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Living Today for A Better Tomorrow: Identifying the Long-Term Benefits of Outdoor Learning Over the Life Course

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The journey of life is like a long hike through a beautiful and rugged wilderness. Just as a hiker faces challenges and obstacles on their trek, so do we encounter difficulties and obstacles as we navigate through life. Just as a hiker can emerge from their journey stronger and more confident, our experiences and challenges can shape and improve our lives in meaningful ways.

In the same way, Outdoor Learning (OL) can have a profound and lasting impact on people's lives. The experiences and lessons gained from OL can stay with and shape them over the course of their lifetime. This chapter explores how OL can help people live lives to the fullest, both in the present and in the future. Just as a hiker returns from their journey with new skills and perspectives, so too can people gain new abilities and a deeper appreciation for the world around them through OL and Significant Life Experiences (Daniel, 2003).

OL has been widely recognized for its immediate benefits, such as improved physical health, emo-

tional well-being, resilience and social connections (Holland et al., 2018; Ritchie et al., 2015). However, less is known about the long-term benefits of OL over one's course of life (Daniel et al., 2022; Wigglesworth & Heintzman, 2017). This chapter will discuss the current knowledge and examine the impact of OL on an individual's course of life development. For the purpose of this chapter, OL is broadly defined as a form of experiential learning that takes place in natural environments and can encompass a range of adventurous and environmental activities (Priest & Gass, 2018).

Despite its popularity, much of the outdoor research has focused on the immediate benefits of OL, such as improved physical health and emotional well-being (Holland et al., 2018). Little is known about the long-term benefits of OL over the life course (LC). In a recent unpublished scoping review by D'Angelo et al., multiple researchers reported that OL has had a lasting impact on individuals' course of life development by shaping their perspectives, motivations, and beliefs

about themselves and the world around them (Daniel, 2003; Daniel et al., 2022; Wigglesworth & Heintzman, 2017). OL can also foster a sense of community and belonging, leading to stronger social connections, while also allowing individuals to develop a wide range of skills, such as leadership, problem-solving, teamwork, and communication, which can be applied to both personal and professional settings later in life (Gass et al., 2020; Priest & Gass, 2018).

The Impact of Outdoor Learning

The impact of a life-changing experience can be compared to a seed that has been planted in fertile soil. At first, the seed may seem small and insignificant, but over time it grows into a strong and resilient plant. Similarly, the outdoor experience may seem like a fleeting moment at first, but the lessons and memories it provides can continue to shape and influence our lives for years to come. Just as a plant continues to grow and flourish long after it has been planted, the impact of a significant life experience can continue to be felt and appreciated for years to come. Even decades after the experience, the memories and lessons learned can still be remembered and cherished as the *best experience of life*. This is a testament to the power of relatively short life-changing experiences and their ability to shape us and influence our lives in meaningful ways.

This chapter will introduce the two theories related to retrospective research: Significant Life Experience (SLE) and Life Course (LC) theories. These two will be related to how certain OL experiences, early in a participant's life, can translate into meaningful experiences that can create positive change vectors later in life. These two theories and OL will merge in Significant Outdoor Life Experience (SOLE) theory.

Two Theories: SLE & LC

SLE theory was first introduced by Thomas Tanner in 1980 where he suggested that environmental education early life experiences could be significant and result in greater affiliation to an

environmental career later in life (Chawla, 1998; Tanner, 1980). Since then, the topic has been explored further in the literature through the lens of environmental education; more recently SLE theory has been explored through an OL lens. Most notably, Daniels (2003) explored the SLE of a spiritual Outward Bound-type outdoor experience. He identified six different types of SLEs in adventures (Daniels, 2003, p. 71):

1. **Transformative** experiences are “events that reorient the person’s perspective on self-and/or the world. These events may redirect his/her life course.”
2. **Nadir** (low point) Experiences are “negatively perceived events that may promote personal growth over time.”
3. **Transcendent** experiences are “spontaneous, extraordinary states of consciousness that break through existing boundaries of knowledge and experience.”
4. **Peak** Experiences are “moments of clarity when one’s reality is extended, moving the person to a higher plane of understanding.”
5. **Spiritual** Experiences are “events that help the individual understand his/her place in the universe.”
6. **Religious** experiences are “events that help the person understand his/her relationship to the intangible spirit or a system of specific beliefs.”

Since Daniel’s 2003 study, more researchers have begun using SLE theory as a tool in retrospective outdoor research as a way to better understand the impact of earlier OL experiences and how they benefit a person’s life over time (Takano, 2010; Wigglesworth & Heintzman, 2017).

