Health and Wellbeing Benefits of Activities in the Outdoors

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Health and Wellbeing Benefits of Activities in the Outdoors

Abstract

Applying a health and wellbeing lens to activity in the outdoors identifies opportunities for a myriad of health benefits. This chapter provides a snapshot of current health and wellbeing literature highlighting the physical, mental and spiritual health benefits of outdoor activities. Utilising a socio-ecological framework highlights benefits specifically for the individual, in the context of their relationships with significant others, and more broadly within the community and the natural environment. Being active outdoors can be a tonic for body and soul. It is an affordable, accessible and easily coordinated strategy for promoting holistic health and wellbeing.

Introduction

As the world grows ever more complex a fundamental truth becomes increasingly evident: human health and wellbeing is enhanced through meaningful connections between people and places. Unfortunately, our predominantly urban lifestyles have distanced individuals and communities from rural and natural environments. Just as houses become larger and gardens evolve into concrete entertaining areas, the health and wellbeing benefits of being active outdoors is gaining credibility as a valid and effective approach to improving health.

The World Health Organization's declaration that health is the "complete state of physical, mental and social wellbeing, and not merely the absence of disease or infirmity" (WHO, 1946, p.1) enabled the development of multi-layered approaches to, and interpretations and visions of, what comprises 'health and wellbeing'. The biomedical model of health that treats illness or disease in isolation from person and place is no longer accepted (Baum, 2008; Marmot and Wilkinson, 1999; Murphy, 2004) indicating that models incorporating the social and environmental context are increasingly relevant.

Research suggests that outdoor activities enable people to engage physically, intellectually, emotionally, and spiritually with other people within outdoor environments.

This chapter utilises a socio-ecological model to frame an exploration of literature clarifying how human health and wellbeing is enhanced through engagement in outdoor experiences. After introducing the origins of socio-ecological model we will discuss health and wellbeing for the individual, followed by an examination of social and 'significant other' relationship benefits. Primarily focusing on the human or anthropocentric perspective, the next section explores ways in which the natural environment contributes to our health and wellbeing. The final section challenges us to consider if 'doses of being active outdoors ' can assist us to reconnect with the health benefits a life more closely entwined in Nature could provide.

Socio-ecological health and wellbeing

The development of a socio-ecological understanding of health and wellbeing, considering the context and history of the individual, enables a fuller depiction of his or her health needs. As Murphy (2004) suggests:

> Socio-ecology refers to the complexity of interactions between people, and their social and physical environments. The socio-ecological approach to health acknowledges the influence that infrastructure and systems can exert on these interactions, particularly with respect to social and health outcomes (p. 165).

Health can broadly be described as “the capacity of people to adapt to, respond to, or control life’s challenges and changes” (Frankish, Green, Ratner, Chomik, & Larsson, 2001, p. 406). Furnass (1995) suggests wellbeing includes “satisfactory human relationships, a meaningful occupation, opportunities for contact with the natural environment, creative expression, and making a positive contribution to human society” (p. 6). To be ‘healthy’ then implies empowerment of individuals to manage their lives. These definitions align with the objectives of many outdoor activity programmes that aspire to enhance personal development, social engagement and community responsibilities. The challenge is to design programmes that facilitate individual growth, positive social dynamics, and develop interdependent relationships with both their community and outdoor environments. In short, to promote health through a multi-dimensional (i.e., socio-ecological) approach.

One of the early ecological models connecting human experience to their environmental context was developed by Bronfenbrenner (1986). It was a complex illustration of consequential links that shape the behaviour of the individual located within a context which includes their family, school, peer group, local neighbourhood and community. Concerned by Bronfenbrenner’s perceived hierarchical layering of systems, Fraser (2004) simplified the behavioural influences into three system-related domains: “the individual psychosocial and

biological characteristics, family factors, and environmental conditions" (p.6). The development of this adapted socio-ecological model combines aspects of Bronfenbrenner and Fraser's models to emphasise key protective factors of outdoor activities for holistic health.

