1). It offers both a hopeful contribution to imagining more just and sustainable futures (Lumsden, 2021; Paradies, 2020), and a practical strategy for persevering through devastation while opening space for what might become possible.

Buddhist ecophilosopher and systems thinker Anglo-American scholar Joanna Macy, who recently passed away, declared:

> Don't wait, just do it. A better opportunity may not come along. Place one stone on top of another. Don't waste your spirit trying to compute your short-term chances of success, because you are in it for the long haul. And it will be a long haul, with inevitable risks and hardships. So just keep on, steady and spunky, like a Khampa pony crossing the mountains, because in the long run, it's our perseverance that counts. (Macy, 2007, p. 170)

Synthesising Central Themes

The chapters in this book collectively respond to the ecological and social ruptures of late modernity, where environmental degradation, individualised health systems, and social fragmentation have disrupted relationships between people, land, and the more-than-human world (Giddens, 2023; Paradies, 2020). Contributors portray outdoor health in relational ways, with the potential to be transformative. As a sector, outdoor health can resist dominant extractive logics and offer instead, plural and regenerative visions of health. What follows is a synthesis of these themes, drawing together the critical, ethical, and hopeful contributions made throughout the collection.

Scoping the Field: Walking the Ground

The first section of this book, Scoping the Field, examines the conceptual and historical foundations of outdoor health, situating its evolution within diverse intellectual and cultural traditions. Contributors trace genealogies that range from Indigenous land-based practices and nature-based therapies to public health and environmental education, portraying the field's plural and diverse nature.

Within this book, McLean and colleagues provide an overview of common elements found in diverse outdoor health practices. Rose, and Priest and Ritchie, along with Hsu and Norton all share stories about the evolution of adventure and nature-based therapies in Europe, Canada, and Taiwan. Angelucci and colleagues present a state of knowledge review on selected outdoor therapy modalities. Knowles and colleagues explore the development of ethical principles and present the Outdoor Health Australia Quality Framework to support "safe enough" practice and efficacy across diverse outdoor health modalities.

Together the authors directly confront the health systems that have tended to individualise care, extract knowledge from local contexts, and sever health from ecological and social relations. Rather than seeking a universal definition, the chapters lend support for a more situated and culturally grounded understanding of outdoor health, one that reflects the political and relational dimensions of practice. The outdoor health sector as presented here is not merely an extension of clinical or wellness paradigms, but a socially and ecologically embedded endeavour, shaped by its relationships to place, community, and histories, as well as ongoing structures of colonisation.

Evidence-Informed Practice: Widening the Circles

The second section of this book addresses the question of evidence, examining how outdoor health is legitimised, evaluated, and scaled in contemporary practice. Contributors critically appraise of hierarchies of evidence that tacitly privilege "objective" quantitative measures and clinical outcomes, while marginalising relational, cultural, and experiential knowledges.

Prehn and colleagues present research on the importance of connecting with Country for Aboriginal men's health. Millsom and Pereira provide practice wisdom and research outcomes for women survivors of family violence and their children. Beardsley and Horn describe a culturally safe and trauma-responsive model of nature-based care to revive adult survivors of sexual harm. Paynter provides a robust overview of occupational therapy outdoors. Vosz and Hamilton describe the importance of trust building with young people to support their mental health outdoors. Peters offers a practice-informed framework supporting "safe enough" equine-facilitated practice. Dimoulias and colleagues present findings on the impacts of a garden volunteer program in vulnerable communities.

Across diverse programmatic contexts, from Indigenous cultural healing practices to bush adventure therapy, occupational therapy, and green and blue space interventions, this section calls for a broader and more reflexive approach to evidence making. Tensions are highlighted between professionalised health systems that seek standardised, scalable models and grassroots initiatives that prioritise local relationships, cultural safety, and ecological care. This section calls for incorporating ecological indicators of health, acknowledging the ethical and cultural dimensions of evaluation, and recognising the authority of community-driven and Indigenous-led knowledge systems (Finlay et al., 2021; Lovett et al., 2020). Together, contributors argue that the legitimacy of outdoor health must be measured not only by its clinical effectiveness, but also by its capacity to repair relationships between people, place, and our shared planet.

Expanding Practice: Valuing Lived Experience as Relational Knowledge

The third section centres the voices and knowledges of practice wisdom built through attunement to lived experiences of mental distress, trauma, disability, displacement, systemic exclusion and power and privilege present in groups. It thereby challenges dominant assumptions about who outdoor spaces are for, how health is experienced (Vannini & Vannini, 2019). It provides guidance for how groups of people and a group-as-a-whole can be supported towards equality and justice through facilitator self-awareness.

Breault-Hood and colleagues explore women's positive body image through outdoor physical activity. Engel articulates a story of practice founded on the

experience of walking with grief. Agnew reports on the underlying social psychological mechanisms of nature-based interventions. Paul shares personal meaning making about abortion through embodied experiences of climbing in nature. Allan and colleagues explore the impact and meaning of a nature walking group on participants' mental health via photos taken during the walks and discussed in a closing reflective workshop. Ringer presents a framework and guidance for facilitating groups and the importance of "feeling good enough in our skin" to be able to access our competence in the role of group facilitator outdoors.

These chapters present powerful counternarratives to late-modern health systems that often reduce lived experiences to individual pathology or downgrade personal experience as merely 'anecdotal' rather than epistemically and empirically significant. Instead, lived experience is presented as relational knowledge, a form of expertise grounded in embodied and place-based encounters. Through examples of codesign, cultural safety, and relational care, contributors demonstrate how outdoor health can become a site of transformation, identity reconstruction, and even resistance to exclusionary systems. Importantly, the emphasis on lived experience helps to reposition care as a reciprocal process: not something done to people, but something cocreated through relationships of trust, mutuality, and shared agency.

(Re)centring Nature: Remembering the Whole

The fourth subsection shifts focus to the role of nature itself, reframing ecosystems not as a therapeutic tool or clinic, or inert backdrop, but as an active, relational presence within intentional processes of healing and care (Gómez et al., 2016). Drawing on Indigenous worldviews, deep ecology, ecopsychology, and planetary health, contributors challenge anthropocentric assumptions that often treat nature as a resource for human benefit rather than a coparticipant in wellbeing. These chapters call for reciprocity, ecological accountability, and an ethic of mutual care (Jordan & Marshall, 2010).

Raffety and colleagues provide an overview of Aboriginal-informed values, principles, and practices within outdoor health practitioner training courses. Pigott and Gray highlight the importance of nature-infused learning for children and young people. Mmako leads us through the benefits of green spaces for people living with dementia. Buckley walks us through an eco coffin project that included natural burial. Marsh and colleagues provide an overview of the benefits of community gardens in tertiary education settings.