LC theory on the other hand has been widely used in interdisciplinary health settings as a way of understanding how life choices since birth affect health status later in life, including death (Wethington, 2005). Essentially, LC theory was used to understand a long-term cause-and-effect continuum related to a specific aspect of a person’s health (Wethington, 2005). The LC perspective is a way of looking at someone’s life over the span of birth to death and understand-

ing the chronological events that have occurred and their impact on health across the course of life (Wethington, 2005). LC theory is typically explained through seven key concepts (Wethington, 2005, p. 116).

1. **Trajectories** are “stable patterns of behaviour or health across time.”
2. **Transitions** are “changes in social roles or responsibilities.”
3. **Turning Points** are “transitions that are major changes in ongoing social role trajectories; life takes a different direction.”
4. **Cultural and Contextual Influences** are “events and externalities that shape and constrain the process of change and adaptation.”
5. **Timing in Lives** are “the interaction between age or stage of the [course of life] and timing of the event or transition.”
6. **Linked Lives** are “dependence of the development of one person on the presence, influence or development of another.”
7. **Adaptive Strategies** are “conscious decisions that people make to improve their health or well-being or social norms that frame the way in which decisions are made to adapt to external changes.”

Wells and Leikes (2006) used LC theory to explore the link between the natural environment and adult environmentalism, and this was similar to the work of Chawla (1998) and others using SLE theory (Chawla, 1998; Tanner, 1980; Wells & Lekies, 2006). However, most of the work with LC has remained in the interdisciplinary health field and has yet to make a formal appearance in the OL literature.

Understanding the Connection between SLE & LC

The field of OL using SLE theory went relatively undeveloped after the work of Daniels in 2003. Although, some literature has made reference to his earlier work (Takano, 2010; Wigglesworth & Heintzman, 2017), the theory has neither been challenged nor developed since then.

Recently, Daniels and colleagues published an updated study spanning 50 years after an adventure experience using similar methods to his 2003 study (Daniel et al., 2022). The results from this study confirmed that an adventure experience can be regarded by participants as significant up to 50 years later. Most notably from this study, Daniels recommended using narrative inquiry to gain a greater understanding of identity development over the lifespan. He also suggested that OL retrospective research could benefit from theoretical perspectives other than SLE theory. This isn't surprising, since a common theme tends to emerge in the retrospective OL literature regarding the need for more conceptual and theoretical development related to SLE to improve how it works: “More research is needed to understand the dynamics of the life significance of outdoor programs” (Wigglesworth & Heintzman, 2017).

Future SLE research should examine how respondents' perceptions of life significance vary according to course length, sequence of expedition components, participant characteristics, and/or the expedition location and modes of travel (Daniels, 2022). In his earlier work, Daniels (2003) noted the need “to investigate the wilderness expedition experience within the larger framework of personal life history” (p. 262). LC theory helps address that need by understanding cause and effect relationships of events and decisions over the lifespan (Wethington, 2005). Thus, SLE and LC theories appear to be symbiotic, because observing the cause-and-effect relationships of a person's SLEs over their LC, and understanding other influential factors, helps understand impacts later in life.

Every SLE can be viewed as part of a cause-and-effect reaction; whether positive or negative an SLE cause will result in some sort of LC effect, whether it be immediate or longer-term. This effect may also be or consciously or unconsciously known as linked to the SLE cause. For some, the reaction can be as simple as a confirmation of feelings. For example, a camper having a positive SLE at camp may simply confirm that they enjoy camp and nature. Whereas another camper

could have participated in the same experience, and it changed the direction of their entire life course toward a career outdoors.

Current outdoor SLE theory lacks the interconnection to other life events so as to identify the overall implications related to a person's LC. From an OL perspective, an early outdoor SLE may be either positive or negative and the extent of the significance must be compared to other SLEs and influences over a person's LC. In sum, the effect on life of an outdoor SLE must be compared to other SLEs across the lifespan.

SOLE: A Useable Model

A better theoretical model is needed to articulate, encapsulate, and integrate SLE and LC theories into a cohesive explanation of how an early outdoor life experience can impact later life experiences. For the purpose of developing this theoretical model, the following terms are defined.

SLE. Any notable and measurable event or occurrence that has the potential to bring about a conscious or unconscious shift in an individual's life trajectory, either immediately or gradually over time. These experiences may be positive or negative in nature and hold the power to produce a significant impact on an individual's thoughts, beliefs, and behaviours.

