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Health and Outdoor Settings

A Summary of the Coalition for Education in the Outdoors Pre-Symposium Workshop, 2018

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Abstract

At the Coalition for Education in the Outdoors (CEO) 14th Biennial Research Symposium, researchers and practitioners explored the intersection between outdoor education settings and practices and human health during a pre-symposium workshop. Guided by a supposition that outdoor education experiences impact one or more dimensions of health, participants first aligned around a collective foundation of 1) definitions of nature and health and 2) formative scholarship in outdoor exposure and natural elements.

With this foundation, existing paradigms were questioned: Are mainstay methodologies used in outdoor education efficacious, particularly if researchers are to engage with cross-disciplinary research teams or seek new funding sources? Given the United States' increasing urbanization, should those working in outdoor recreation reconsider the prevailing idealization of pristine landscapes (e.g., mountain vistas and whitewater rapids), and instead celebrate both "sequoias and street trees"? Moreover, questions regarding the long-term health benefits of outdoor education remain largely unanswered.

These questions resulted in the identification of gaps in research and practice. "Dosage" of outdoor exposure was one common query, as were concerns of social justice. Ultimately, workshop attendees expressed sup-

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port for continued work in the intersection of health and outdoor education. This research note summarizes the Health & Outdoor Settings workshop and resulting recommended steps for subsequent research efforts.

Keywords: outdoor education, human health, human-nature relationship, outdoor recreation, wellness

Considering Health: A Natural Connection to Outdoor Education

One developing factor underpinning the foundation of outdoor education research is the relationship between outdoor educative experiences and human health. In large measure, the enhancement of health can be considered the raison d'etre of outdoor education, whether this enhancement occurs within a physical, psychological, spiritual, or educational context. A growing number of studies have shown that exposure to natural elements may reduce psychological stress, increase psychological well-being, and foster positive emotions, among other benefits (Hansmann, Hug, & Seeland, 2007; Korpela, Ylen, Tyrvainen, & Silvennomen, 2008; Mayer, McPherson-Frantz, Bruehlman-Senecal, & Dolliver, 2009).

However, several questions concerning the effects of natural settings remain, including: What length of exposure to natural environments is necessary to influence health? What outdoor recreational activities are most efficacious for enhancing health? What nature-based settings are most effective in enhancing positive health changes? These and similar questions are subsumed under the larger questions facing outdoor education, namely; what role will structured education in the outdoors play in the broader subject of human health?

The purpose of this research report is to provide an in-depth summary of a Pre-Symposium Workshop held in conjunction with the 14th Coalition for Education in the Outdoors Biennial Research Symposium (CEO) held at Bradford Woods, in Martinsville, Indiana. More than twenty professionals, representing outdoor education nonprofit organizations as well as researchers and faculty from across the United States and international institutions, were in attendance.

At the symposium's outset, Ewert (2018) provided a working definition of natural environments: "Areas that include a broad spectrum of landscapes involving various degrees of human interventions, including: wilderness, gardens, parks, urban and backcountry forested areas." To orient this definition, it was acknowledged that cultural and individual belief systems

play an important role in determining what is natural, and that this determination can change over time and space (Ewert, 2018).

A working definition of health was also necessary. Nearly a decade ago, Godbey (2009) emphasized the contribution that outdoor recreation can make to public health, noting that traditional healthcare professionals have begun to take heed of the health-positive value of parks and recreation. This understanding that outdoor education plays a part in a healthy lifestyle guided the workshop's adoption of the World Health Organization's definition of health: "A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (1948). This more holistic definition of health echoes the eight dimensions of wellness, which several schools of public health have adopted as their framework for health; these dimensions include emotional, environmental, financial, intellectual, occupational, physical, social, and spiritual (Substance Abuse and Mental Health Services Administration, 2017). While workshop attendees recognized that framing health in this way makes it broader, more adaptable, and perhaps more ambiguous (a "chameleon" term), it was acknowledged that framing the discussion around health may provide outdoor education work with traction and a guiding mission. Thus, this broader and more global definition of health framed the workshop.

Historic and Societal Framing of Natural Environments

Acknowledging the bridge between human health and natural environments is not a new phenomenon. Rather, the discussion has a long and storied history dating back to ancient times. Hippocratic teachings stressed the importance of air, waters, and places for improving and maintaining human health (Hippocrates, 2004). Early indigenous knowledge emphasized the rhythms and attachment to the earth, with their early healing potions and herbs forming the basis of what is now considered modern medicine (Ewert, Mitten, & Overholt, 2014; Nightingale, 2015). Marcus and Barnes (1999) trace the incorporation of gardens and natural areas in local municipalities as both sources of food and places for restoration and rejuvenation. In addition, they refer to the nearly thousand-year old writings of St. Bernard that suggested that natural spaces could have healing effects (Marcus & Barnes, 1999). In 2012 Bratman, Hamilton, and Daily speak of the way public lands have been valued over time for their effect on human cognitive functioning, stress reduction, and wellbeing. As promoted by Ewert, Mitten, and Overholt (2014), researchers in the field of outdoor

Table 1. Major Health Concerns Often Associated With Natural Environments

Health Concerns
Pesticides
Air/Water Quality
Toxic Contaminants
Exotic Diseases
Ozone Depletion
Loss of Biodiversity
Extreme and Hostile Weather Events
Geologic Events (e.g., earthquakes)

From "Human Health and Natural Environments: Impacts and Linkages" by A. Ewert & W. Kessler, 1996, *Ecosystem Health*, 2(4). Adapted with permission.

education have also begun to explore intersections of outdoor experiences and human health.