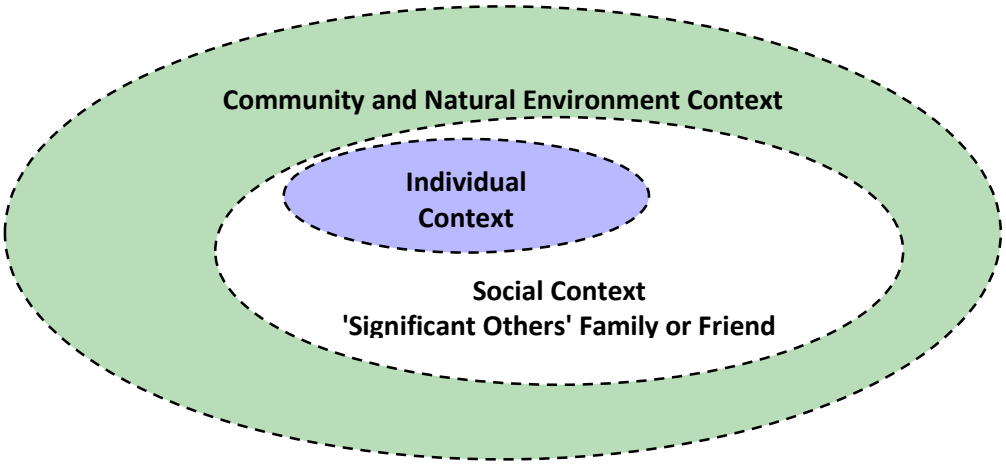

Figure 1. Socio-ecological health and wellbeing domains adapted from Fraser (2004).

Conceptually, the individual is depicted as being nested within their community and environment. The social context in which they operate includes significant others; be they family or friends. The permeated boundaries also indicate that each domain influences the other domains. This model illustrates contextual influences; self, others and environment, that need to be positively developed for optimal health and wellbeing.

Individual context for health and wellbeing

Participants in outdoor programmes generally eat healthy diets, complete daily physical activity, have lowered distractions or stress from their usual daily living, and subsequently provide their bodies with an opportunity to cleanse and heal. Detoxification from alcohol, drugs, tobacco, and even processed foods occurs during outdoor programmes. Outdoor living and travel conditions demand individuals and groups maintain vigilance over their own, and others health and wellbeing.

Dubbert's review of health-related literature concluded twenty years ago that insufficient exercise reduces life expectancy and is a major contributing factor to many chronic illnesses (1992). While not difficult to find supportive literature for the physical benefits of exercise, it is only recently that research has emerged which looks explicitly at the benefits of exercising in outdoor 'green' environments, and subsequently linking the physical benefits to overall health and wellbeing (See Barton & Pretty, 2010).

Simply being active outdoors demands physical effort (e.g., walking on uneven surfaces or carrying a pack). The constant physical demands of the environment requires a moderate level of physical activity which has been suggested as the most effective approach to reaching and maintaining physical health (Dubbert, 1992; Hansen, Stevens, & Coast, 2001). Moderate levels of activity throughout the day has been suggested to be more effective than single doses of vigorous activity for general health and wellbeing, although not as effective in developing cardiovascular fitness (Hansen et al., 2001). Physical activity, however, is only one aspect.

Research in outdoor programmes has consistently demonstrated improvements in adolescent wellbeing as measured by mental health standards (Hattie, Marsh, Neill, & Richards, 1997; Russell 2003; Bowen & Neil 2013). Measures of physical health and psychological wellbeing from participation in outdoor programmes, is a growing area of research and bringing promising results (e.g. Beil, Hanes, & Zwicky, 2014). Increasing rates of disease and mental health issues all emphasise that people do not generally have the willpower or desire to pursue health and wellbeing objectives over their lifestyle choices (Ackland & Catford, 2004). Outdoor programmes can assist through ensuring that individuals' goals for change are more consistently discussed and implemented, especially since “having and progressing towards valued goals is central to major theoretical approaches to wellbeing” (MacLeod, Coates & Hetherton, 2008, p. 186).

Ryff and Singer (2008) also recognise the broader context within which dimensions of wellbeing exist: “wellbeing...is profoundly influenced by the surrounding contexts of people’s lives, and as such the opportunities for self-realisation are not equally distributed” (p. 24) which is why the authors emphasise the need for understanding the individual within their socio-ecological context. The following table incorporates these key characteristics or ways in which psychological health and wellbeing can be enhanced (Ryff & Singer, 2008, pp. 20-23) alongside narratives of experience typical of outdoor activity programmes.