Rationale. SLEs are very complex in terms of the components contributing to them, and in order to understand SLEs fully, it is best to view them retrospectively because the experience can change in magnitude over the course of one's life. More specifically, a SLE can become more important or less important as time passes and other SLEs occur. An example of a positive SLE could be going to camp as a youth, whereas a negative SLE could be the death of a family member. Both have the capability of effecting change. As mentioned by Daniels (2003), there are also nadir experiences, which are low-point experiences that are negative but could lead to positive benefits as well (Daniel, 2003). For example, the death of a family member may lead to increased resilience and self-reliance as a person recovers from the traumatic loss and grieving process.

It is also helpful to view SLE and LC through the lens of experiential learning (Priest & Gass, 2018), where the process of reflection becomes an integral part of the growth and change process.

Two examples of SLEs are depicted in Figure 1. The upper sequence is a growth in the significance of a past experience as time passes. This could be the example of going to camp as a youth; at the time, the camp experience seemed similar to other experiences in terms of significance, but over time and through reflection it became more

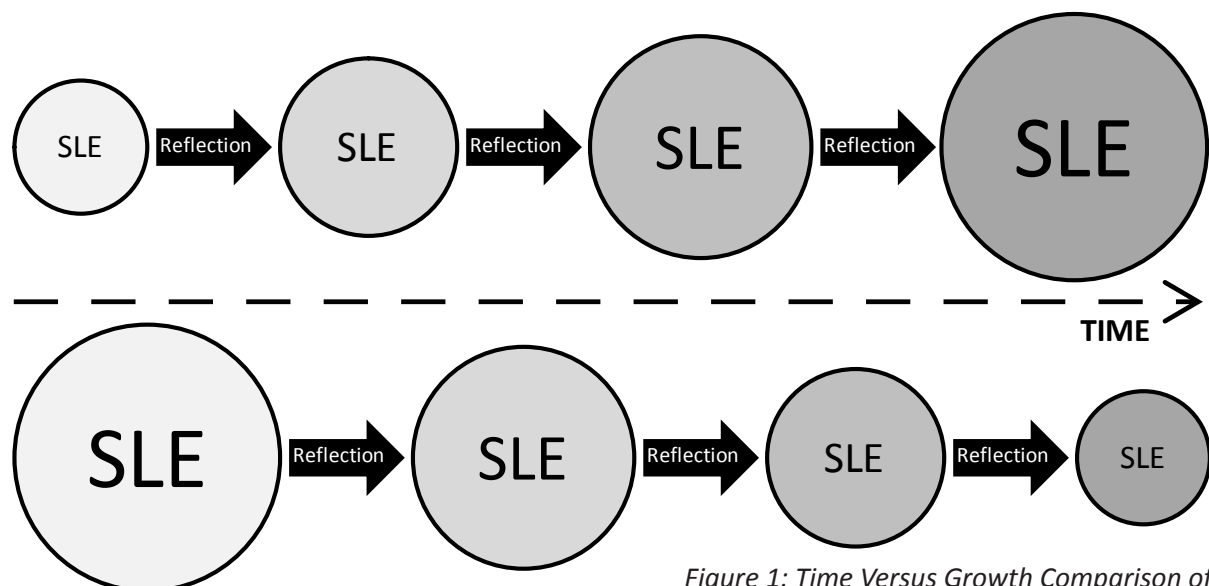


Figure 1: Time Versus Growth Comparison of SLE

impactful and influential over the lifespan. On the other hand, the lower sequence portrays an experience that was very significant initially, but this slowly diminished over time. For example, campers may finish a week at camp and believe that it was *the best experience of their lives*, but later as more important life experiences occur, these lose significant meaning.

SOLE. A subset of SLE and a quantifiable experience in the outdoors that has the potential to create a conscious or unconscious shift in an individual's life trajectory, either immediately or gradually over time. These experiences may be positive or negative in nature and hold the power to produce a significant impact on an individual's thoughts, beliefs, and behaviours.

Figure 2. Typical Components of a SOLE



SOLE theory uses the typical principles of OL, in the sense that multiple benefits accrue with the primary ones being: social connection with others, (interpersonal), personal growth and learning (intrapersonal), and three connections to nature: ecosystemic, ekistic, and spiritual (Priest, 1986). While these are some of the primary benefits associated with a SOLE, other factors impact the quality of the experiences. Different experiences will have different tangible outcomes and these items should be noted as some of the general perceived benefits.

- **Personal growth and learning.** A significant outdoor experience often involves pushing oneself out of a comfort zone, learning new skills, and discovering new things about oneself. These experiences can lead to personal growth and development (Holland et al., 2018; Priest, 1986).
- **Connection to nature.** Spending time in nature has been shown to have numerous physical and mental health benefits, including reducing stress and anxiety, boosting mood, and improving overall well-being. A significant outdoor experience often involves a deep connection to the natural world (Bento & Dias, 2017; Priest, 1986).
- **Overcoming challenges.** Outdoor experiences often involve facing physical and mental challenges. Overcoming these challenges can be empowering and lead to a sense of accomplishment and confidence (Holland et al., 2018; Priest, 1986; Tremblay et al., 2015).
- **Connection with others.** Outdoor experiences can bring people together and foster a sense of community and connection. Sharing these experiences with others can create lifelong bonds and friendships (Priest, 1986).

Similar to experiential learning and the same as for SLE, reflection is paramount in understanding the influence of experience (Priest & Gass, 2018); A SOLE becomes more or less significant once it is reflected upon in the lens of one's course of life (Daniel, 2003) as with SLE above. This reflection allows for an understanding of the lessons learned and impact on overall life; this can also result in later life influence and integration of the SOLE in life choices. This can lead to a deeper understanding of oneself and the world.

Life Course. The collection and measurement of an individual's SLEs, including their positive and negative trajectories, over the entire course of their life. This includes tracking and analyzing an individual's life path, transitions, and events, both major and minor, that have impacted their personal growth and development.

Rationale. The life course provides a comprehensive understanding of an individual's life journey, including how their significant experiences have influenced their attitudes, beliefs, and behaviours, shaping their current outlook on life. It allows for a deeper insight into an individual's personality, identity, and overall well-being. Climbing a mountain can be used as a metaphor to illustrate the LC of outdoor experiences and can be helpful for understanding how these experiences change and interconnect over time.

At the base of the mountain, individuals may be focused on developing their basic skills and fitness, learning about equipment and safety, and building their confidence. This can be seen as the early stages of life when people are exploring different outdoor experiences and discovering what they enjoy. As individuals progress up the mountain, they may encounter more challenges and obstacles, such as steeper terrain and changing weather conditions. This can create uncertainties and result in changes in the direction of their life course; as well as be seen as a metaphor for the middle stages of life, when individuals may face more obstacles and challenges in their outdoor experiences, but also have more experience

and skills to draw upon. At the summit of the mountain, individuals may experience a sense of accomplishment and fulfillment, and they may also have a broader perspective on their surroundings and the world. This can be seen as a metaphor for later life when individuals may have a lifetime of outdoor experiences behind them and can reflect on their journey and the impact it has had on their well-being.

An Integrated Model of SOLE and LC

Figure 3 is a combination of positive and negative SLE experiences and these dictate the overall context of an individual's course of life. Although, the path through life would not be linear from one's perspective, the model demonstrates a regulation between experiences. After a positive or negative experience has occurred (above or below the life course line respectively), each can still be viewed as the opposite through reflection over time and when compared with the overall lifespan and other events. For example, failing an exam can be seen as a negative SLE for students in high school, but this setback can motivate a positive change in study habits at college and positively direct their life courses (Daniel, 2003). SLEs on the life course line are neutral (+/-).

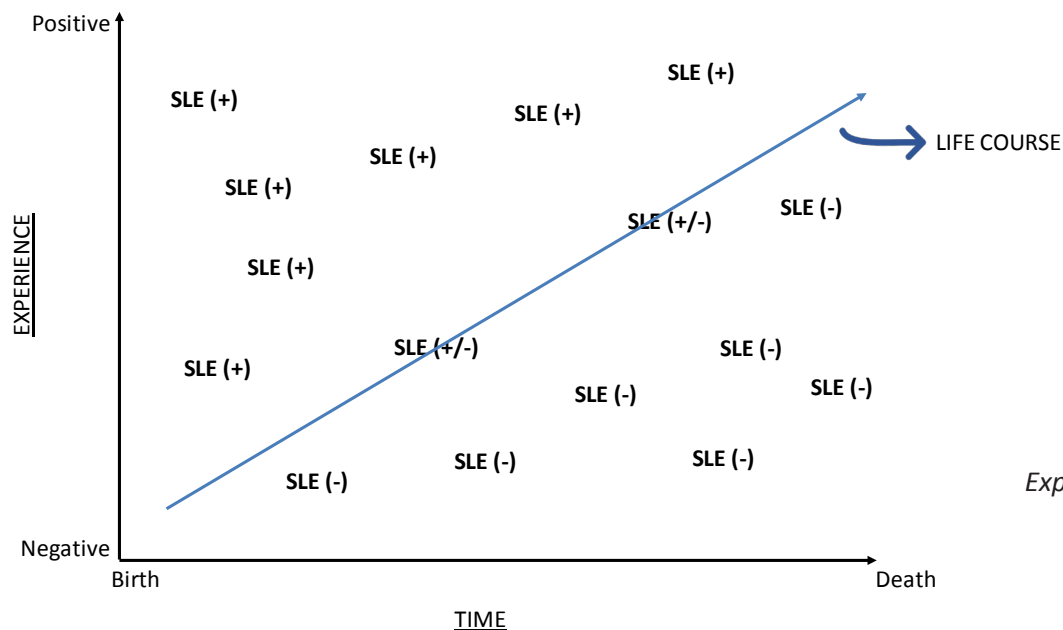


Figure 3. Linear Significant Life Experiences across the Life Course

Figure 4. Significant Outdoor Life Experiences (SOLE) & Life Course Model

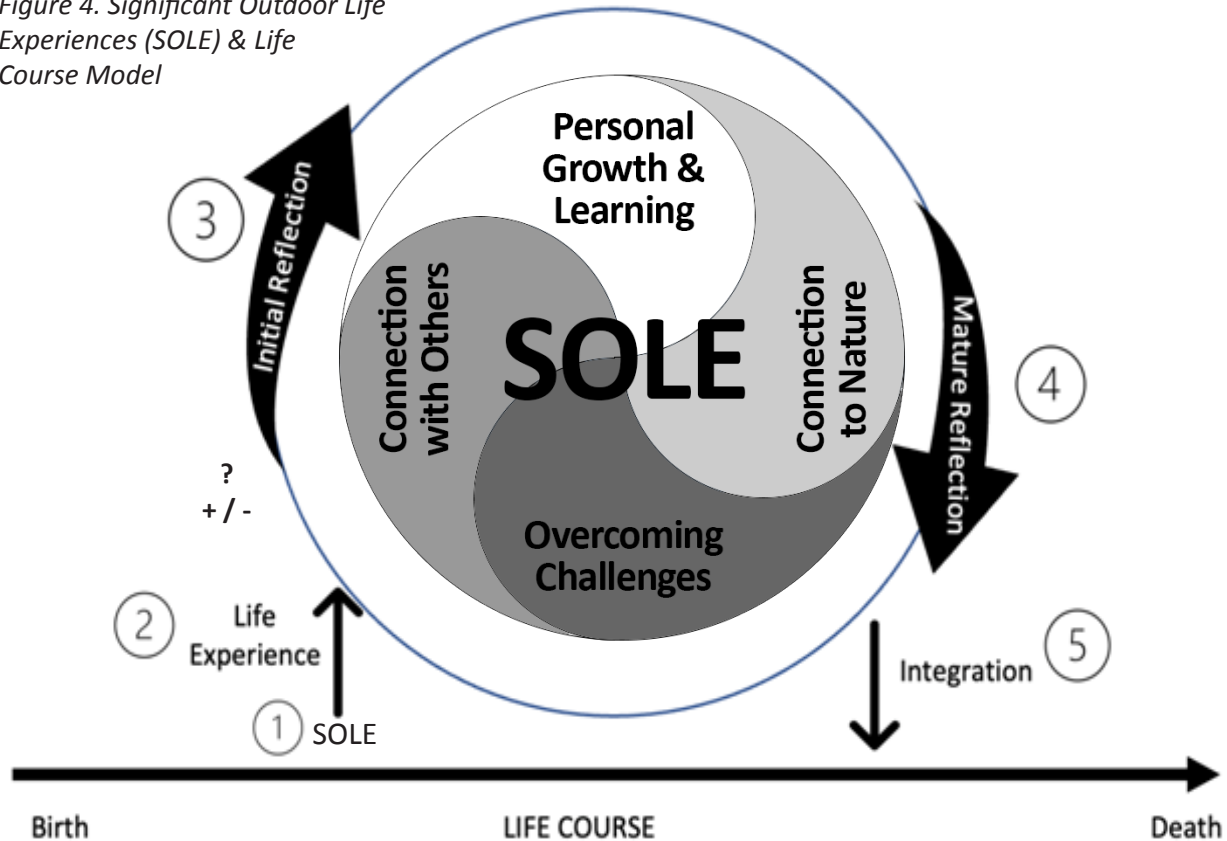


Figure 4 illustrates SOLE theory, viewed through the lens of LC, as it relates to five step experiential cycle with double reflection. These five steps are:

1. **SOLE.** At some point during participant's lifespans, life experiences occur outdoors and are initially perceived as significant.
2. **Life Experience.** At the time of the event's conclusion, it is regarded as a life experience that was either positive or negative.
3. **Initial Reflection.** The participants then begin a reflective process by considering the qualities of this experience. For some, this can occur immediately after the experience and for others, it can take time for the life experience to gain significance.
4. **Mature Reflection.** As participants mature and repeatedly reflect on the experiences, the quality of these either gain or lose significance. Reintroducing this experience to their lives, for better or worse, can occur early on or years later. OL uses facilitated reflection to accelerate and cement these

realizations of significance (Priest & Gass, 2018).