This recentring of nature involves not only philosophical and practical shifts, but also political, as it demands a reorientation of health towards ecologically connected futures. In a time of ecological crisis, recognising the agency, intelligence, and vitality of the more-than-human world, including gardens, is presented as essential to reimagining health as something for humans throughout their life course, and fundamentally intertwined with planetary wellbeing.

Mutuality: Planet and People, Towards Regenerative Futures

The final section further develops the theme of interconnection by bringing the mutuality between people and the planet into sharper focus (Jordan, 2017). Here, contributors argue that outdoor health must move beyond individualistic human-only models of care towards frameworks that serve humans within, and with, their ecological systems. Examples of community-led conservation, Indigenous sovereignty movements, and grassroots environmental justice initiatives illustrate how outdoor health can concurrently, even simultaneously, regenerate social and ecological systems.

Davies and colleagues present the benefits of Country-centric pedagogies in initial teacher education. Dudley and Kendal provide an active and hopeful story of landscape restoration in a rural community. Pitt and colleagues provide the results of a mixed-methods study on professional perspectives regarding climate anxiety features and factors. Mitten and Ginwala describe how adventure therapy programs grounded in an ethic of care offer valuable opportunities for facilitators to model ecological connections, and for participants to practise making choices that consider themselves, others, and natural environments. Finally, Norton critiques traditional care models and outlines how outdoor health must evolve towards principles of autonomy, participation, dignity, and nondiscrimination.

These chapters underscore the reality that genuine wellbeing cannot be achieved if humans are separated from responsibilities to land, seas, freshwater, sky-Country and more-than-human life, both animate and inanimate. When grounded in reciprocity and justice, outdoor health can honour and regenerate authentic interconnectedness, responsibility, and care for future generations (Gibbons, 2020).

Outdoor Health as Resistance and Regeneration

When practised ethically and with critical awareness (Knowles et al., 2024), outdoor health offers a quiet form of resistance to dominant systems that tend to commodify everything, including health and nature. In many contemporary health models for example, nature is treated as a resource for human benefit, either as a therapeutic tool, a backdrop for biomedical interventions, or a marketable wellness product. Similarly, health is often reduced to individual pathology and personal responsibility, disconnected from the broader social and ecological conditions that shape wellbeing (Prehn & Ezzy, 2020; Verbunt et al., 2021).

Instead of helping people to be more well in a sick society, towards a need to disassociate or go numb, or be complicit in perpetuating elate-modern systems, outdoor health has a promising role in attending to the needs of sick societies, cultures and ecologies.

The chapters in this collection challenge late modernist views. They present outdoor health as a relational practice that disrupts extractive and commodified relationships with the more-than-human world, fostering mutual respect and ecological accountability (Twohig-Bennett & Jones, 2018). Rather than focusing on utility and profit, outdoor health can reconnect people to their bodies, to places, to community, and collective wellbeing.

Several chapters have illustrated how outdoor health initiatives, particularly those that are community led or Indigenous led, can contribute to broader ecological restoration and conservation efforts while simultaneously improving mental and physical health outcomes. Multidimensional benefits challenge the perceived separation of human health from environmental health, reframing them as fundamentally interconnected. From bush adventure therapy programs that integrate ecological restoration into therapeutic activities (Bowen et al., 2016; Pryor et al., 2005) to Indigenous land-based healing practices grounded in care for Country (McCoy, 2008; Rae & Nichols, 2015), the examples presented in this book demonstrate that outdoor health can be a place through which personal, social, and planetary health can be mutually reinforcing (Bowen & Neill, 2013; Gascon et al., 2017; Twohig-Bennett & Jones, 2018). Such practices embody a regenerative ethos, not only helping individuals to heal from personal trauma or distress, but also contributing to the recovery of damaged social and ecological systems (Triguero-Mas et al., 2015). Positioned within the broader movements of ecological justice and planetary health, outdoor health offers a way to connect personal wellbeing to collective and planetary futures (Gascon et al., 2017).

However, this potential is not automatic. Without careful attention to ethics and justice, outdoor health risks perpetuating or reproducing some of the very inequities and extractive dynamics it seeks to resist (Knowles et al., 2024). One danger is the rise of "green consumerism," where outdoor health is packaged and sold as a commodified wellness experience, accessible primarily to those with financial means (Chris, 2013). This trend risks reinforcing elite access to outdoor spaces while marginalising communities that may have long-standing cultural, spiritual, or historical connections to those places. Similarly, "black washing" and cultural appropriation poses a serious ethical challenge, particularly when Indigenous land-based practices or ecological knowledges are selectively adopted without proper consent, attribution, or respect for Indigenous sovereignties (Behrendt, 1998). Such appropriation not only erases the cultural and political contexts of these practices but also undermines Indigenous leadership in caring for Country.

Risks of harm can occur in biomedical or clinical approaches to therapy where individuals are pathologised (seen as the problem in need of a cure) and potentially stigmatised, without recognition of the contexts, systems and intergenerational trauma they are coping with. Behaviourist models that aim to "fix" people may be coercive and oppressive.

If outdoor health becomes institutionalised, medicalised, or overly regulated, it risks losing its transformative potential, reduced to symptom management rather than systemic change. If divorced from its ecological and justice-oriented roots, outdoor health risks becoming another therapeutic commodity, reinforcing, rather

than challenging dominant health paradigms. While social determinants of health and systemic therapies have helped shift outdoor practices away from problem-focused models, outdoor health can go further, supporting socioecological healing. Ensuring that outdoor health does not reinforce existing inequalities requires ongoing critical reflection, cultural humility, and a commitment to equity and reciprocity.

As we move through this time of significant change, outdoor health practitioners, researchers, and stakeholders face significant choices. For Joanna Macy, the *long dark* (of late modernity) requires conscious efforts in the direction of *active hope* (Macy & Johnstone, 2022). For psychotherapist, grief elder and white-American author Francis Weller, this requires grief work as an act of soul activism, a conscious engagement with loss that reconnects us to vitality and aliveness, enabling us to respond more fully to a world marked by uncertainty, rupture, and decay (Weller, 2015, 2022).

Our responses will shape the future of socioecological healing and determine whether Indigenous and place-based knowledges are truly re-membered. Without care, even well-intentioned solutions may inadvertently reinforce the very systems they aim to transform.