Life circumstances can and do shape our health and wellbeing. The role of individuals in being able to have some authority over their lives in order to achieve a sense of wellbeing is one key element that completion of outdoor activities can achieve.

Self Acceptance	Long term self-evaluation that demonstrates awareness and acceptance of both personal strengths and weaknesses	• Beth lacked confidence in herself and would not contribute to group discussions. Conversations she had on the journey gained her a reputation in the group as a clear thinker and thoughtful person. Her opinion in group debates was sought and she started to believe in herself.
Positive Relationships	Ability to love, empathise and care for others	• Participants quickly realized that to reach the summit meant they each had to support each other, including re-distributing the weight of their packs based on their strength and abilities.
Personal Growth	Realisation of personal potential along with a focus on self-development, growth and becoming	• Sarah repeatedly caught herself saying "I can't do this" until someone pointed out that she repeatedly proved herself wrong. She then was heard saying "I can do this" with conviction.
Purpose in Life	Finding meaning and direction in life that can accommodate different stages in life	• Positive memories of Scouts drove Bobs' decision to bushwalk as an adult. He soon realised that the adventure that motivated and inspired his involvement as a child was not important now. The forest environment and meaningful conversations met his current needs.
Environmental Mastery	Capacity to create or control and engage in a surrounding context that suits personal needs	• Once Luc realized he could adjust his clothing and sleeping systems to the fluctuating temperatures, he no longer complained, but rather, began positively influencing his peers to do the same.
Autonomy	Sense of independence, self-determination and freedom that is not governed by outside influences.	• When Katarina finished her outdoor expedition and returned home, she was surprised when her mother congratulated her on completing her chores without fuss.

Table 1. Six Dimensions of Psychological Wellbeing (adapted from Ryff & Singer, 2008)

Social context: relationships

The traditional socio-ecological model needed to be more inclusive of the changing social dynamic. From our experience primarily in programmes working with marginalised young people, it is clear that the 'significant other' in their lives is often not a 'traditionally' defined family member. These relationships with trusted, valued and loved 'significant others' are key indicators of health and wellbeing as well as being important protective health factors (Fraser, 2004).

The group context is an important part of the experiential learning processes since the social dimensions of the group enables members to think beyond their own individual needs. Individuals come to acknowledge the interrelatedness of experience as well as his or her autonomy within the wider social system (Brah & Hoy, 1989; Taylor, Segal, & Harper, 2010; Warner Weil & McGill, 1989). The social context of the individual within a group becomes

significant when the physical remoteness of the programmes' location elicits the need for human interaction for the progress, comfort and, potentially, the survival of the group. This dynamic and unpredicatable environment provides the basis of the challenges and problems with which the individual and the group will be confronted. This encourages the group members to communicate and work together to achieve personal as well as group goals (Gibson, 1979; Gilsdorf, 2000; Schoel & Maizell, 2002), as well as developing healthy relationships and connections with others.

Marmarosh, Holtz, and Schottenbauer (2005) provided support for the hypothesis that collective self-esteem and hope for self and psychological wellbeing develops from group cohesiveness. Forsyth (2001) suggests therapeutic groups as "appropriate treatments for a variety of problems including addiction, thought disorders, depression, eating disorders and personality disorders" (p. 629), once again outlining how outdoor experiences can be valuable health solutions.

One intentional feature of outdoor activity programmes is the use of risk, challenge and group initiatives to generate new understandings of what is possible. This facilitated stress intentionally increases perceptions of risk, difficulty, and increases the likelihood that individuals will have the opportunity to work through and overcome difficult situations. Walsh and Golins (1976) described *adaptive dissonance* as the state created by these stress-related activities. The dissonance, or disconnect occurs when an experience does not match an individual's perception, belief, or knowledge of the given situation. The cognitive dissonance experienced in groups allows for restorative processes to return order or balance to the group (Matz & Wood, 2005; Taylor, et al., 2010). The strength of cohesion within the group or the individual attachment the members have for the group in turn, will moderate the effects of cognitive dissonance.

Community and natural environment context

For many practitioners the socio-ecological approach to understanding health has appeared to ignore the human relationships with the natural world, focusing instead on the built environments or human-centric places. However, the model in Figure 1 emphasises contact with surrounding environments inclusive of gardens, parks, and reserves is equally important.

