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# **Basic Psychological Need Fulfillment Through Adventure Education**

By

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## **Abstract**

This literature review explores adventure education programming through the lens of basic human need fulfillment. The psychological needs theory of Self-Determination Theory (SDT) identifies fulfillment of the need for competence, relatedness, and autonomy as necessary conditions for well-being and mental health in one's life. Literature involving adventure education is assessed for evidence of SDT need fulfillment in the course setting. Findings indicate that there is potential for SDT need fulfillment on adventure education courses. Recommendations for increasing SDT need fulfillment are outlined for each need, along with recommendations for instructors, course structures and transference. This literature review has implications that are relevant to course instructors, both adventure and experiential education organizations, and the broader role of educational institutions as a whole.

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## **Chapter 1**

### **INTRODUCTION**

This literature review explores adventure education programs through the lens of basic human need fulfillment. I am interested in both psychological well-being and the adventure education experience for student participants. Personal experience as both a student and teacher in adventure education programs have garnered an interest in the psychological health benefits that may occur for student participants.

Throughout my participation in adventure education courses, the focus and content of the course was about science and skills-based learning. However awareness of a greater psychological experience of heightened contentment and well-being taking place at the individual level became evident. While working as a field science instructor, a high school student confided in me that the adventure education course was the first time in his life that he felt like a whole person. It would be hard to argue against the idea that all humans want to feel fulfilled and experience well-being in their lives. Understanding the processes within adventure education courses that can result in feelings of well-being is of great interest. This review of literature emerges from personal experiences and explores the current state of academic research on adventure education and fulfillment of basic psychological needs for participating student.

## **What are Basic Human Psychological Needs?**

The work of Maslow (1954), Ryff and Keyes (1995), Ryan and Deci (2000), Deci and Ryan (2000) and Tay and Diener (2011) proposed that there are universal human needs that are wired into our human condition. A predominant theory that has emerged and generated extensive academic research over the past 30 years is Self-Determination Theory (SDT) (Pittman & Zeigler, 2007; Seligman & Csikszentmihalyi, 2000). Deci and Ryan (2000) and Ryan and Deci (2000) developed this theory and proposed three basic psychological needs that facilitate optimal growth and social development, thus leading to personal well-being. SDT identifies these needs as autonomy, competence and relatedness (Ryan & Deci, 2000; Deci & Ryan 2000).

In understanding these further, Ryan, Huta and Deci (2008) describe the need for autonomy as a sense of choice and volition in ones behavior. They state that the need for competence refers to efficacy for both internal and external experiences. Finally, the need for relatedness can be understood as referring to feeling connected and cared for by others. These basic needs of SDT have been shown to have broad implications for the well-being of individuals.

According to Deci and Ryan (2000), a “basic need” is a condition that leads to psychological health or well-being when satisfied and ill-being when thwarted. They consider these necessary components for healthy development. Diverging from Maslow’s hierarchy of needs, SDT assigns an independent weight of importance to each need in its theory. Conditions that neglect one or two of the needs are not enough for psychological health; all three needs must be met to lead



to well-being or eudaimonia (Ryan & Deci, 2000). Ryan and Deci (2000) state that SDT “highlights the importance of humans’ evolved inner resources for personality development and behavior self-regulation” (p. 68).

### **What is Adventure Education?**

Experiential education is a broad term encompassing adventure education that may best be described as a philosophy of education rather than a specific style of education. It can be understood as informing many methodologies through purposeful engagement by educators, using direct engagement and reflective practices to increase knowledge, develop skills and clarify values (Association for Experiential Education [AEE], 2014). Dating back to Plato’s interest in dialogue, and continuing education, the philosophy of experiential education has prevailed into modern western culture (Smith, 1997). A forefather of experiential education, Dewey (1938) expressed his belief that subject matter should be accompanied by experience-based learning, it should not be learned in isolation. Bruenig (2005) states that adventure education, or wilderness based programming is one type of experiential education practice that expands the classroom walls to include unique and relevant educational settings for students.

According to Hattie, Marsh, Neill and Richards (1997), Reynolds, Lodato, Gordon, Blair-Smith, Welch and Gerzon (2007) and Walsh and Golins (1976), adventure education is traditionally typified by small groups of 7-15 students in a wilderness or backcountry setting. The small group size is large enough for diversity and allows minor conflicts to occur, yet is too small to allow cliques to form. In adventure education, students encounter mental and physical challenges including

problem solving, stress and anxiety. Trips are led by trained leaders, typically spanning 2-4 weeks and sometimes lasting up to 15-weeks. The experience places students in a unique physical and social environment that promotes the development of character, mastery and competency.

Within the unique physical and social environment that adventure education constructs, many opportunities for psychological human need fulfillment may be possible. A deeper exploration of SDT and the process of adventure education outcomes may help identify the full benefits from adventure education courses. Tay and Diener (2011) propose the ideal conditions for need fulfillment to occur: “ It is likely that a mix of daily activities that includes mastery, social relationships, and the meeting of physical needs is required for optimal subjective well-being” (p. 363).

### **Statement of Problem and Purpose**

Adventure education programs are considered an alternative to classroom education experiences for students. The psychological benefits of adventure education, in particular fulfillment of basic psychological needs, have not been thoroughly studied. This literature review will explore the connection between adventure education and its potential role in fulfilling autonomy, competency and relatedness needs in students. The overlap of SDT’s identified needs with techniques employed through adventure education can be understood better though further exploring both STD and adventure education. A more complete understanding has implications for both teachers and students who share many opportunities for development and growth together.

## Questions

The questions guiding this literature review are:

1. What does the literature say about Self Determination Theory and associated need fulfillment?
2. What does the literature say about psychological need fulfillment outcomes of adventure education?
3. If basic psychological needs can be fulfilled through adventure education, what are the implications for students of fulfilling these basic psychological needs through adventure education programming?

## Methods

The literature review process involved searches for pertinent articles in education journal databases, journals, reference lists, and key word identifiers. Databases such as Educational Resources Information Center (ERIC), Psych Info, and Google Scholar were used. Journals were used as resources to find additional articles, including but not limited to: *Journal of Outdoor Recreation*, *Journal of Adventure Education & Outdoor Learning*, *Review of Educational Research*, and *Journal of Experiential Education*, *American Psychologist*, *Journal of Educational Psychology*, *Canadian Psychology*, *Theory and Research in Education*.

Citations within pertinent articles were used for both forward and backward searches. Keywords used in searches include: experiential education, adventure education, basic human needs, fundamental human needs, universal needs, growth in experiential education, intrinsic motivation, education needs

leisure, leisure needs, basic needs in leisure, SDT, SDT in education, well-being, needs and well-being.

### **Overview of Literature Review**

The following chapters will discuss the current state of knowledge on basic human needs within the context of Deci and Ryan's Self-Determination Theory. Each of SDT's identified basic needs of; competency, relatedness and autonomy are investigated in detail. Current adventure education literature is explored, focusing on the process and possible fulfillment of each SDT need in students through the adventure education experiences. The characteristics of adventure education that promote fulfillment are identified; structures and key concepts are investigated. Finally, conclusions, recommendations, implications, limitations, and future directions for instructors and adventure education organizations are provided.

## **Chapter 2**

### **LITERATURE REVIEW**

#### **Self-Determination Theory Literature**

This chapter establishes definitions within Self-Determination Theory (SDT) and builds a contextual understanding in which it can be thoroughly understood. Establishing a working definition of SDT and its associated needs will create the foundation for understanding the outcomes of adventure education programming. Later in this chapter, adventure education literature will provide the basis for assessing need fulfillment during course programming. To begin, it is pertinent to understand SDT as a strand within the larger positive psychology movement.

#### **Background of Positive Psychology**

According to Seligman and Csikszentmihalyi (2000), positive psychology explores the optimal conditions of development and functioning, focusing on building positive qualities in individuals. In addition to SDT, positive psychology involves subjective well-being and flow theory, which seek to understand conditions of optimal experience and development. Focused on the individual, positive psychology highlights positive individual and social traits and is specifically interested in the development or growth of such qualities. Seligman and Csikszentmihalyi (2000) state that the aim of positive psychology is to shift the focus from repairing the worst things in life toward a focus on the positive aspects of life. While this review of literature is focused on SDT, it is important to consider

the larger context in which this theory is nested. The field of positive psychology has been empirically supported in many areas, such as demonstrated within the field of SDT (Mackenzie, Son & Hollenhorst, 2014).

### **What is Self-Determination Theory?**

Building upon existing research, Deci (1975) developed a theory of intrinsic motivation that created the foundation of SDT. He concluded that intrinsic motivation was rooted in the need to feel competent and self-determined. SDT, involves itself with the conditions that foster positive evolution of inner resources and promote human growth tendencies. As stated above, the theory posits that humans need to satisfy or fulfill three basic human needs; competency, autonomy and relatedness as necessary conditions for psychological health and well-being (Ryan & Deci 2000). Research supports the universality of these basic psychological needs across cultures and in all aspects of a person's life (Deci & Ryan 1985; Ryan & Deci 2000; Tay & Diener 2011).

SDT is supported by a growing body of research, in proposing that fulfillment of all three needs lead to well-being and psychological health of individuals (Tian, Chen & Huebner, 2013; Deci & Ryan, 2000; Seligman & Csikszentmihalyi, 2000). When needs are found to be unfulfilled, they have been shown to lead to ill-being or lack of contentment in ones life and are associated with negative feelings. Each need has been found to contribute separately and provides distinct benefits that sustain well-being (Ryan & Deci 2000; Tay & Diener 2011; Tian et al., 2013). Seligman and Csikszentmihalyi (2000) explain that SDT as proposed by Ryan and Deci leads to personal well-being and optimal development when realized. This can lead

individuals to fulfill their potential and seek increasingly greater challenges in life. Research has shown the importance of addressing all the needs together; findings indicate that thwarting even one need has the ability to lead to detriment or ill-being in one's life (Ryan & Deci, 2000; Eccles & Roeser, 2011).

### **What is Well-Being?**

A further look at well-being can help frame an understanding of what the positive outcomes of need fulfillment are. According to Ryan et al. (2008) there are two ways to define well-being, as hedonic or eudaimonic. Hedonic well-being, known also as subjective well-being is defined by conditions that are measurable and quantitative such as happiness or the presence or absence of pain (Kahneman, Diener & Schwarz, 1999). It contains clear and measurable targets and is thus advantageous for research on the science of well-being (Ryan et al., 2008).

Eudaimonic well-being, on the other hand attempts to understand qualitative conditions of well-being, and focuses on the process of living well and the consequential outcomes associated with living a good life (Ryff & Singer, 2008). Ryan et al. (2008) stated that eudaimonic well-being is represented by "vitality, intimacy, health, and sense of meaning among others" (p.140). The eudaimonic understanding of well-being is rooted in intrinsic pursuits and thus closely aligned with each of SDT's needs, yet can be hard to measure accurately. Although these two types of well-being are different in measurement, Ryan et al. (2008) proposed that hedonic, or subjective well-being can result from eudaimonic pursuit. They propose that the process of living well can lead people toward a more enduring sense of positive feelings.

At the heart of SDT, as proposed by Ryan and Deci (2000), are the three basic human psychological needs necessary for individual well-being through fulfillment in one's life. To better understand this theory, the following sections will break down and establish an understanding of each individual need. Understanding each need by definition and through supporting ideas will provide a framework from which to examine adventure education programs later in this literature review.

### **The Need of Competency**

Competency is defined as feeling effective in the ability to encounter a challenge using one's capacities (Deci & Ryan, 1985; Ryan & Deci, 2000). Larson (2000) found the process of initiative plays a role in attaining competency, through sustained efforts towards a goal over time. People want to engage in an activity if it will lead to efficacy or the ability to achieve desired outcomes (Deci & Ryan, 2000).

Leveresen, Danielsen, