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EDITORIAL



Collective action for health and wellbeing benefits from human–nature relationships

As climate change and biodiversity loss continue to devastate the planet and human mental health impacts more than a billion people across the globe, the human–nature relationship has become even more vital for human and planetary health (Brymer et al., 2019, 2024; Fletcher et al., 2024). This special issue supports the need for an interdisciplinary and intersectional approach to deepen our understanding of how human–nature interactions benefit human health and wellbeing (Ghosh & Dutta, 2024; Seymour, 2016). We envisaged critical discussions of health and wellbeing beyond the traditional focus on formalised and structured sport and exercise, and the narrow biomedical model. We hoped submissions would illuminate alternative ways of engaging with adventure, outdoor learning and experiential education occurring in natural environments that would positively influence health and wellbeing. We anticipated that this focus would bring forth critical analyses and reflections on how capitalist societal systems, industrialisation, modernity, urbanisation, unsustainable consumption together with globalisation and commodification of nature for human exploitation are at odds with a sustainable relationship with nature ideal for healthy planet and people (Mago et al., 2024). We are delighted that in this special issue, researchers and practitioners from diverse disciplines and geographical locations have shared comparative and interdisciplinary critical discussions, lived experience, intervention-focused approaches, policy-oriented examinations, and empirical studies that would extend the intersectional lens into our understandings of the roles outdoors and adventure play in enhancing human and planetary wellbeing (Loureiro et al., 2021; Zwart & Ewert, 2022). We sincerely thank the authors of these 18 articles for sharing their valuable works and the reviewers of their manuscripts for providing further insights into respective research areas with their expertise and experience.

The articles reflect multiple paradigms from a range of fields, representing multidimensional perspectives on ‘outdoor learning’ and ‘adventure,’ ‘outdoor education,’ and interactions with nature through activity, participation and experience. What is perceived as formalised outdoor learning and or education in the Western-centric approach can also be understood as experiential education that ancient wisdom cultures practised over many generations. The traditional one-size-fits all approach to outdoor adventure activity design that focuses on tasks and performance outcomes in one context can, in another, be simple informal nature-based activities resulting in a wider reach and more collective benefits. For example, migrants’ walks in outdoor urban recreational spaces, community nature-journaling and nature play. At another level, nature-based activities are perceived and experienced as therapeutic, empowering and forming a sense of identity, especially for adolescents and at-risk youth. Outdoor residential and nature-based activity focused programs bring changes to individual and community wellbeing. Early life experiences of nature are significantly impactful for personal wellbeing, extending into the later years of life for older adults. As with local traditional ecological knowledge systems, Indigenous Knowledges embedding place-based relationality are profoundly meaningful in deepening human–nature relationships in post-colonial societies. In these varying contexts and approaches, all populations may feel and experience unique personalised meanings, results and insights that can be more-than-human and fulfilling at individual and collective levels (Sharma-Brymer, 2022a). Justifiably, these articles offer new narratives of human–nature relationships in a broad diversity-focused, stimulating and considered critical dialogic space.

Articles in this special issue seem naturally to fit within several themes: 1) Therapeutic interventions and diversities in nature-based experiences, 2) Outdoor learning and wellbeing, 3) Outdoor adventure education and wellbeing, 4) Nature-based interactions across the lifespan, 5) Theoretical/conceptual models, 6) Immigrants, nature-based experiences and community connectedness and 7) Nature's influence on authentic leadership style. In the following paragraphs, we present short summaries.

Therapeutic interventions and diversities in nature-based experiences

Writing from Indonesia, Mulya, Tjahjono, Prijonggo, and Sutanto draw attention to the issue of universalisation of nature-related experiences across cultures. They focus on how ecotherapy could explore individual relationships with nature that various local-specific socio-cultural-ideological discourses shape and influence. Their evidence-informed reflections arising from an ecotherapy project aptly highlight the intersecting aspects of culture, gender, ability, ethnicity, and class and underline the significance of context-specific inclusivity and diversities in appreciating the mental health benefits of nature-based activities. This significance, the intersectionality embedded in the experiences of nature-based activities, will be relevant to academic researchers and practitioners for deepening their engagement with participants in nature-based programs.

Lousen and Andkjær review the therapeutic value of nature-based interventions, investigating the impact of friluftstherapy on adolescents' mental health through a systematic literature review. The intervention studies evaluated support the existing evidence on friluftstherapy improving adolescents' mental health. The authors make a valid suggestion of assuming caution as friluftstherapy represents Nordic-inspired therapeutic interventions following a specific philosophical understanding of human–nature relationships. Their message again resonates with respecting diversities of local-specific applications for examining intersecting aspects in human–nature relationships.

Outdoor learning and wellbeing

Beavington's rich autoethnographic account of a field trip with post-secondary students encompassed place-based relationality and reciprocity. This narrative reverberates the 'voice' of nature-based experience itself, inspiring a more-than-human engagement with the natural world for stress-alleviation and the promotion of psychological wellbeing. This qualitative awe-filled narrative affirms Wild Pedagogies whilst urging one to practise an ecocentric worldview. The interconnectedness of all life resonates with all populations, reminding us of our responsibilities towards healthy planet and people.

Nature play has proven wellbeing benefits for children. Rouse and Wishart share their study from Coastal Victoria, Australia, on how children's engagement with blue space in an outside school hour Nature Play program can afford improvement in emotional, spiritual, and physical wellbeing. The authors posit that comparable wellbeing benefits may not always be afforded through more organised or structured physical activities. Employing a phenomenological framework they emphasise place-based relationships, affording children and adults authentic and intrinsic opportunities of holistic wellbeing. These findings support the efficacy and positive outcomes of similar child-centred nature-based models such as Forest School, Bush School and Nature Play across many countries with local, context-specific adaptations (Sharma-Brymer et al., 2018, 2024; VanLone et al., 2024).

A critical engagement with girls' and women's outdoor experiences is still perceived to be a major gap in the context of male-oriented formalised outdoor learning and adventure. McNatty, Nairn, Campbell-Price, and Boyes echo this. Their study from Aotearoa/New Zealand included personal-reflective stories of 11 adolescent girls in a school outdoor learning program. The key narratives provide rich insights into how outdoor learning programs influence young women's identity, wellbeing, empowerment and sense of person-environment relationship. These findings are significant

in supporting wellbeing benefits for young women, from dedicated long-duration immersive nature-based experiences. The benefits include a critical pro-environmental standpoint, a stronger sense of female-agency and a sense of embodied wellness and contributing to the wellbeing of the environment. These implications resonate with the UN's Sustainable Development Goal 5 Gender Equality.

Chen and McCreary broadly discuss home schoolers' attitudinal changes toward nature through participation in environmental education programs. Their study found that homeschooled children prefer nature-connectedness and experience positive changes in perceptions towards the environment. Their suggestion is an important consideration for conducting diversified outdoor learning programs with home schoolers to sustain the value in human–nature relationship for wellbeing.

Roze des Ordons and Hill offer a practitioner inquiry into learning to belong to land and nature-nurturing collective wellbeing. From a Canadian background, the authors critique the Western-capitalist mainstream, state-delivered educational system which negatively impacts on health and wellness of students. Adopting a place-based relational and decolonial lens, they call for eco-social-cultural transformations that honour Indigenous Knowledges in fostering a deep nature-connection in communities. Their suggestion for disrupting hegemonic colonial systems and structures that alienate humans from nature will resonate with OAE professionals living and working in post-colonial societies.

Outdoor adventure education and wellbeing

The collaborative team of academic researchers and practitioners, Gigli, Melotti, Borelli, Galiazzo, Segato, and Finocchiaro, share a new integrated model that was co-constructed with at-risk adolescent participants to document and evaluate a project on the effects of wilderness walking. From an Italian context, the authors note that the necessity of developing a new Integrated Model of Documentation and Evaluation arose to better grasp multi-perspectives that encouraged reflective practice and immersion in nature experience descriptions. Rich reflections and thematic explorations highlighted integrated psychophysical and relational wellbeing benefits of nature-based experiences from both adolescents and educators' perspectives. The results show multi-dimensional social, cultural, geographical, and educational aspects influencing such experiences and overall wellbeing benefits for the participants. These multi-dimensional aspects could be valuable for practitioners working with youth and adult rehabilitation programs.

