



EVIDENCE BRIEF

Eight Practices to Advance Youth Health & Wellbeing Through Outdoor Education

This Evidence Brief summarizes key terms and messages, barriers and facilitators to participation, and eight practices for advancing youth health and wellbeing through outdoor education.

HOW DID WE COMPILE THIS EVIDENCE?

We searched YouthREX's online Knowledge Hub, Google Scholar, and Google using combinations of the following key terms: "youth", "outdoor education", "barriers", "accessibility", "wellbeing", and "mental health".

DEFINITIONS OF KEY TERMS

01. NATURE-DEFICIT DISORDER

Nature-deficit disorder is a term describing a disconnection from nature, coined by journalist Richard Louv in the 2008 book, *Last Child in the Woods*:

Nature-deficit disorder describes the human costs of alienation from nature, among them: diminished use of the senses, attention difficulties, and higher rates of physical and emotional illnesses. The disorder can be detected in individuals, families, and communities.¹

This analysis, however, promotes "Euro-Western assumptions about what counts as **normal** childhood experiences of nature" (*emphasis added*),² and is "based on a neoliberal framework – one that places onus of environmental preservation on individuals, rather than the political and economic structures of environmental degradation."² This understanding of nature as defined by Louv fails to recognize that "**the concept of nature is complex, lengthy, and historical** ...in many cultures, humans are considered to be part of nature, which calls into question the cultural assumptions of nature-deficit disorder" (*emphasis added*).²

For example, many Indigenous worldviews promote "reciprocal relationships with the earth."¹ Outdoor education has often been referred to as place-based learning,³ but is not to be confused with Indigenous-led land-based education and learning, which stems from Indigenous pedagogies and works to revive the reciprocal relationship between Indigenous peoples and the land.⁴ Indigenous environmental education "offers an alternative to Western style teaching, includes marginalized communities, and implements decolonization techniques."¹

Consider the need to "**re-evaluate the dominant wilderness narrative used in outdoor experiential education** ...and further honour non-Euro Western ways of being outdoors" (*emphasis added*).²

02. ATTENTION RESTORATION THEORY

Attention Restoration Theory argues that time spent in nature can actually offset an inability to focus, one of the impacts of directed attention fatigue, which can result from extended use of electronic media and increased screen time.^{5,6,7}

TWO KEY MESSAGES

01. OUTDOOR EDUCATION ENHANCES HEALTH & WELLBEING

Outdoor education "focuses on building peer connections, enjoyment in recreational pursuits, and engagement with the natural environment."⁸⁺⁹

Evidence consistently demonstrates that outdoor education enhances the health and wellbeing of youth, including improved:

- physical and mental health;^{10,11,12}
- sensory and self-awareness;¹²
- motivation;¹³
- attentiveness;¹²
- mindfulness;¹²
- attunement and social interactions;^{8,13} and
- confidence and resilience.^{14,15}

With respect to mental health, the “exposure to natural environments can have profound effects ...that often **last well into adulthood**” (*emphasis added*).¹⁵ Natural spaces are noted for their effects on mental health and wellbeing because they:¹⁶

- reduce physical stressors (i.e., heat, noise, air pollution);
- provide unique spaces for physical activity, self-reflection, and social interaction; and
- provide stimuli (i.e., sights, sounds, smells) that reduce stress and calm the nervous system.

Young people “who struggle with academics, motivation, attentional focus, or social skills”⁷ will benefit the most from outdoor education because it is **activity-based** and **experiential**.^{7,8,15,17} This is especially true when outdoor education experiences can be related to curriculum and embedded in educational settings.¹⁷ Youth who participate in outdoor learning perform better on standardized tests, are able to think critically and creatively, and demonstrate a stronger desire for learning.¹⁸

Positive youth development can be fostered in outdoor education^{2,9} by promoting the five Cs of psychosocial and life skills – competence, confidence, connection, character, and caring/compassion¹⁹ – in youth.¹⁴ Outdoor education is “widely recognized for its ability to elicit personal and social development for its participants,”¹¹ supporting **social and emotional learning** – the “process through which young people enhance their ability to integrate thinking, feeling, and behaving to achieve important life tasks.”²⁰