5. **Integration.** The experience carries significant meaning and after much reflection, it is integrated into some area of one's life course to effect positive or negative influence in the future.

SOLEs and Shaping LC

SOLEs play a critical role in OL experiences. These experiences can shape an individual's perspectives, motivations and beliefs about themselves and the world around them (Bandura, 1997). For example, the positive SOLE of overcoming a personal challenge or fear can increase individuals' confidences and self-esteems, thus leading them to seek out more challenging and rewarding OL experiences (Bandura, 1997). On the other hand, the negative SOLE of a traumatic event can impact those individuals' senses of safety and comfort in new environments and may discourage them from seeking out OL experiences (Bandura, 1997).

Individuals' values and beliefs can be influenced by SLEs, thus shaping their preferences and motivations for OL experiences. For example, if they value environmental sustainability, they may be more likely to seek OL experiences focusing on environmental education and conservation (Tanner, 1980). On the other hand, group-based experiences, such as a team-building retreat, can foster a sense of belonging and camaraderie that lasts long after the experience is over. These experiences can shape their LC and have lasting impacts on their personal and professional development.

The river represents a journey through life, and the canoe represents the individual. In this journey, the individual sets out on a canoe trip, encountering various obstacles and challenges along the way, such as rapids, rocks, and currents. However, they also encounter moments of beauty and serenity, such as breathtaking scenery, calm waters, and wildlife sightings. In the same way, the a life experience in nature can be seen as a significant journey, with moments of difficulty and challenge, as well as moments of joy and awe. The individual must navigate their way through these experiences, making decisions and adjustments along the way.

This canoe trip metaphor can be used to explain SLEs in nature. The metaphor helps to illustrate the transformative power of nature and the impact that spending time in nature can have on individuals. Just as the journey down the river can be a test of skill and endurance, so too can a nature-based SLE challenge and strengthen individuals. Through this journey, they can gain a greater appreciation for the beauty and power of nature and a deeper understanding of themselves. This understanding can enact significant change later in their life courses.

Short-term Benefits

Incorporating OL experiences into LC development can bring several short-term benefits for individuals of all ages. Some key benefits include:

- **Personal Growth and Self-Discovery.** OL experiences provide opportunities for individuals to challenge themselves, develop new skills, and gain a deeper understanding of their values and goals. These experiences can also foster a sense of independence and self-confidence, leading to greater personal growth and self-discovery (Hattie et al., 1997).
- **Physical and Emotional Well-being.** Engaging in outdoor activities can improve physical health and emotional well-being. Spending time in nature can reduce stress, improve mood, and increase physical fitness, leading to a better overall quality of life (Coventry et al., 2021; Holland et al., 2018).
- **Social Connections and Team Building.** OL experiences can provide opportunities for individuals to connect with others, build relationships, and work together towards a common goal. These experiences can foster a sense of community and belonging and help to develop strong social connections (Priest & Gass, 2018).
- **Environmental Awareness and Conservation.** OL experiences can raise awareness about the natural environment and promote conservation efforts. Participants can learn about the importance of preserving natural habitats and ecosystems and gain a deeper appreciation for the environment (Chawla, 2015).
- **Skill Development.** OL experiences can help individuals develop a wide range of skills, including leadership, problem-solving, teamwork, and communication. These skills can be applied to both personal and professional settings, providing a competitive advantage in the workplace (Priest & Gass, 2018).