To illuminate these choices, Table 31.1 contrasts orientations within outdoor health practice. Rather than rigid binaries, it highlights relational movements, recognising that practices may shift between late-modern and socioecological approaches depending on context, resources, and values. As Akomolafe (n.d.) suggested, what unsettles late modernity is not diversity or identity, but *flow*—the melting of fixed categories. Perhaps outdoor health, in this moment, invites us to slow down, soften, value not-knowing and embrace uncertainty, to open possibilities.

Seen in this way, the table is not a map of static opposites, but a guide to the shifting terrain of practice. What matters is not which column we inhabit, but how we learn to move between orientations, sometimes strategically, sometimes experimentally, while staying accountable to socioecological wellbeing and Indigenous knowledge systems. Perhaps the table offers a grid through which outdoor health practices can 'melt through', thus becoming a living socioecological practice: less about drawing boundaries, and more about cultivating responsiveness to people, Country, and the wider web of life.

Re-membering the Whole in Uncertain Times

Looking ahead, outdoor health occupies a vital role in addressing intersecting crises. The chapters in this book show that outdoor health is not simply a collection of therapeutic techniques, but a deeply relational field intertwined with ecological justice, cultural renewal, and community wellbeing. As Aboriginal ranger and outdoor adventure therapy trainer Luke Mabb said, "Being on Country, healing yourself and healing Country, it's intrinsic, it goes hand in hand … that's

Table 31.1 Outdoor health orientations as relational movements

Dimension	Late modernity orientations	Tensions/movements	Socioecological orientations
Worldview	Anthropocentric	Moving from humans as centre towards recognition of interdependence	Ecocentric
Focus of health	Individual, biomedical outcomes	Expanding the circle of health	Collective, planetary wellbeing
Role of practitioner	Expert, objective facilitator	Shifting authority towards collaboration	Cofacilitator, acknowledges subjectivity
Practice style	Mechanistic, diagnostic, reductionist	From control to cocreation	Holistic, relational, generative
Orientation to outcomes	Predicted, measurable, outcome driven	From fixed goals to emergent learning	Emergent, process oriented
Power relations	Hierarchical, coercive	Rebalancing relationships	Mutual, invitational
Cultural safety	More likely unsafe	Negotiating safety through reflexivity	More likely safe
Trauma awareness	Less trauma informed	Deepening recognition of trauma's complexity	More trauma informed
Sociopolitical orientation	Commercial gain, individual or systemic change	Moving from extraction to liberation	Socioecological justice, liberation for all

what Outdoor Health is" (Mabb personal communication, cited in Adventure Works Australia, 2025, p. 3).

Across different cultural contexts, outdoor health practices differ in countless ways, yet shared principles emerge. A shared challenge of our international field is to advance this work in ways that are ethically grounded, inclusive, and transformative. This final section outlines three key pathways to this future: research and knowledge production, policy and systems change, and community-led practice. Together, these pathways can guide outdoor health toward becoming a field of healing, resistance, and regeneration in uncertain times.

Research and Knowledge Production

Future research in outdoor health must actively challenge the knowledge hierarchies that have long shaped academic research agendas and health systems

(Giddens, 2023). Dominant forms of evidence making, rooted in positivist, biomedical traditions, have often privileged narrowly defined so-called objective outcomes while excluding relational, cultural, and ecological dimensions of health (Smith, 2021). To counter this, the field needs participatory, decolonising, and transdisciplinary approaches to knowledge production (Walter & Andersen, 2013).

Participatory methods, grounded in codesign and collaboration, ensure research reflects lived experience and community priorities. Decolonising research requires respecting Indigenous data sovereignty (Walter et al., 2021), recognising Indigenous intellectual traditions (M. N. Nakata, 2007), and valuing oral histories and other forms of relational knowledge as legitimate evidence (Dudgeon & Bray, 2019). Transdisciplinary research offers opportunities to bridge health sciences, environmental studies, Indigenous knowledge systems, and the humanities, producing insights that are more holistic and responsive to the complexity of outdoor health (Gascon et al., 2017; Twohig-Bennett & Jones, 2018). By embracing practice-based evidence, evidence-informed practice, lived experience informed research and practice, and Aboriginal-informed research and practice, researchers can generate richer and more relevant knowledge. Researchers have a key role to play in dismantling extractive research practices that have historically marginalised Indigenous peoples and other excluded groups (Connell, 2007; Walter & Andersen, 2013).

Policy and Systems Change

Outdoor health has the potential to shape public health, education, and urban planning, especially when embedded in policies that prioritise equity and ecological sustainability (Abraham et al., 2010; Pryor et al., 2005). Contributors to this book have shown how scaled outdoor health practices can reduce inequities, enhance wellbeing, strengthen community ties, and foster environmental stewardship (Finlay et al., 2021; Salmon et al., 2018).

In public health, this might involve integrating nature-based interventions into primary care and mental health services, ensuring they are accessible to diverse communities rather than being confined to elite or private settings.

In education, outdoor health principles can shape curricula to encourage ecological literacy, experiential learning, and a connection to place, thereby fostering future generations' sense of responsibility towards natural environments.

Urban planning presents another crucial site for intervention; designing green and blue spaces that are accessible, culturally inclusive, and ecologically regenerative can provide everyday opportunities for outdoor health practices in both urban and regional contexts (Gibbons, 2020; Jackson, 2003). To realise these possibilities, advocates must engage policymakers and planners, championing systems that recognise the interconnectedness of human, cultural, and planetary wellbeing.

Community-Led and Indigenous-Led Practice

Perhaps the most critical pathway forward lies in strengthening community-led and Indigenous-led practices (Campbell et al., 2018; Pearson et al., 2020). Late-modern health systems often impose extractive top-down models of care that undermine local agency and knowledge. In contrast, initiatives led by communities and Indigenous peoples offer a blueprint for ground-up outdoor health practices that centre reciprocity, cultural continuity, and ecological care. Indigenous leadership, in particular, is vital given the long histories of caring for Country and more-than-human life embedded in Indigenous knowledge systems (Moreton-Robinson, 2020). Supporting Indigenous sovereignty through genuine partnerships, resource allocation, and respect for cultural protocols should be central to the future of outdoor health. Localised approaches are equally important, recognising that practices must be adapted to the specific cultural, ecological, and historical contexts in which they occur (Coulthard & Simpson, 2016; Nursey-Bray, 2019). Strengthening these forms of leadership not only resists the extractive tendencies of late-modern systems but also help to ensure that outdoor health contributes to broader movements for environmental justice, cultural renewal, and community resilience.

Centring Indigenous ways of knowing, being and relating is a primary, accessible, and promising antidote to our current trajectories to disaster. Indigenous and traditional place-based cultures have always known and never forgotten how to live sustainably, whereas colonising systems and modernist cultures have severed essential ties. Quinn (1995) described this rupture as *the great forgetting*, a narrowing of belief systems that prioritised domination over ecological integrity and communal wellbeing. In contrast, *the great remembering* invites a return to Indigenous knowledge, where sustainability is lived through relational practices with more-than-human ecosystems.