Dewey (1958) suggests that the very attempts by humans to define and describe their subjective experience of life emphasises the need for this separation since an "unanalysed world does not lend itself to control" (p. 13). Humans can and do consciously separate

themselves from the natural world in which they have evolved, as well as from the ways in which they connect with that natural world, and this shapes the ways in which they define their relationship with nature (Taylor, et al., 2010).

Kellert (1997) suggests that one's degree of connection with nature is more than an expression of the need for material goods: "our inclination to connect with nature also addresses other needs: intellectual capacity, emotional bonding, aesthetic attractions, creativity and imagination, even the recognition of a just and purposeful existence" (p. 6). He also suggests that these types of experiences were "frequently cited as an antidote to the pressures and relative unattractiveness of the modern world" (Kellert, 2004 p. 64).

Research is confirming the necessity for connections to nature for our health and wellness. Building on foundations of biophilia (Wilson 1978), recent studies have found that life stress can be buffered or reduced in children through simply living in proximity to nature (Wells, 2003), and that exposure to forest environments reduces cortisol levels, pulse rate, blood pressure, and sympathetic nerve activity (Park, Tsunetsugu, Kasetani, Kagawa, & Miyazaki, 2010).

Attention restoration theory stemming from the early work of psychologist William James depicted types of attention as being less taxing on the individual's cognitive and emotional faculties and even to possess restorative properties. This restorative property was attributed to interesting or unique situations in which the individual is engaged but does not require concerted effort (i.e. directed attention) and experiences a reduction in mental fatigue (Kaplan, 1995; Kaplan & Kaplan 2003). Kaplan integrates theoretical understandings of stress with the restorative properties of natural environments and suggests that stress can be prevented or reduced through the restoration of directed attention. This 'healing power of nature' is reiterated throughout the literature as vitality enriching and capable of restoring mental health (Logan & Selhub, 2012).

If relationships with the natural world can be seen as an essential part of health and wellbeing, then adventures and journeys in remote locations – implemented with intention – can be utilised as effective ways in which to facilitate an enhanced relationship with both the natural environment and social communities (Harper, Carpenter & Segal, 2012). The need to access remote natural locations can be understood through an appreciation of the uniqueness of the experience. Kimball and Bacon (1993) allude to the potential for the wilderness environment to be unconsciously equated with Jungian 'Sacred Space' which Tacey (1995) describes as being the "heart of humanity" (p. 1) and vital for our individual and collective health. Kimball and Bacon observe that "most people who have participated in wilderness

therapy programmes agree that there is an aesthetic, or archetypal, or even spiritual/transcendent aspect to the environment" (p. 27). The perception of sacred space by young people is recognition that something important is happening to them that may be meaningful in their lives.

Otto (1958) identified how most religious or spiritual experiences—he referred to as 'numinous' — are comprised of three components: mystery, terror, and fascination. Combined, these elements are easily achieved in the majesty of nature and we find them in outdoor activities such as climbing or trekking in the mountains, and while paddling oceans and rivers. The combined beauty, overwhelming power, and evolutionary attraction to nature is not only an ideal venue for spiritual experience, it may be an unavoidable benefit to those who participate.

As a society we are waking up to the need to re-experience "numinous dimensions of nature [and this] is a primary challenge for us as individuals and for our educational and religious institutions as well" (Tucker, 2002, p.68). An argument of spirituality for health is by no means a difficult one to make.

Nature and the numinous

Spirituality is one dimension of human existence, and often left out of the modern 'health and wellbeing' equation. Outdoor activities intentionally facilitated or not, carry with them inherent significant prospects for numinous experience. Harper, Carpenter, and Segal (2012) argued for outdoor programmes to recognize potential such as spirituality in their design and delivery. Hay (2000) and Berry (1999) both posited that we as humans—in our modern western world—are trapped by highly individualized thinking, and have lost our 'spiritual selves'. They also propose that our innate desire to connect with the more-than-human world may be central to our re-engagement with spirituality, leading toward increased maturity and spiritual health and wellbeing.