Long-term Benefits

OL can have numerous long-term benefits for individuals over their course of life. Some of these include:

- **Improved Physical Health.** OL can involve physical activities such as hiking, camping, and rafting, which can improve individuals' physical health and reduce the risk of chronic diseases (Coventry et al., 2021; Holland et al., 2018).
- **Increased Mental Well-Being.** OL can provide individuals with opportunities to connect with nature, experience personal growth, and develop social skills, which can lead to increased mental well-being and reduced stress levels (Coventry et al., 2021; Holland et al., 2018).
- **Enhanced Cognitive Development.** OL can provide opportunities for individuals to learn and problem-solve in a real-world setting, which can improve critical thinking and problem-solving skills (Brussoni et al., 2012).
- **Improved Social Skills.** OL can provide individuals with opportunities to interact with others in a cooperative and supportive environment, which can improve communication and teamwork skills. (Priest, 1986)
- **Greater Environmental Awareness.** OL can increase individuals' awareness of the natural world and their connection to the environment, which can foster greater environmental stewardship and sustainability (Chawla, 2015; Tanner, 1980).
- **Development of Personal Identity.** OL can provide individuals with opportunities to reflect on their personal values, beliefs, and goals, which can lead to greater self-awareness and personal growth (Hattie et al., 1997).
- **Career Opportunities.** OL can provide individuals with valuable skills and experiences that can be applied in their careers, such as leadership, teamwork, and risk-taking (Meilleur et al., 2020).

By identifying the long-term benefits of OL over the course of life, educators and policymakers can better understand the importance of providing individuals with opportunities for OL and the positive impact that these experiences can have on their health, well-being, and overall life outcomes.

Application to Current Practice

Although SOLE and LC are essentially retrospective tools for understanding the impact of notable life experiences, they still hold merit in current OL experiences. As an outdoor leader, one should be aware of what an experience can mean to different individuals. For some, a simple outdoor activity may be something they like or something they dislike for others. Understanding the different attitudes, values, reactions, and needs of individuals is necessary and can be the distinction between a positive and negative SOLE, which could similarly affect their overall course of life.

Most importantly, understand that SOLEs are not one dimensional. Just because a SOLE is significant, does not mean it will always be positive and carry positive influence, despite the focus of this chapter. An obvious example, is the outdoor leader who had formative experiences held outdoors as a child. However, SOLEs can also carry forth trauma with significance, thus negatively impacting well-being and future association with the outdoors for participants. As an outdoor leader, always be aware of the risk associated with OL and the need for good judgement and risk-mitigating strategies. Without these practices, an outdoor experience can become a negative one. Avalanche fatalities are another obvious example.

As an outdoor leader, understand outdoor adventure experiences and how these can inspire transformative power. Research has shown that outdoor adventure experiences can lead to significant changes in individuals' perspectives, values, and beliefs, as well as improvements in their physical and mental health (Coventry et al., 2021; Gass et al., 2020; Priest & Gass, 2018; Wells & Lekies, 2006). These experiences can also promote the development of important skills such as leadership, problem-solving, and communication (Gass et al., 2020; Priest & Gass, 2018).

Understanding the significance of these experiences can help current outdoor leaders design and facilitate programs that are more intentional

and impactful. They can use their understanding of SLE to create activities that are tailored to specific goals or outcomes, such as developing self-awareness or building resilience. They can also better communicate the benefits of outdoor adventure to others, including potential customers, stakeholders, and policymakers. This can help raise awareness, generate support, and reduce resistance for outdoor adventure programs. By incorporating this knowledge into their practice, outdoor leaders can create more meaningful and impactful experiences for their clients and contribute to the continued growth and development of the profession.

Concluding Remarks

As a tree starts from a small seed and grows through various stages, facing challenges such as weather conditions, pests, and diseases, individuals also undergo different stages of growth and encounter challenges in their life journeys. Similarly, just as a tree's growth is shaped by its surroundings, such as the availability of water, sunlight, and nutrients, individuals are also shaped by their surrounding environment, culture, and relationships. The tree's growth rings can also represent the accumulation of significant experiences and the passage of time in an individual's life. Ultimately, both the tree and the individual can reach their full potential and flourish if they receive the necessary care and support.

SLEs from outdoor adventure and the LC perspective can be seen as opportunities for growth and self-discovery. Through experiences in nature, an individual can challenge themselves, learn new skills and develop a deeper appreciation for the natural world (Priest & Gass, 2018). These experiences can also provide a sense of accomplishment and a renewed sense of purpose, helping individuals to feel more confident and capable in their personal and professional lives. From a LC perspective, these SOLEs can shape the trajectory of individuals' lives, helping to guide their decisions and shape their future experiences. By navigating the challenge and opportunities that come with outdoor adventure, individuals can gain a deeper spiritual understanding of

themselves and their place in the world. Overall, SOLE from outdoor adventure can be seen as a valuable aspect of personal growth and development, providing individuals with the tools and perspectives they need to successfully navigate and influence their journey of life.