As Machado de Oliveira (2021) wrote, transformation begins with a profound un-learning, a clearing away of certainty, hierarchy, and consumption-driven ways of relating. This process demands a reckoning with pain, loss, and the depth of our current crises, but also opens space for rediscovery, reconnection, and regeneration. It is a call to befriend death, to let go, and to return home to more grounded, life-affirming ways of being (p. 428).

Bringing these inspirations together, outdoor health can be reimagined not just as a response to individual symptoms, but as a practice of relational healing, between people, communities, and ecosystems (Abraham et al., 2010; Twohig-Bennett & Jones, 2018). Amid the instability of late modernity, it offers a hopeful practice of resistance, re-membering, and regeneration. It reminds us that caring for people and planet are inseparable responsibilities, and that life-affirming futures are possible.

As Macy affirms, ‘The Great Turning turns my face toward the possible, and helps me live with radical uncertainty. It causes me to believe that, whether we succeed or not, the risks we take on behalf of life will bring forth dimensions of

human intelligence and solidarity beyond any we have known' (Macy, 2007, p. 147). Akomolafe and Benavide (n.d.) echo this statement, "Now, we think, is the time to 'retreat' into the real work of reclamation, to re-member again our humanity through the intimacy of our relationships".

Figure 31.1 brings these ideas together, not as a fixed hierarchy or a linear path toward healing and renewal, but as a spiral process of gradual accretion, much like the growth of an abalone shell. The shells of molluscs like abalone grow incrementally, as conditions allow. As each new layer is deposited by the mantle, their growth follows a spiral pattern, expanding outwards and thickening over time, while always preserving the original form. Over time, growth rings may become visible, marking distinct periods of development or change. In the same way, healing and renewal build upon what has come before, layered, continuous, and shaped by experience, where nothing is discarded, and every stage remains part of the whole. Through relative slow growth, the shell is well thickened and strengthened, providing resistance to changes in their environmental conditions, and resilience in the face of uncertainty.

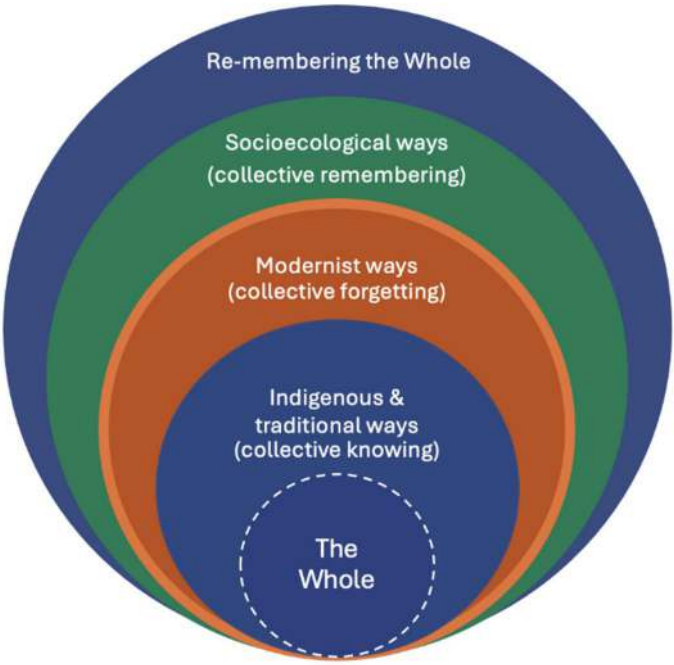


Fig. 31.1 Outdoor health: socioecological practices to re-member the whole (This Figure was collaboratively developed for this chapter by the 3rd author, together with Gazala Leela Singh and Clare Raffety, as described in the chapter acknowledgements)

Closing Reflections: Caring for People and Planet

Uncle Ken Jones speaks in favour of a bigger outdoor health tent: "As your circle of real friends and valued mob grows, so too must your sanctuary. Whether it's a tent, caravan, shack, hut, or Mia Mia, new relationships will stretch your patience, resources, and hospitality. You'll need to lengthen your cords and expand your reach to accommodate a larger camp" (Jones, personal communication, cited in OHA, n.d.).

This book opened with a provocation: Can outdoor health help us reimagine care in a time of ecological and social crisis? Across its diverse chapters, the response has been both cautious and hopeful. Outdoor health has been presented not as a cure-all for the structural crises of late modernity, it cannot on its own, dismantle the extractive systems that degrade land, exploit communities, and fragment relationships (Giddens, 2023; Paradies, 2020), yet together, diverse context-based outdoor health practices offer a vital reorientation, a reminder that care for human wellbeing is inseparable from care for the planet, and that healing must be relational, collective, and ecological.

Rather than prescribing fixed solutions, outdoor health nurtures ways of being that resist disconnection and foster deeper relationships with land, water, more-than-human life, and Country. Uncle Jimmy Everett's Foreword called for us to re(learn) how to live in harmony with the natural world. Raffety and colleagues highlighted the value of Aboriginal-informed principles, respect, responsibility, reciprocity, and interconnectedness in shaping outdoor health care (Raffety et al., in press).

Humility, reciprocity, and ongoing collective responsibility have emerged as central themes in this work. Humility requires recognising that no single framework or discipline holds all the answers, and that much of the knowledge we need already resides within Indigenous worldviews, community practices, and the lived experiences of those most affected by ecological and social injustice. Reciprocity invites us to see care as a two-way and multidimensional relationship, where nature-based healing is not only what nature can do for us, but also about what we can do for the places and beings that sustain us; that 'we heal together'. Collective responsibility reminds us that outdoor health and transformation is a shared endeavour, one that calls for personal daily embodiment of the changes we long for, professional bravery to enact healthy practices, and political engagement and activism for systemic change.

Perhaps the most enduring image from this collection is the idea expressed by several contributors, that "health is a conversation with place" (Kearns & Gesler, 1998). This conversation unfolds not only in words but in acts of care: planting trees, restoring rivers, sitting quietly with Country, and listening (Paradies & Joyce, 2024; Prehn et al., 2020). These acts of resistance are acts of healing and acts of hope, it reminds us that even in the uncertainty of the current human-centred harm-inflicted epoch, the work of caring for people and planet is both necessary and possible. The invitation now is to continue this conversation patiently and

collectively, with commitment to more just and life-affirming futures. This work is philosophical, theoretical, practical, and essential.