In their country-specific article, Mitra, Sharma-Brymer, Mitten, and Ady discuss an exploratory study of Indian outdoor adventure education (OAE) practitioners' contributions to the promotion of healthy human–nature relationships. The study illuminated an interconnectedness between OAE, environmental education and experiential education that has been practised in the Indian society since ancient times. These traditional knowledge systems of nature-relatedness are combined with contemporary Western-influenced practices, enhancing reciprocity and respect in human–nature relationships. The practitioners support the integration of new diversified genres of OAE practice with local-specific approaches in nature-based sports, therapeutic adventure and experiential outdoor adventure activities. This integration and diversification nurtures holistic and sustainable human–nature relationships contributing to individual wellbeing. These emerging trends will undoubtedly influence younger generations towards pro-environmental behaviours and promotion of health and wellbeing benefits.

Ingman from the USA discusses adventure education (AE) experience through the lens of PERMA framework from positive psychology. The study of participants' AE experience included a backpacking expedition, a challenge course and a multi-activity adventure program. The interesting use of educational criticism and connoisseurship culminated in the development of 'experiential criticism,' a newer methodological approach to understand participant experience of AE as a pathway to wellbeing across all five dimensions of PERMA. The author notes that one-approach does not fit all populations across different contexts. The AE experience and its beneficial impact is

local and individual-specific. This considered point is significant for researchers and practitioners working with diverse populations in outdoor learning and adventure education across the globe.

Allan, Doran, Jones, and Farrell discuss how outdoor adventure education offered in week-long residential supports resilience, decreases stress and develops twenty-first Century Skills in adolescents. The authors note that during COVID-19 pandemic times young people in the UK were unable to engage with physical activity resulting in increasing physical and mental health issues reported in the post-pandemic years. Longer-term implementation of such OAE programs will see much needed positive changes in health and wellbeing of young people.

Another post-COVID-19 study from the UK also evaluated the impact of week-long outdoor residential for young people. Holland, Harvey, Ferris, Furlong, and Gibson revealed impactful short-term increases in participants' nature connectedness, social connections and pro-environmental behaviours but not noticeable wellbeing benefits. However, their participants valued a greater sense of self associated with nature-connection. The authors' suggestion of embedding clear pathways to nature-connectedness in program curriculum is an important one, supporting longer-term impact. Exploring the ways of sustaining positive changes experienced in short-term residential will be crucial for government bodies, practitioners and communities.

Nature-based interactions across the lifespan

D'Angelo, Ritchie, Priest, Oddson, and Scott offer another angle to the methods employed in the study of outdoor experiences. Set in the context of exploring the significance of early life outdoor experiences, this article provides a scoping review of retrospective studies that investigated the holistic health benefits of outdoor programs for participants. The review revealed a great diversity of methods adopted in the selected 31 studies although the participant group was university students in most of them. However, the studies highlighted that outdoor adventure has multi-dimensional benefits for health and wellbeing. This positive note confirms the longer-term beneficial impact of early life outdoor experiences; however, authors suggest more rigorous methods are needed for retrospective research.

The next article in this cluster focuses on older adults. Humberstone, Cooper, and Collins explore the sensuous feelings of 32 life-long older outdoor enthusiasts. In light of how older adults made adaptations in their lives to engage with the outdoors, the authors examine the interconnections between the older adults' embodied feelings and the more-than-human outdoors and experiences, and wellbeing benefits. These benefits are sensory, emotional and spiritual that extend to everyday life. Collectively, these interconnections deepen the personal wellbeing experience. This study emphasises the importance of research into the benefits of nature for healthy ageing.

Theoretical/conceptual models

It is important to critique traditional discourse on health to position outdoor adventure as significant for health and wellbeing. Quennerstedt, Backman, and Mikaelis call for robust theoretical frameworks for studying human–nature relationships and health benefits. Their critique of pathogenic perspectives of health as well as the anthropocentric human centeredness of health offers an interesting metaphor of 'swimmer in the river' to move beyond the notion of perceiving health as the absence of disease and to put forward a salutogenic model for holistic health and wellbeing. This metaphor and their salutogenic model recentre the meanings of healthy human–nature relationships, supporting the more-than-human understanding of relational experiences in nature that encourage alternative questions on human health and wellbeing, moving away from biomedical model. The authors' salutogenic model could facilitate newer research designs to study human–nature relationships in diverse populations in newer lights.

Immigrants, nature-based experiences and community connectedness

The interconnections between nature and everyday life can generate newer meanings for people. Grau-Ruiz and Synnevåg Løvoll explore the relationships between nearby nature, place-belongingness, and meanings in life among first- and second-generation immigrants, comparing them with the Norwegian population. Interestingly, nearby nature spaces are outdoor recreation and hiking areas within a few hundred metres of the participants' residences. The study showed that place-belongingness and meaning in life in these immigrants were more positively associated with outdoor recreation areas than hiking areas. This revealed possible differences in preferences, needs and values associated with the outdoor space type. This could also indicate socio-cultural beliefs and practices in immigrants as compared to the native population in the perception of outdoor recreation. These findings have implications for outdoor practitioners and urban designers when developing outdoor spaces that account for intercultural diversities. This will also provide a good opportunity for interdisciplinary professionals to better engage and support the needs of immigrant populations.

McClain, Powell, and Bettwy share their study from the USA on community nature journaling (CNJ) for wellbeing in youth and adult participants, emphasising community connectedness. In post-pandemic times, community members took part in the CNJ program that included socialisation and educational activities related to nature. The adult participants positively responded by sharing community cohesion and fellowship as the core binding aspects for wellbeing improvement. The youth appreciated greater awareness of nature. The CNJ is a strong strength-based strategy for potentially mitigating social isolation in older adults and fostering a strong nature-connection in young people. It encourages the practically useful application of CNJ across the globe for inter-generational populations.

Nature influence on authentic leadership style

van Droffelaar explores authentic leadership style through the lens of nature-connectedness. Amidst complex leadership challenges, a shift in mindset is necessary to usher in newer leadership styles which nature-connectedness can promote. van Droffelaar's suggestion of developing authentic leadership style through personal growth in remote wilderness is appealing. Such programs can add value for leadership development in pursuing the accomplishment of the UN's Sustainable Development Goals. Again, these suggestions have global implications for leaders to embrace the benefits of human–nature relationships, the interconnectedness of life, and the holistic health and wellbeing benefits.

Summary and recommendations

In summary, authors in this special issue have shown that outdoor adventure activities in natural environments are important for enhancing health and wellbeing for all populations across diverse contexts. Articles demonstrate cross-continental, inter-disciplinary, and cross-cultural benefits of outdoor and adventure. The articles have strong implications for researchers and practitioners across OAE, public health, psychology, social work, geography, urban planning, sport science, psychiatry and other similar fields. There are unique program designs, methodologies, philosophical orientations and participant diversities in age, gender, class, ability, socioeconomic contexts, educational levels and life experiences. Many authors have offered strong rationale for challenging hegemonic capitalist and colonial ways of interacting with nature and suggested embracing Indigenous and traditional knowledge systems for optimal benefits in human–nature relationships. Further research should seriously consider these valuable suggestions.

Future research should focus on two significant insights. Firstly, as has been recognised before, human health and wellbeing is intricately and profoundly intertwined with nature's

health (Horwitz & Parkes, 2019). Any risks threatening nature's health, including all life forms and their interconnectedness, are risks for human health and wellbeing. In reciprocal ways, further research is needed to capture the ways that the human–nature relationship benefits wellbeing for people and the planet and the best ways to nurture and promote that reciprocity between humans and the natural world. This means that, research needs to expand beyond the traditional Western biomedical model and consider diversities in human–nature relationships, especially, accounting for the intersecting aspects of human interactions with nature (Loynes, 2010; Sharma-Brymer, 2022a, 2022b). This accountability for committing to the examination of intersectionality in human–nature relationships will illuminate newer insights into how diverse populations experience the beneficial impacts of the human–nature relationship (Loynes & Gurholt, 2017; Lumber et al., 2017). This broadens the critical interdisciplinary and cross-cultural engagements and collaborations that will have pronounced global implications for all populations in all contexts, as well as supporting Sustainable Development Goals (Sharma-Brymer & Brymer, 2019). In the end, this more nuanced focus will address current limitations and benefit all humanity by effectively capturing a more complete picture of how human–nature relationships benefit human and planetary health and wellbeing.

Secondly, the healthy planet and healthy people discourse needs newer insights through evidence-informed interventions, advocacy and campaigning, clear nature-based program curricula and urban design and planning (de Almeida & da Silva Carvalho, 2018; Ekins & Gupta, 2019; McLean et al., 2023). These insights come from a more effective theoretical framework that should be shared across professionals from multidiscipline backgrounds to design and implement affordances that nurture healthy human–nature relationships in urban, regional, rural, and remote places. These collaborations should be adequately funded promoting practical exchange of ideas, programs and applications across the globe. Accessible practical tools, mechanisms and strategies to enhance healthy human–nature relationships will encourage and bring together policymakers, practitioners and researchers to spread the healthy planet and healthy people message.

Articles in the special issue suggest a new set of nature-related determinants to understand and evaluate human health and wellbeing that considers the health of the planet as well. A narrative that embeds a more ecological perspective on health and wellbeing that includes environment, socio-cultural, spiritual and emotional determinants of human health and wellbeing. A number of recommendations across people, activity and environment stem from this special issue that:

- (1) It is possible (perhaps paramount given the state of the natural world and human health) that we are moving into a new age where outdoor and adventure activities in natural environments are powerful promoters of health and wellbeing across populations, as well as for the natural world. However, we need to move beyond traditional theories and designs to maximise these impacts. To realise this potential we need more holistic, intersectional, ecological frameworks to guide the design and implementation of effective programs.
- (2) All populations should be encouraged to engage with nature in their everyday life whether at work, hospital setting, home, community centre, or educational institutions. Provision of opportunities to engage with green and blue space in urban and rural contexts prompts engagement with nature in different ways. People from different age and ability groups, socioeconomic backgrounds, with health conditions, and cultural contexts find their own meanings in nature-relatedness. Traditional outdoor and adventure programs may need to explore how best to facilitate these opportunities and revisit delivery style. This will require different approaches and frameworks.
- (3) Nature-based activities can range from simply watching plants, flowers and fruits to any preferred activity in green and blue spaces. Embed this nature-connection in curricular activities across the life span in educational institutions, aged care homes and workplaces. To realise this goal, outdoor and adventure should be integral to school offerings rather than on the periphery. Perhaps the time has come to move away from the one-off outdoor and

adventure experience to one where outdoor and adventure replaces sport or can even be integrated into school wellbeing programs.

- (4) As well as providing environments incorporating green and blue spaces (indoor and outdoor) for therapeutic benefits we need outdoor and adventure activities to become mainstream everyday activities.
- (5) Outdoor and adventure programs should emphasise appreciation of nature and engagement with nature with respect, awe and wonder and encourage populations to engage similarly in everyday life, whether it happens in a community garden setting or in a park or in a school excursion. The cultural/natural history - story, the interpretations of places - should be reinstated. Perhaps an interesting model for outdoor and adventure organisations is how best to embed offerings within communities. Rather than offer activities, can we offer solutions to community engagement (e.g. through building local narratives, social prescribing or as a fundamental aspect of what a social worker, psychologist, or other community/human service worker offers)?
- (6) The outdoor and adventure field has a role to play embedding nature-based activities in professional development and training workshops at all levels.

Our recommendations respond to the concerns and suggestions of the authors. They are examples for how cross-cultural and interdisciplinary approaches can bring forth more meaningful insights into human–nature relationships. Thus, recentring our initiatives and ongoing engagements for healthy planet and healthy people. This is inclusive of all populations across the world, recognising the urgent need for action on health and wellbeing at a global scale. Human–nature relationships provide us with a common language, a common cause, and a universal meaning forging our collective commitment and a genuine wish for transforming our culture and improving our health and wellbeing through our relationships with the natural world. While more research is required to refine the theoretical frameworks, measure outcomes, facilitate evidence-based co-design, evaluate scalability and so on, it is clear that outdoor and adventure experiences play an ongoing vital role.

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