Influential work from scholars such as Kaplan (1995), Kellert and Wilson (1993), Ulrich (1983), and Hartig, Mang, and Evans (1991) have outlined several theoretical frameworks that speak to the positive effects of natural settings, and in particular, their amelioration of elevated levels of stress. These theories and suppositions speak to the positive effects of nature that can be experienced by visitors to natural settings, and they directly oppose the major health concerns often linked to natural environments (Table 1).

Thus, there is a dualism expressed through society toward natural environments. Table 1 lists natural environment health concerns, contrasting the aforementioned benefits of outdoor experiences; this list illustrates public perceptions that natural settings can be threatening spaces, rather than primarily places for restoration and solace (Ewert & Kessler, 1996). Indeed, this was perhaps the underlying purpose of the workshop; namely, how can outdoor educators systematically investigate questions relative to health and natural environments in order to demonstrate the positive and life-enhancing effects of nature, as opposed to simply focusing on the potential threats?

It was through this lens that the workshop sessions addressed collective knowledge, research methodologies, gaps in research, and the role of the CEO in the promulgation of information and processes useful in enhancing the connection between health and natural settings (Appendix). The following provides a summary and overview of the major points elucidated upon throughout those sessions.

The Foundation: What We Know

Research has illustrated several sources of wellbeing through exposure to natural elements; these represent biological, cultural, social, emotional, and physical connections to the natural world. Regardless of the source explored, the adage that "nature is good for us" was oft-repeated throughout the workshop (Overholt, 2018). Several theoretical frameworks were discussed exploring this "nature affinity" and its relevancy to outdoor education.

Beginning with Fromm (1964) and popularized by Wilson (1984), the biophilia hypothesis suggests that humans have an innate drive to connect with natural elements. One might use this concept to recognize participants' biological attachment to nature, even if their skills and background limit the degree to which they have experienced nature first-hand. The environment as 1) a place to reduce stress or restore one's ability to direct attention and 2) a reflection of one's environmental identity reflected restorative and identity-based theories as well (Clayton & Opotow, 2003; Kaplan & Kaplan, 1989; Ulrich, 1983).

Other benefits have been drawn from empirical work on physical and mental health, where benefits such as decreased pulse rate, enhanced balance, and reductions in ADHD symptoms have been explored (Faber Taylor & Kuo, 2011; Fjørtoft, 2001; Park et al., 2008). Emotional, social, and spiritual benefits were also addressed, reflecting the breadth of the health definition applied here (Farmer, 2018; Overholt, 2018).

Rethinking Paradigms

Placing emphasis on the health outcomes of outdoor educative experiences may require a re-examination of some long-held beliefs and norms. Yet, if the outdoor education community is to more deeply examine the health impacts of nature, it is important to address the assumption that outdoor experiences are often assumed by those in the field to be positive or, at a minimum, "neutral" experiences. Conversely, there are some who experience fear or mistrust of the natural world, whether because of personal experiences, cultural differences, or other influences (Mitten, 2018). One example of this concept shared in the workshop's discussions was African-Americans' multifaceted, historical relationship with the land, which may be partially influenced by systemic or perceived discrimination in leisure or outdoor spaces (Finney, 2013).

Perceived and real inclusivity in outdoor recreation spaces and practices is important to consider. Given that 80% of the United States population

lives in urban areas, and that by 2040 the country's population is expected to be majority-minority by racial and ethnic identity, those working in outdoor education should consider who they serve and where they operate (Farmer, 2018). The field's relevancy might best be maintained by practitioners incorporating and conducting programming in urban and built environments in additional to more pristine, natural areas (i.e., acknowledging the value of both "street trees and sequoias") (Farmer, 2018).

Furthermore, beyond reconsidering the environs necessary, must outdoor education occur outside? Several presenters addressed the possibilities of virtual reality, contending that it may open pristine sites to those limited through lack of financial means, transportation, or accessibility (Overholt, 2018). While the adoption of technologies like virtual reality left some workshop participants ill at ease—as many, if not most, outdoor educators enjoy time in the outdoors because of its holistic, systems-level nature and perceived mystery (e.g., the draw of a crackling campfire)—these questions should continue to be circulated if the field is to remain relevant in a rapidly-evolving world.