Acknowledgements We wish to honour and thank all Aboriginal and First nations peoples for caring for country for millennia, including those who continue to survive the daily effects of colonisation, and particularly those who generously share their knowledge and values with non-Aboriginal people so that all may benefit. Special thanks to proud Waka Waka man Luke Mabb of Lutruwita (Tasmania) for his heart-full contributions to our national outdoor health community, and alongside him, the Adventure Works training team who work hard to decolonise mental health care ('shake shit up'). Special thanks to Indian practitioner Gazala Leela Singh and Clare Raffety for heart-full contributions to this chapter, including the call to 'keep going, opening the possible' and their collaborative codevelopment of the final diagram.

References

Abraham, A., Sommerhalder, K., & Abel, T. (2010). Landscape and well-being: A scoping study on the health-promoting impact of outdoor environments. *International Journal of Public Health*, *55*(1), 59–69.

Agnew, K. (in press). Underlying social psychological mechanisms of nature-based interventions. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Akomolafe, B. (n.d.). *On diversity*. https://www.bayoakomolafe.net/post/on-diversity

Akomolafe, B., & Benevides, M. (n.d.). *The times are urgent: Let's slow down*. https://www.bayoakomolafe.net/post/the-times-are-urgent-lets-slow-down

Allan, J., Olcoń, K., Destry, P., & Astell-Burt, T. (in press). "If you look, you will see the light shining through the darkness": A photovoice study exploring a nature walking group for people attending mental health services. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Angelucci, A. P., Mendoza Diaz, A., Peak, J., & Macpherson, I. (in press). Green care interventions: A review of evidence for outdoor therapies and a path to better health. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Beardsley, A., & Horn, A. (in press). Taking therapy outside with "Revive": An adventure therapy program for survivors of sexual harm. In A. Pryor, T. Gray, P. Marsh, C. Carpenter, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Behrendt, L. (1998). In your dreams: Cultural appropriation, popular culture and colonialism. *Law Textile Culture*, *4*, 256.

Bowen, D. J., & Neill, J. T. (2013). A meta-analysis of adventure therapy outcomes and moderators. *The Open Psychology Journal*, *6*(1), 28–53.

Bowen, D. J., Neill, J. T., Williams, I. R., Mak, A. S., Allen, N. B., & Olsson, C. A. (2016). A profile of outdoor adventure interventions for young people in Australia. *Journal of Outdoor Recreation, Education, and Leadership*, *8*(1).

Breault-Hood, J., Gray, T., Ullman, J., & Truong, S. (in press). A holistic model of positive body image and outdoor physical activity. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Buckley, A. (in press). Eco Coffin Project: Walking with natural burial. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Campbell, M. A., Hunt, J., Scrimgeour, D. J., Davey, M., & Jones, V. (2018). Contribution of Aboriginal community-controlled health services to improving Aboriginal health: An evidence review. *Australian Health Review*, *42*(2), 218–226. https://doi.org/10.1071/AH16149

Chris, L. (2013). Globalization, the market and outdoor adventure. In E. Pike & S. Beames (Eds.), *Outdoor adventure and social theory* (135–146). Routledge.

Connell, R. (2007). *Southern theory: The global dynamics of knowledge in social science*. Allen & Unwin.

Coulthard, G., & Simpson, L. B. (2016). Grounded normativity/place-based solidarity. *American Quarterly*, *68*(2), 249–255.

Davies, M. J., Appel, M., Spillman, D., Wilson, B., & Archer, E. (in press). Country-centric pedagogies in initial teacher education for ecological and social wellness and balance. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Dimoulias, K., Tracey, D., & Gray, T. (in press). "It's good for the soul": Positive impacts of the master gardener volunteer program with vulnerable communities. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Dudgeon, P., & Bray, A. (2019). Indigenous relationality: Women, kinship and the law. *Genealogy*, *3*(2), 23.

Dudley, T., & Kendal, D. (in press). Ecological restoration and human health. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Dustin, D. L., Bricker, K. S., & Schwab, K. A. (2009). People and nature: Toward an ecological model of health promotion. *Leisure Sciences*, *32*(1), 3–14.

Engel, L. (in press). Trail tracing and walking with grief: A story of practice. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Everett, J. (in press). Foreword: A serious note: Health and country. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Finlay, S. M., Canuto, K., Canuto, K., Neal, N., & Lovett, R. W. (2021). Aboriginal and Torres Strait Islander connection to culture: Building stronger individual and collective wellbeing. *Medical Journal of Australia*, *214*, S12–S16.

Gascon, M., Zijlema, W., Vert, C., White, M. P., & Nieuwenhuijsen, M. J. (2017). Outdoor blue spaces, human health and well-being: A systematic review of quantitative studies. *International Journal of Hygiene and Environmental Health*, *220*(8), 1207–1221.

Gibbons, L. V. (2020). Regenerative: The new sustainable? *Sustainability*, *12*(13), 5483.

Giddens, A. (2023). Modernity and self-identity. In W. Longhofer & D. Winchester, *Social theory re-wired: New connections to classical and contemporary perspectives* (3rd ed., pp. 477–484). Routledge. https://doi.org/10.4324/9781003320609

Gómez, J. M., Lewis, J. K., Noll, L. K., Smidt, A. M., & Birrell, P. J. (2016). Shifting the focus: Nonpathologizing approaches to healing from betrayal trauma through an emphasis on relational care. *Journal of Trauma & Dissociation*, *17*(2), 165–185.

Harper, N. J., & Dobud, W. W. (2020). *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives*. Routledge.

Hsu, C., & Norton, C. (in press). Taiwan's development of adventure therapy practice. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Jackson, L. E. (2003). The relationship of urban design to human health and condition. *Landscape and Urban Planning*, *64*(4), 191–200.

Jordan, J. V. (2017). Relational–cultural theory: The power of connection to transform our lives. *The Journal of Humanistic Counseling*, *56*(3), 228–243.

Jordan, M., & Marshall, H. (2010). Taking counselling and psychotherapy outside: Destruction or enrichment of the therapeutic frame? *European Journal of Psychotherapy and Counselling*, *12*(4), 345–359.

Kearns, R. A., & Gesler, W. M. (1998). *Putting health into place: Landscape, identity, and well-being*. Syracuse University Press.

Knowles, B., Marsh, P., Prehn, J., & Maxwell, H. (2024). Addressing ethical issues in outdoor health practice: A scoping review. *Journal of Outdoor and Environmental Education*, *27*(1), 7–35.

Knowles, B., Pryor, A., & Hearht, R. (in press). Becoming ethical: A reflective journey towards transformative outdoor health practices. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Korten, D. C. (2006). *The great turning: From empire to Earth community*. Berrett-Koehler Publishers.