02. OUTDOOR EDUCATION FACILITATES A CONNECTION TO NATURE

A connectedness to nature (a “cognitive, affective, and experiential relationship with nature”¹⁰) can foster environmental stewardship attitudes in youth,^{1,10,13,16} as those “who spend time in nature are more likely to care about the environment and preserve it as they grow. ...foster[ing] a lifelong love of wild spaces ... encouraging them to take advantage of the physical, mental, and cognitive benefits of being outdoors.”¹⁵

However, facilitators must create an “atmosphere of hope”⁹ in programming; although the “connection to nature can be beneficial to health and wellbeing, the connection can also cause depression, anxiety, and stress when children feel overwhelmed by environmental degradation.”¹

KEY FINDINGS: BARRIERS TO OUTDOOR EDUCATION PARTICIPATION

01. EXTERNAL BARRIERS

Barriers to outdoor education can be **external**.²¹

a) accessibility and affordability

Racialized youth experiencing marginalization who live in urban contexts may “perceive fewer places nearby to enjoy nature than their white counterparts,”¹ and outdoor spaces may not be seen as welcoming or safe. Overall, urban youth “have fewer opportunities to spend time in natural spaces.”¹⁵ Therefore, access to nature – and, by extension, outdoor education – “differs depending on socioeconomic status and other demographic factors.”¹⁺¹³

In fact, **a lack of financial resources is often referred to as the largest barrier** to outdoor education.^{1,2,13,21}

Factors determining affordability can include, for example, the costs of program participation, equipment and other resources, and transportation.

b) socialization and intersecting oppressions^{2,13,22}

Young people may internalize a deficits-based view of their capacity for engaging in outdoor education based on their identities and values. The accessibility of a program can be determined by how equitably or inclusively it has been designed² for youth of intersecting identities, of varying abilities, and who may speak different languages. Historically, outdoor education programs have not included a diversity of young people, which can prove “profoundly isolating at times” for youth experiencing marginalization.¹³ This isolation can also occur when the identities of adults and other program staff do not reflect the diversity of the participants.²

c) time

Prior commitments to school, work, other recreational interests, and/or family can hinder participation in outdoor education programs.^{1,23}

d) social supports

A lack of support and encouragement from parents/caregivers or other adults and from peers can also prevent youth from prioritizing outdoor education.¹

e) COVID-19

The pandemic has resulted in youth spending less time outdoors in natural surroundings, normalizing the use of home-based technologies.¹⁵ This “negatively impacts adolescents’ subjective wellbeing and outdoor activity participation regardless of race, gender, age, household income, community type, and geographic region.”²⁴ However, even changes in young people’s connection to nature during the pandemic were “directly associated with socio-economic status,”¹⁰ pointing once again to a lack of financial resources as a considerable barrier to participation.

02. INTERNAL BARRIERS

Barriers to outdoor education can also be *internal*,²¹ relating to a young person’s:

- **identity and values;**^{1,2,25}
- **time;**^{1,23,25}
- **goals;**²⁵
- **knowledge and experience;**²⁵ and/or
- **ability.**²⁵

SUMMARY OF EVIDENCE: EIGHT PRACTICES TO ADVANCE YOUTH HEALTH & WELLBEING THROUGH OUTDOOR EDUCATION*

01. ENGAGE ADULTS IN KEY ROLES

In outdoor education programs, adults act as mentors and supportive role models, often serving as “sources of inspiration”⁹ tasked with creating an “atmosphere of hope”⁹ for youth. As educators, they model both activity-specific skills and transferable life skills, supervising youth in supportive ways and mitigating any potential risks.⁹

The diversity of adults and program staff should reflect the diversity of youth participants; parents and caregivers of historically excluded populations may be more likely to encourage their children to participate in outdoor education programs if staff represent “racial, ethnic, linguistic, and cultural diversity.”²

02. FOSTER A POSITIVE SOCIAL CONTEXT

In outdoor education, relationship building occurs through shared experiences.¹¹ Programs that foster a positive social context:

- Promote prosocial norms, or “healthy beliefs and clear standards for behaviour.”⁹
- Support a sense of belonging,¹¹ which can be facilitated through one-on-one supports or engagement in small groups⁹ and a celebration of diversity;^{2,9} inclusivity within outdoor education programs can be reflected in young people “feeling valued, feeling represented and heard.”²
- Promote meaningful and supportive relationships between youth and between participants and adults, which can increase feelings of connection and collaboration,^{9,11,14,26,27} social cohesion, and social capital.²⁴