How outdoor education evaluates its work was also addressed through highlighting challenges and opportunities associated with the use of instrumentation common in medical practice, which has become more portable, aiding researchers in bridging the gap between outdoor education and health (Tessneer & Zwart, 2018). It was suggested that while researchers in this field have traditionally relied on participant self-report methods (e.g., surveys and interviews), tools to measure blood pressure, heart rate variability, electroencephalography, and several others collecting environmental data (e.g., air quality, light) were discussed. Additionally, Gass (2018) proposed the use of archival databases, which allows researchers to rely on robust, pre-existing datasets. While support for "the simplicity of the outdoors" and concern of intrusion on experiences which include the (partial) goal of disconnection from the front country were expressed, the tools illustrated that there are a number of mechanisms for data collection and types of evidence that might capture the efficacy of outdoor education programming (Tessneer & Zwart, 2018).

A Call to Action: Addressing Gaps in Research & Practice

A multi-pronged approach might best address gaps in outdoor education research and practice. Notably, the call for adopting more biophysical measurement tools might justify outdoor recreation practitioners' work to "outsiders," whether they be insurance providers, medical doctors, or fellow

researchers in fields such as biology or public health (Farmer, 2018; Gass, 2018, Tessneer & Zwart, 2018). In practice, applying a medical model to programming resulted in one researcher convincing insurance companies to accept claims for the provision of adventure therapy (Gass, 2018).

This general theme of "redefining our story" was particularly poignant, with suggestions of engaging in interdisciplinary research teams and collaborating with scholars in other fields and disciplines (e.g., the humanities, geography) (Farmer, 2018). Furthermore, beyond expanding outdoor education research, the relationship between the outdoors and human health is especially salient when considering the ethnic diversity of participants. A recurring theme was that work should contain an element of social justice, introducing urban populations and vulnerable groups to the benefits of outdoor educative experiences (Gass, 2018).

Having considered whom to engage, with whom to collaborate, and which technologies to embrace, a recurring question arose: What is the right dosage (Gass, 2018; Overholt, 2018)? If the outdoor education community propagates time spent in natural settings, how much time is required, and what are the necessary environmental conditions? If health-positive elements of nature are heralded, such as stress-reduction, prosocial behaviors, and physical fitness, a natural next step is to determine the exposure and specific settings necessary to achieve these outcomes. Moreover, the type of activity in outdoor education (e.g., hiking, aesthetic appreciation) and social structure are two other variables to consider.

In sum, many issues at this workshop remain under-researched, including those falling under a dose-response rubric such as type of natural setting, duration of exposure, frequency of contact, and the use of intentionally-designed programs to enhance effects. These beg the question, "Should health be a more visible mission of the CEO?" (Mitten, 2018). Given the Pre-Symposium Workshop focus on human health and natural settings, the professionals in the field of outdoor education should continue to develop this niche of health, outdoor educative experiences, and nature. By better understanding and promoting that intersection, outdoor educators can enhance and strengthen the impact this type of learning makes on society.

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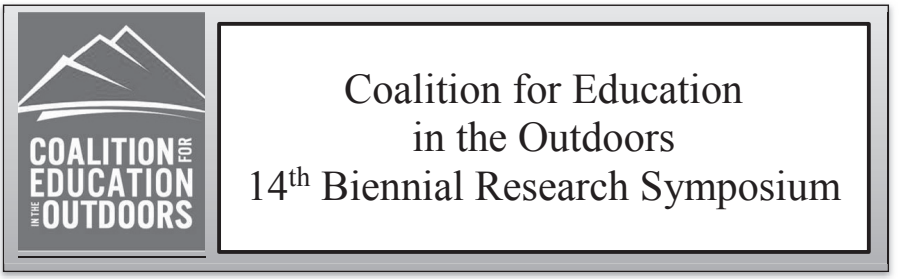
Appendix



PRE-SYMPOSIUM SCHEDULE OF EVENTS

Health and Outdoor Settings – The Role of the CEO

Friday, January 12, 2018

	Topic	Location/Leaders
7:30 – 8:45 a.m.	Breakfast	Bradford Manor Dining Room
9:00	Welcome/Overview	Bradford Manor Conference Room (Basement Level) Dr. Alan Ewert, Sharon Tessneer, and Ryan Zwart
9:20	Human Health and Outdoor Settings: Introduction and Overview	Dr. James Farmer
9:45	"What We Know" Session	Session Lead: Dr. Jill Overholt
10:15	Break and Connecting with Colleagues	Bradford Manor Dining Room
10:30	"How Do We Know It:" Data Collection, Tools, and Practice	Bradford Manor Conference Room (Basement Level) Session Leads: Sharon Tessneer and Ryan Zwart
12:00 noon	Lunch	Bradford Manor Dining Room
1:00 p.m.	Findings and Research Gaps	Session Lead: Dr. Michael Gass
2:00	The Role of the CEO	Session Lead: Dr. Denise Mitten
2:45 – 3:00	Drawing Conclusions/That's a Wrap!	Bradford Manor Conference Room (Basement Level) Dr. Alan Ewert
Recorder	Kristina Anderson	