Lovett, R., Brinckley, M.-M., Phillips, B., Chapman, J., Thurber, K. A., Jones, R., Banks, E., Dunbar, T., Olsen, A., & Wenitong, M. (2020). *Marrathalpu mayingku ngiya kiyi. Minyawaa ngiyani yata punmalaka; wangaaypu kirrampili kara* [Ngiyampaa title]; [In the beginning it was our people's law. What makes us well; to never be sick]. *Cohort profile of Mayi Kuwayu: The National Study of Aboriginal and Torres Strait Islander Wellbeing* [English title]. *Australian Aboriginal Studies*, *2*, 8–30.

Lumsden, S. (2021). Sustainable development is a dead-end: The logic of modernity and ecological crisis. *Environmental Values*, *30*(3), 277–296.

Machado de Oliveira, V. (2021). *Hospicing modernity: Facing humanity's wrongs and the implications for social activism*. North Atlantic Books.

Macy, J. (2007). *World as lover, world as self: Courage for global justice and ecological renewal*. Parallax Press.

Macy, J., & Johnstone, C. (2022). *Active hope (revised): How to face the mess we're in with unexpected resilience and creative power*. New World Library.

Marsh, P., Wright, A., Pearson, S., Elliott, C., & Burke, E. (in press). The outdoor health promise of the campus community garden. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

McCoy, B. F. (2008). *Holding men: Kanyirninpa and the health of Aboriginal men*. Aboriginal Studies Press.

McLean, J., Mulvaney, T., & Pryor, A. (in press). Common elements of effective outdoor health modalities within an evolving bio–psycho–socio–cultural–eco model: A narrative review. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Millsom, R., & Pereira, L. (in press). Considerations for working in the outdoors with women victim survivors of family violence. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Mitten, D., & Ginwala, T. (in press). Developing choice-making skills grounded in an ethic of care through adventure therapy. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Mmako, N. (in press). Navigating outdoor vulnerabilities in dementia using nearby nature. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Moreton-Robinson, A. (2020, November 9). "Our story is in the land": Why the Indigenous sense of belonging unsettles white Australia. *ABC*. https://www.abc.net.au/religion/our-story-is-in-the-land-indigenous-sense-of-belonging/11159992

Nakata, M. (1998). Anthropological texts and Indigenous standpoints. *Australian Aboriginal Studies*, *2*, 3–12.

Nakata, M. N. (2007). *Disciplining the savages, savaging the disciplines*. Aboriginal Studies Press.

Norton, C. (in press). Human rights and environmental justice in outdoor health practices. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Nursey-Bray, M. (2019). Uncoupling binaries, unsettling narratives and enriching pedagogical practice: Lessons from a trial to Indigenize geography curricula at the University of Adelaide, Australia. *Journal of Geography in Higher Education*, *43*(3), 323–342. https://doi.org/10.1080/03098265.2019.1608921

Outdoor Health Australia. (n.d.). *Home*. https://outdoorhealth.org.au/

Paradies, Y. (2020). Unsettling truths: Modernity, (de-)coloniality and Indigenous futures. *Postcolonial Studies*, *23*(4), 438–456. https://doi.org/10.1080/13688790.2020.1809069

Paradies, Y., & Joyce, C. W. (2024). From esotericism to embodied ritual: Care for Country as religious experience. *Religions*, *15*(2), 182.

Parker, C. L., Wellbery, C. E., & Mueller, M. (2019). The changing climate: Managing health impacts. *American Family Physician*, *100*(10), 618–626.

Paul, C. (in press). Redefining body and self: Making meanings of abortion through embodied experiences of climbing in nature. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Paynter, B. (in press). Occupational therapy and nature: Returning to our roots. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Pearson, O., Schwartzkopff, K., Dawson, A., Hagger, C., Karagi, A., Davy, C., Brown, A., & Braunack-Mayer, A., & on behalf of the Leadership Group guiding the Centre for Research Excellence in Aboriginal Chronic Disease Knowledge Translation and Exchange (CREATE). (2020). Aboriginal community controlled health organisations address health equity through action on the social determinants of health of Aboriginal and Torres Strait Islander peoples in Australia. *BMC Public Health*, *20*(1), 1859.

Peters, K. (in press). Equine-facilitated practice: A systemic and reflective road to safe practice. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Pigott, F., & Gray, T. (in press). Back to basics: The benefits of nature-infused learning for children and young people. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Pitt, C., Norris, K., & Pecl, G. (in press). Climate anxiety features and factors: A mixed-methods study of professional perspectives. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Prehn, J. (2021). *''We've always done it. Country is our counselling office'': Masculinity, nature-based therapy, and the strengths of Aboriginal men*. University of Tasmania.

Prehn, J., & Ezzy, D. (2020). Decolonising the health and well-being of Aboriginal men in Australia. *Journal of Sociology*, *56*(2), 151–166. https://doi.org/10.1177/1440783319856618

Prehn, J., Mabb, L., Graham-Blair, J., Everett Smith, D., King, A., & Rae, P. (in press). Country and the cultural determinants of health and wellbeing for Aboriginal men. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Prehn, J., Peacock, H., Guerzoni, M. A., & Walter, M. (2020). Virtual tours of Country: Creating and embedding resource-appropriate Aboriginal pedagogy at Australian universities. *Journal of Applied Learning and Teaching*, *3*(Sp. Iss. 1).

Priest, S., & Ritchie, S. D. (in press). Trends toward transformation in Canadian outdoor health. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Pryor, A., Carpenter, C., & Townsend, M. (2005). Outdoor education and bush adventure therapy: A socio-ecological approach to health and wellbeing. *Journal of Outdoor and Environmental Education*, *9*(1), 3–13.

Pryor, A., Gray, T., Asen, G. O., Knowles, B., Dickmeyer, A., & Smith, A. (2024). JOEE special issue: Outdoor health and nature-based solutions: Research, practice & policy. *Journal of Outdoor and Environmental Education*, *27*(1), 1–6. https://doi.org/10.1007/s42322-024-00170-8

Quinn, D. (1995). *Ishmael: An adventure of the mind and spirit*. Bantam Books.