- Provide safe, secure, accessible, and welcoming spaces that build “comfort over time.”^{16+2,14}
- Facilitate cross-cultural dialogue and conflict resolution.²

03. IMPLEMENT PROGRAMS IN NATURAL ENVIRONMENTS

As explored above, being in and connecting to nature enhances youth mental health and wellbeing, thereby enhancing the impacts of participation in outdoor activities.¹⁰

Natural environments are often unfamiliar physical contexts for youth, enabling their learning to occur in social contexts⁹ and facilitating “new perspectives on the familiar environment they have left.”⁹ The dissonance they experience as a result provides youth with the opportunity to escape and to “experiment with new psychological strategies or forms of identity.”^{9+13,14} Because natural environments “impose natural rules and real and immediate consequences,”⁹ they also offer youth “maximal opportunities for mastery” of new skills.⁹

04. INCLUDE CHALLENGING ACTIVITIES

Although confronting challenge can cause stress, “the positive response to these stressors that results in student learning ... heightens the likelihood of this learning being transferred to the participant’s more familiar home environment”⁹ and engenders “a sense of success”⁹ when the challenge is overcome.

In order to enhance health and wellbeing, challenges should be:

- **holistic and inclusive of risk**, such that youth are “required to use their mental, emotional, and physical resources”;⁹
- **skill-building**;¹⁴
- **increased incrementally** to ensure constant challenge;^{9,16} and
- **achievable**.

Note that “[e]xcessively challenging activities have the potential to negatively impact participants,”⁹ and that youth must be able to master activities in order to “experience a sense of achievement and growth of traits such as self-confidence and motivation.”^{9+16,27} Programming designed to facilitate optimal engagement should strive for a “balance between physical and mental challenges.”²⁷ Overcoming challenging program activities enables young people to learn tolerance and acceptance, sensory awareness, and feelings of self-actualization and capability.^{28,13}

Experiential education in the outdoors has been proven to support field-based science education⁷ and participation in Science, Technology, Engineering & Mathematics, or STEM.²⁷ Outdoor education should include activities that have “a clear trajectory with a clear goal as its endpoint, [with] participants being required to apply their efforts and energy over an extended period of time.”⁹ Follow-up activities can then further support learning, especially when these are related to curriculum and embedded in educational settings.^{9,17}

05. FACILITATE AUTHENTIC EXPERIENCES

Authentic experiences are “‘perceptually similar to life experiences’ and as such, provide learning that can be readily transferred back to the participant’s home environment.”⁹ In outdoor education, these authentic experiences “require participants to engage fully in the learning process ... [and] offer an immediacy of experience and feedback, supporting the continued development of knowledge and skills.”⁹ These types of experiences can also “facilitate optimally engaging flow states, which are conducive to learning and long-term participation in an activity.”²⁷ Learning that is “constructed through active participation rather than through instruction” enables youth to imagine how solutions can apply to varying situations and contexts.⁸

Practitioners can also consider incorporating inquiry-based learning¹³ and culturally relevant programming that could enable youth to “think about their own traditions to develop a deeper understanding and historic empathy” with Indigenous peoples and the land.¹³

06. BUILD OPPORTUNITIES FOR YOUTH TO DEVELOP AUTONOMY AND LEADERSHIP

Outdoor education programs can facilitate relationships “of equality and cooperation”⁹ between youth and adults by providing leadership roles to participants.^{9,14} To promote spontaneity and creativity, redirect focus from adult-led activities to youth-led and self-directed learning.²⁹ Enabling young people to make choices that shape their experiences will support a sense of empowerment through the opportunity to “develop responsibility for themselves and their actions.”⁹ In this way, outdoor education further enhances learning by increasing autonomy.^{27,30}

07. PROMOTE OPPORTUNITIES FOR REFLECTION

Reflection is an important component of outdoor education programming because it provides youth with time and space to process their experiences.⁹ During reflection – facilitated individually or in dialogue with program staff and participants – young people can recognize how the skills they have developed within the program can “be transferred beyond the learning context.”⁹⁺⁸ This guided reflection on their “involvement in group and individual activities that are challenging and adventurous”¹¹ can further enhance youth wellbeing.