Classic and contemporary literature on nature has repeatedly described our connectedness to nature as a journey or expression of soul (e.g., Thoreau's transcendence). If outdoor activities and intentionally facilitated outdoor programmes might assist in transformational experiences that take us beyond our usual human experiences and open us to the numinous, and assuming our propositions, and those of most spiritual traditions, that spirituality is a meaningful contribution to one's health, then why would we not propose outdoor studies to include this as an important, if not core element of the outdoor experience?

The uniqueness of outdoor programmes - small groups of people in natural surroundings whilst undergoing personal challenges and adventures; provides an important socio-ecological approach to increasing peoples' holistic health and wellbeing (Pryor, Carpenter & Townsend, 2005). The accumulated evidence emphasises that health and wellbeing is enhanced through activities in the outdoors, with some researchers calling for increased sophistication in the 'prescription' of outdoor activity (Berman, Kross, Krpan, Askren, Burson, & Deldin, 2012). We then responsibly must ask the questions of what type, and how much is enough, or conversely, is it possible to have too much?

The right dose: how much is enough?

Promoting a 'dose of Nature" clarifies the minimum exposure people should have to their natural world and seeks to highlight what amazing benefits this natural and free product can provide. Current thinking internationally on physical activity levels, for example, is that we should each engage in at least 30 minutes of moderate to vigorous levels exercise daily. This approach has full support of family doctors through to exercise physiologists; both products of the dominant allopathic medical system. Could it not be appropriate then to suggest a duration and intensity of outdoor activity or exposure for ideal human health?

Contact with nature can be significant in numerous ways (Harper, 2012; Maller et al., 2008). It would be simplistic but acceptable to suggest simply adding nature to the current 30 minute dose of daily exercise. Emerging research has begun to support this notion. Pasanen, Tyrvainen & Korpela's (2014) recent investigation with over 2,000 Finnish people confirms this concluding that "Nature provides an added value to the known benefits of physical activity. Repeated exercise in nature is in particular, connected to better emotional wellbeing" (p.1); the research is once again emphasising that it is being outside that brings additional health benefits.

Barton and Pretty's (2010) meta-analysis of 10 'green exercise' studies explored the question 'what is the best dose of nature in exercise'? Findings from their study suggest there are both short and long-term benefits. Self-esteem and mood were most improved with short durations of green exercise (e.g., 5 minutes) regardless of age, gender, intensity or other variables assessed. Both factors diminished but remained positive over longer periods of outdoor exercise, but declined with growing intensity of activity (i.e., best results for light and continuous outdoor exercise).

Other notable results were that all types of green spaces produced positive results, water seemed to increase benefits, and greatest impact seemed to be with the younger

participants and diminish with age. Barton and Pretty (2010) concluded that exercise in nature is a “readily available therapy with no obvious side effects” (p. 3951). However we must always acknowledge that Nature can be harmful to human health (bites, stings, allergies etc.) and that there may always be some people for whom the experience of nature creates anxiety and fear rather than being a restorative environment.

There is a call to address the growing epidemic in the western world of chronic health issues such as obesity, cardio-pulmonary disease and diabetes. Nature-based activities were identified as well-positioned to promote health, family connectedness, and psycho-spiritual growth (Flett, Moore, Pfeiffer, Belonga, & Navarre, 2010). However, the authors also concluded that health and wellbeing will be improved when programmes have specific objectives, build participant confidence and are challenging, and above all, fun. "Ideal[y] programs should offer both physical activity and ecologically meaningful nature experiences" (p. 292). Fortunately, these criteria are also key descriptors of many outdoor programmes. With a growing body of health related evidence, the argument for increased time and activity outdoors gains strength (Hartig, Mitchell, de Vries, & Frumkin, 2014; Thompson Coon, 2011; Ward Thompson & Aspinall, 2011) and strategies to make it happen become clearer.

Prescribing a 'dose of Nature' is in many ways almost the antithesis of our personal beliefs, philosophies and lifestyles. However the current path our global society is following demands a packaged approach that measures inputs and outputs. Promoting a 'dose of Nature’ clarifies the minimum time exposure people should be outdoors and seeks to highlight the socio-ecological benefits this natural and free product can have for everyone. The current literature strongly supports spending time in natural environments for increased and significant health and wellbeing outcomes. Our recommendation then, is for individuals to adopt lifestyle patterns that include a 'daily dose' of 30 minutes moderate physical activity in parks, reserves or outdoor environments.

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