Rae, P., & Nichols, A. V. (2015). The aboriginal outdoor recreation program: Connection with country, culture, family and communityC. Norton, C. Carpenter, & A. PryorEds.Common Ground *Adventure therapy around the Globe: International perspectives and diverse approaches* 181–194

Raffety, C., Mabb, L., & Pryor, A. (in press). Aboriginal-informed outdoor therapy: Values, principles, and practitioner training in Australia. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Ringer, M. (in press). Taking the group seriously. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Rose, A. (in press). The mycelium metaphor: A picture of adventure and nature therapy in Europe. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Salmon, M., Doery, K., Dance, P., Chapman, J., Gilbert, R., Williams, R., & Lovett, R. (2018). *Defining the indefinable: Descriptors of Aboriginal and Torres Strait Islander peoples' cultures and their links to health and wellbeing*. National Centre for Epidemiology and Population Health (NCEPH), Research School of Population Health, The Australian National University.

Smith, L. T. (2021). *Decolonizing methodologies: Research and Indigenous peoples*. Bloomsbury Publishing.

Triguero-Mas, M., Dadvand, P., Cirach, M., Martínez, D., Medina, A., Mompart, A., Basagaña, X., Gražulevičienė, R., & Nieuwenhuijsen, M. J. (2015). Natural outdoor environments and mental and physical health: Relationships and mechanisms. *Environment International*, *77*, 35–41.

Twohig-Bennett, C., & Jones, A. (2018). The health benefits of the great outdoors: A systematic review and meta-analysis of greenspace exposure and health outcomes. *Environmental Research*, *166*, 628–637.

Vannini, P., & Vannini, A. S. (2019). Wildness as vitality: A relational approach. *Environment and Planning E: Nature and Space*, *2*(2), 252–273.

Verbunt, E., Luke, J., Paradies, Y., Bamblett, M., Salamone, C., Jones, A., & Kelaher, M. (2021). Cultural determinants of health for Aboriginal and Torres Strait Islander people: A narrative overview of reviews. *International Journal for Equity in Health*, *20*(1), 181. https://doi.org/10.1186/s12939-021-01514-2

Vince, G. (2014). *Adventures in the Anthropocene: A journey to the heart of the planet we made*. Milkweed Editions.

Vosz, M., & Hamilton, A. (in press). Engaging at the pace of trust: Tackling the youth mental health crisis with an outdoor health approach. In A. Pryor, T. Gray, C. Carpenter, P. Marsh, A. Dickmeyer, J. Prehn, & B. Knowles (Eds.), *Outdoor health: Caring for people and planet*. Springer Nature.

Walter, M., & Andersen, C. (2013). *Indigenous statistics: A quantitative research methodology*. Left Coast Press.

Walter, M., Lovett, R., Maher, B., Williamson, B., Prehn, J., Bodkin-Andrews, G., & Lee, V. (2021). Indigenous data sovereignty in the era of big data and open data. *Australian Journal of Social Issues*, *56*(2), 143–156.

Weller, F. (2015). *The wild edge of sorrow: Rituals of renewal and the sacred work of grief*. North Atlantic Books.

Weller, F. (2022). At the threshold: Grief, initiation, and transformation. In D. Elgin (Ed.), *Choosing Earth: Humanity's great transition to a mature planetary civilization* (Preface, pp. 7–21). Choosing Earth Project. https://scienceandnonduality.com/article/choosing-earth/

Wright, A., Yap, M., Jones, R., Richardson, A., Davis, V., & Lovett, R. (2021). Examining the associations between Indigenous rangers, culture and wellbeing in Australia, 2018–2020. *International Journal of Environmental Research and Public Health*, *18*(6), 3053.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



Index

A
Aboriginal, 4–5, 7, 10, 32, 37, 40, 43, 46, 84–86, 89, 166–167, 169, 174, 176, 194, 216–217, 224, 272, 309, 320, 336, 356, 361, 461–463, 467, 470–471, 479, 541, 545, 550, 624, 634, 653–654, 657–658, 661, 663, 666
Abortion, 658
Adventure therapy, 6, 10, 14, 16, 32, 42, 58, 60–63, 65–68, 78, 137, 142–144, 155–156, 160, 256, 371–372, 378, 438, 440, 442, 447, 451, 456, 521, 623–624, 634, 639, 641, 657, 659, 661
Animal-assisted therapy, 32, 70, 142–144, 151–155, 158, 634

B
Behaviour change, 372, 375–376, 378–379
Biodiversity, 17, 69, 468, 511, 517, 531, 563, 565, 567, 569, 627, 631, 643
Bush regeneration, 561, 566–569, 653

C
Cemetery, 525, 527–528, 530, 532–534
Children, 35, 66, 70, 78, 85–86, 93, 95, 100, 148–149, 151, 153–155, 157–158, 165, 202, 211–213, 215, 217–218, 220–221, 223, 283, 371, 421, 461, 464, 468–469, 471, 473–474, 476, 479, 528, 554, 603, 606, 631, 634–637, 639, 654, 657–658
Choice-making, 593–597, 599, 601, 603–608, 614
Climate
  anxiety, 629, 659
  change, 17, 41, 80, 250, 253, 403, 463, 471, 522, 571–574, 576–579, 582–586, 620, 627, 629, 632, 636, 643, 655
  distress, 583, 585
  emotions, 582
Conceptualisation, 69, 142, 311–312, 394, 543, 573
Connecting through nature, 218, 239–240, 262, 357, 455, 464, 469, 564, 567
Country as teacher, 550–551, 554–555
Critical pedagogy of place, 550
Cultivation, 338, 503, 518

D
Death, 86, 356, 358, 360–361, 390, 393, 487, 521–525, 533, 580, 622, 664
Dementia, 47, 144, 151, 158, 167, 658
Dewey's theory of valuation, 599

E
Eco Coffin Project, 658
Ecofeminism, 626
Ecological
  restoration, 660
  stewardship, 8, 58, 69, 262, 463, 469, 471
Economic factors, 95, 196, 253, 405

© The Editor(s) (if applicable) and The Author(s) 2027

A. Pryor et al. (eds.), *Outdoor Health*,
https://doi.org/10.1007/978-981-92-0585-1

Embodiment, 34, 338, 340, 388–390, 396, 542, 666
Engagement, 7–8, 16–18, 25, 34, 43, 46, 61, 64, 67, 70, 132, 137, 166, 168, 171–172, 179, 181, 184–185, 204, 223, 234, 246, 248, 253–254, 257, 271–272, 274, 277, 279–281, 310–323, 326, 339–341, 344, 346–348, 404, 430, 438, 441, 453, 488–491, 496–498, 501–502, 504, 510–511, 515–516, 573, 584, 597, 600–601, 609–610, 640, 642, 653, 661, 666
Environmental
  justice, 16, 46–47, 355, 659, 664
Ethic of care, 179, 623, 659
Europe, 9, 13, 57–64, 67, 69, 71–72, 115, 638, 656
Evidence synthesis, 160

F
Feminist autoethnography, 387
First Nations, 43, 77, 84–86, 168, 176, 179, 195–197, 203, 271–272, 360–361, 446, 552, 574, 580, 585
Forest therapy, 47, 60, 70, 142, 144, 146, 158, 634
Frameworks, 5, 11, 13, 15, 26, 28, 32, 37, 46, 60, 67, 69, 71, 114–115, 119, 133–134, 160, 170–173, 179, 181, 194–195, 215, 217, 224, 250, 256, 289, 297, 299–300, 303, 385, 476, 583, 620–621, 638, 659

G
Green
  care, 69, 258
  spaces, 79, 220, 466, 469, 488–492, 494–498, 501, 507, 510, 516, 533, 636, 658
Grief, 385–386, 391–394, 397, 447, 523, 533, 572, 579, 658, 661
Group dynamics, 230, 422, 604, 606
Group-as-a-whole, 421, 424, 426, 429–432, 657

H
Health, 20, 40–41, 47, 195, 199–202, 236, 270, 281, 386, 468, 544, 546, 551, 556, 659
  education, 542, 547–549, 551, 556
History, 7, 12, 18–19, 58, 62, 83, 86, 359, 363, 407, 446, 490, 497, 562, 576, 603, 625–626, 630, 633, 638, 641
Holistic
  approach, 43, 180, 202, 242, 262, 314, 340, 342, 345, 443
  model, 97–98, 100–101, 633
Horticultural therapy, 70, 142–144, 149, 158
Human rights, 179, 216, 375

I
Inclusion, 32–33, 47, 67, 157, 168, 175–176, 179, 183, 314–315, 323, 406, 504, 510, 593, 613, 624, 629, 631, 641
Indigenous, 8–11, 13–17, 19, 25–26, 32, 34–35, 37–38, 41–42, 45, 47, 77, 82, 84–86, 89–90, 92, 101, 143–144, 166, 176, 179, 181, 194–198, 203–205, 245, 252, 261, 310, 361, 375, 407, 445–447, 450, 452–453, 461, 463, 470, 488, 528, 530, 542–546, 548–553, 555–556, 580, 597, 621–622, 624–626, 638, 654, 656–661, 663–664, 666

L
Lived experience, 5, 10, 13–17, 178, 193, 216, 269, 274–275, 277, 281, 355, 362, 365, 367, 385–386, 388–390, 392–393, 396, 405, 408, 415, 424, 440, 447, 462, 464, 471, 498, 522–523, 603, 612, 657, 663, 666

M
Men's health, 194, 202, 204, 657
Mental health, 9, 17, 26, 35–37, 46–47, 57–58, 65, 67, 69, 71, 78, 113–116, 133, 142, 144, 146–149, 153–154, 156, 158, 168–169, 198, 200, 212, 214–215, 220, 222–223, 237, 241, 256, 258, 299, 310, 314–315, 355, 357, 361–362, 364–366, 371–372, 378, 386, 437, 439–440, 447, 464, 469, 502, 509, 514, 516–517, 548–549, 556, 565, 572, 574–578, 581–583, 585, 604, 620–622, 624, 629–630, 634–640, 642–643, 657–658, 663, 667
  services, 269, 271–272, 274, 640
Mental wellbeing, 136, 147, 158, 256, 280, 343, 403, 465, 513

N
Natural burial, 658
ground, 522–525, 527–530, 532–534
Natural environment, 31, 36, 41, 65, 68, 80, 94, 136, 159, 178, 220, 247, 249, 251, 254, 256–257, 273, 338, 346, 350, 361, 393, 405, 408, 416, 430, 438, 453, 463–464, 466, 470, 474, 488, 495, 501–502, 509, 515, 561, 569, 574, 594–595, 598–599, 601–602, 613–614, 622, 626–627, 632, 634, 659, 663
Nature, 15, 37, 40, 42–43, 47, 78, 91, 213, 220, 249–250, 252, 258, 273, 277–278, 360, 488, 491, 495, 636, 639
conservation, 561–563, 567
Nature-based
healing, 386, 666
interventions, 28, 45, 78, 84, 91, 142, 166, 169, 248, 250–251, 464, 658, 663
therapy, 14, 32, 47, 69, 174, 184, 273, 282, 634
nature-infused teaching and learning, 474

O
Outdoor
health, 20, 80, 283, 386
leadership, 168, 171, 173, 180
physical activity, 657
professionals, 92, 96, 356, 362, 364–366
therapies, 36, 65, 69, 94, 100–101, 281–282, 438, 623, 634, 638
therapy, 10, 47, 59, 64, 68, 96, 113–114, 143, 160, 213, 261, 279, 281, 296, 621–624, 630, 633, 635, 642–643, 656

P
Personal attunement, 15, 657
Photovoice, 405–407
Physical health, 34, 36, 78, 151, 199, 205, 235, 273, 318, 320, 363, 404–405, 464, 478, 566, 601, 641, 660
Positive body image, 657
Positive risk-taking, 498
Posttraumatic growth, 355, 358–359, 583
Practice overview, 42, 44, 67, 100, 247, 300, 324, 451, 554
Practitioner training, 133, 184, 303
Professional development, 71, 132, 136, 178, 218, 296, 474
Program delivery, 316

Q
Quality of life, 5, 10, 97, 148–149, 151–155, 158, 311, 464, 516–517

R
Relating with Country, 549–550, 554

S
Social, 28, 37–38, 79, 99, 178, 201, 318, 422, 466, 563, 605, 639
Social psychology, 372, 377
South Australia, 245, 255, 261, 372, 375, 489, 522, 524, 530, 653
Student health, 501

T
Taiwan, 120–121, 656
Therapeutic
farming, 142–144, 155–157, 160
intention, 134, 362
Trauma, 9, 11, 18, 45, 47, 85, 90, 168, 181, 184, 212, 215, 218, 221, 224, 230–231, 234–235, 237, 242, 261, 269, 276, 283, 304, 318, 366, 371–373, 377, 465, 533, 596, 601, 605, 608, 611, 621, 630, 633–634, 642, 657, 660, 662
Trauma-informed care, 234, 630, 642

U
Umbrella review, 143–149, 153, 156–157, 160

W
Walking, 656
Wellbeing, 5–6, 8, 10, 15–16, 18, 20, 26, 28, 30, 32, 36–38, 63, 68–69, 101, 131, 142, 146–152, 154, 156, 158–159, 161, 169, 175, 184, 468, 474
Women, 86, 121, 148, 291
Work, 10–11, 16, 30, 40, 47, 68, 123, 175, 273, 358, 551

Y
Young people, 167, 213, 269–274, 276–277, 280–283, 309, 375–376, 379, 657–658