08. INTEGRATE EVALUATION ACTIVITIES IN PROGRAM DESIGN, DEVELOPMENT, AND IMPLEMENTATION

Evaluation activities are an integral part of youth work practice.³¹ Research and evaluation practices broaden the knowledge base that informs program design, development, and implementation by fostering a culture that encourages documentation and continuous learning.

Meaningfully involving youth in these practices can further support the outcomes that your program is working to achieve.³² To enable your participants to make meaningful contributions to researching and evaluating programming:³²

- recognize and build on youth strengths;
- address barriers to participation and find solutions;
- provide structure for meaningful participation; and
- provide opportunities for youth to see skills modeled, ask critical questions, gain new perspectives, build teamwork, and develop a sense of collective responsibility.

In order to ensure effective youth development programming in outdoor education, continued program monitoring and assessment is critical, as is the engagement of youth and “stakeholders (parents, participants, practitioners, and sponsors) and recognizing and being responsive to their differing perspectives.”⁹ Share what you learn from research and evaluation activities with stakeholders, and learn from the findings to not only *prove* program effectiveness through sharing impacts, but to consistently *improve* programming for youth.

ENDNOTES

* Many of the practices in this Evidence Brief build on the design principles outlined in Mansfield et al., 2020 (see 9, below).

- 1 Generous, C. (2021). **Connecting youth to nature: Environmental education's role in the future of wellbeing and stewardship** (249) [Bachelor's thesis, Claremont Colleges]. Pomona Senior Theses. https://scholarship.claremont.edu/pomona_theses/249
- 2 Gupta, N. (2021). **Cross-cultural accessibility and inclusion in youth outdoor experiential education** [Unpublished master's thesis]. University of Oregon. <https://scholarsbank.uoregon.edu/xmlui/handle/1794/26875>
- 3 Oberle, E., Zeni, M., Munday, F., & Brussoni, M. (2021). Support factors and barriers for outdoor learning in elementary schools: A systemic perspective. *American Journal of Health Education*, *52*(5), 251-265.
- 4 Pugh, P., McGinty, M., & Bang, M. (2019). Relational epistemologies in land-based learning environments: Reasoning about ecological systems and spatial indexing in motion. *Culture Studies in Science Education*, *2*(14), 425-448.
- 5 McAnally, H. M., Robertson, L. A., & Hancox, R. J. (2018). Effects of an outdoor education programme on creative thinking and well-being in adolescent boys. *New Zealand Journal of Educational Studies*, *53*, 241-255.
- 6 Mutz, M., Müller, J., & Göring, A. (2019). Outdoor adventures and adolescents' mental health: Daily screen time as a moderator of changes. *Journal of Adventure Education and Outdoor Learning*, *19*(1), 56-66.
- 7 James, J. K., & Williams, T. (2017). School-based experiential outdoor education: A neglected necessity. *Journal of Experiential Education*, *40*(1), 58-71.
- 8 Watts, N. W. (2019). **Learning to be social by learning the ropes: Is outdoor education effective for building social-emotional capabilities and skills?** (N8571236) [Master's thesis, Queensland University of Technology]. Academia.edu.
- 9 Mansfield, A., Cotton, W. G., & Ginns, P. (2020). Design principles of youth development programs in outdoor environments: A scoping review. *Journal of Outdoor and Environmental Education*, *2020*(23), 241-260.
- 10 Jackson, S. B., Stevenson, K. T., Larson, L. R., Peterson, M. N., & Seekamp, E. (2021). Connection to nature boosts adolescents' mental well-being during the COVID-19 pandemic. *Sustainability*, *13*, 1-24. <https://doi.org/10.3390/su132112297>
- 11 Barber, P. D. (2021). **An exploration of relationship development through Outdoor Education** (42454) [Doctoral dissertation, Victoria University]. Victoria University Research Repository. <https://vuir.vu.edu.au/42454/>
- 12 Mutz, M., & Müller, J. (2016). Mental health benefits of outdoor adventures: Results from two pilot studies. *Journal of Adolescence*, *49*(2016), 105-114.
- 13 Montero, A. C., Roberts, N. S., Wilson, J., & Fonfa, L. (2018). Every kid in the woods: The outdoor education experience of diverse youth. *Journal of Interpretation Research*, *23*(1), 5-25.
- 14 Parry, B. J., Thompson, J. L., Holland, M. J. G., & Cumming, J. (2021). Promoting personal growth in young people experiencing homelessness through an outdoors-based program. *Journal of Youth Development*, *16*(5). <https://jyd.pitt.edu/ojs/jyd/article/view/21-16-05-RES-2>
- 15 Cohen, S., Stollefson, M., & Bopp, T. (2022). Changes in mental health should be measured when evaluating outdoor education programs for urban youth. *American Journal of Health Education*, *53*(2), 72-75.
- 16 Himschoot, E., Lloyd, J., & Reuben, A. (2020). **Improving child & adolescent mental health through outdoor programming**. Yale Center for Business and the Environment. <https://cbey.yale.edu/research/improving-child-adolescent-mental-health-through-outdoor-programming>
- 17 Scrutton, R. A. (2015). Outdoor adventure education for children in Scotland: Quantifying the benefits. *Journal of Adventure Education and Outdoor Learning*, *15*(2), 123-137.
- 18 Ballantyne, R., & Packer, J. (2002). Nature-based excursions: School students' perceptions of learning in natural environments. *International Journal of Geographical and Environmental Education*, *11*(3), 218-236.
- 19 Family and Youth Services Bureau. (2012). **What is Positive Youth Development?** <https://youthrex.com/factsheet/what-is-positive-youth-development/>
- 20 Youth Research & Evaluation eXchange (YouthREX). (2016). **Ways of being: Social and emotional learning in youth programs**. <https://youthrex.com/factsheet/ways-of-being-social-and-emotional-learning-in-youth-programs/>
- 21 Burns, R. C., & Graefe, A. R. (2007). Constraints to outdoor recreation: Exploring the effects of disabilities on perceptions and participation. *Journal of Leisure Research*, *39*(1), 156-181.
- 22 Schwartz, A., & Corkery, M. R. (2011). Barriers to participation among underrepresented populations in outdoor programs. *Recreational Sports Journal*, *35*(2), 130-144.
- 23 Allison, K. R., Dwyer, J. J., & Makin, S. (1999). Perceived barriers to physical activity among high school students. *Preventive Medicine*, *28*(6), 608-615.
- 24 Jackson, S. B., Stevenson, K. T., Larson, L. R., Peterson, M. N., & Seekamp, E. (2021). Outdoor activity participation improves adolescents' mental health and well-being during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, *18*, 1-18. <https://doi.org/10.3390/ijerph18052506>

- 25 Kosteli, M. -C., Heneghan, N. R., Roskell, C., Williams, S. E., Adab, P., Dickens, A. P., Enocson, A., Fitzmaurice, D. A., Jolly, K., Jordan, R., Greenfield, S., & Cumming, J. (2017). Barriers and enablers of physical activity engagement for patients with COPD in primary care. *International Journal of Chronic Obstructive Pulmonary Disease*, *12*, 1019-1031. <https://doi.org/10.2147/COPD.S119806>
- 26 Coe, H. (2016). Embracing risk in the Canadian woodlands: Four children's risky play and risk-taking experiences at Canada's first forest kindergarten. *Journal of Early Childhood Research*, *15*(4), 374-388.
- 27 Son, J. S., Houge Mackenzie, S., Eitel, K., & Luvaas, E. (2017). Engaging youth in physical activity and STEM subjects through outdoor adventure education. *Journal of Outdoor and Environmental Education*, *20*(2), 32-44.
- 28 Honig, A. S. (2019). Outdoors in nature: special spaces for young children's learning. *Early Child Development and Care*, *189*(4), 659-669.
- 29 Coe, H. (2013). *A forest kindergarten: How four children experience learning and living outdoors* [Unpublished master's thesis]. Queen's University.
- 30 Nelson, E. M. (2012). *Cultivating outdoor classrooms: Designing and implementing child-centered learning environments*. Redleaf Press.
- 31 Lovell, A., Anucha, U., Houwer, R., & Galley, A. (2016). *Beyond measure? The 10 recommendations*. Youth Research and Evaluation eXchange (YouthREX). <https://youthrex.com/factsheet/beyond-measure-the-10-recommendations/>
- 32 Houwer, R., & Barleben, L. (2016). *Engaging youth in research and evaluation: Benefits for youth & organizations*. Youth Research and Evaluation eXchange (YouthREX). <https://youthrex.com/factsheet/engaging-youth-in-research-and-evaluation-benefits-for-youth-organizations/>