Saying, "this has been the best experience of my life," immediately following a notable outdoor activity is an appreciation of the experience itself. However, if the same sentiment is expressed 20 years later, it reflects a deeper appreciation of the experience and its lasting impact on the individual's life. It highlights the way in which the experience has continued to shape and influence the individual's perspective, values, and priorities even decades after it has taken place. Enjoy your expedition today, because it may define tomorrow.

References

- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman.
- Bento, G., & Dias, G. (2017). The importance of outdoor play for young children's healthy development: *Porto Biomedical Journal*, 2(5), 157–160.
- Brussoni, M., Olsen, L. L., Pike, I., & Sleet, D. A. (2012). Risky Play and Children's Safety: Balancing Priorities for Optimal Child Development. *International Journal of Environmental Research and Public Health*, 9(9), 3134–3148.
- Chawla, L. (1998). Research Methods to Investigate Significant Life Experiences: Review and recommendations. *Environmental Education Research*, 4(4), 383–397.
- Chawla, L. (2015). Benefits of Nature Contact for Children. *Journal of Planning Literature*, 30(4), 433–452.
- Coventry, P. A., Brown, Jennifer V. E., Pervin, J., Brabyn, S., Pateman, R., Breedvelt, J., Gilbody, S., Stancliffe, R., McEachan, R., & White, Piran C. L. (2021). Nature-based outdoor activities for

mental and physical health: Systematic review and meta-analysis. *SSM - Population Health*, 16, 100934.

Daniel, B. (2003). The Life Significance of A Spiritually Orieinted Outward Bound-Type Wilderness Expedition. [Doctoral dissertation, Antioch New England Graduate School].

Daniel, B., Bobilya, A. J., & Faircloth, W. B. (2022). The Life Significance of an Outward Bound Expedition: A Retrospective Study Up to 50 Years Later. *Journal of Outdoor Recreation, Education, and Leadership*, 14(4), 1–18.

Gass, M. A., Gillis, L., & Russell, K. C. (2020). *Adventure therapy: Theory, research, and practice*. Routledge.

Hattie, J., Marsh, H. W., Neill, J. T., & Richards, G. E. (1997). Adventure Education and Outward Bound: Out-of-Class Experiences That Make a Lasting Difference. *Review of Educational Research*, 67(1), 43–87.

Holland, W. H., Powell, R. B., Thomsen, J. M., & Monz, C. A. (2018). A Systematic Review of the Psychological, Social, and Educational Outcomes Associated With Participation in Wildland Recreational Activities. *Journal of Outdoor Recreation, Education, and Leadership*, 10(3), 197–225.

Priest, S. (1986). Redefining Outdoor Education: A Matter of Many Relationships. *Journal of Environmental Education*, 17(3), 13–15.

Priest, S., & Gass, M. A. (2018). *Effective leadership in adventure programming*, 3rd ed. Human Kinetics.

Ritchie, S. D., Wabano, M. J., Corbiere, R. G., Restoule, B. M., Russell, K. C., & Young, N. L. (2015). Connecting to the Good Life through outdoor adventure leadership experiences designed for Indigenous youth. *Journal of Adventure Education and Outdoor Learning*, 15(4), 350–370.

Takano, T. (2010). A 20-year retrospective study of the impact of expeditions on Japanese partici-

pants. *Journal of Adventure Education & Outdoor Learning*, 10(2), 77–94.

Tanner, T. (1980). Significant Life Experiences: A New Research Area in Environmental Education. *Journal of Environmental Education*, 11(4), 20–24.

Tremblay, M., Gray, C., Babcock, S., Barnes, J., Bradstreet, C., Carr, D., Chabot, G., Choquette, L., Chorney, D., Collyer, C., Herrington, S., Janson, K., Janssen, I., Larouche, R., Pickett, W., Power, M., Sandseter, E., Simon, B., & Brussoni, M. (2015). Position Statement on Active Outdoor Play. *International Journal of Environmental Research and Public Health*, 12(6), 6475–6505.

Wells, N. M. & Lekies, K. S. (2006). Nature and the Life Course: Pathways from Childhood Nature Experiences to Adult Environmentalism. *Children, Youth and Environments*, 16(1), 1–24.

Wethington, E. (2005). An Overview of the Life Course Perspective: Implications for Health and Nutrition. *Journal of Nutrition Education and Behavior*, 37(3), 115–120.

Wigglesworth, J., & Heintzman, P. (2017). Perceived Life Significance of a University Winter Outdoor Education Course: A Qualitative Study. *Research in Outdoor Education*, 15(1), 72–92.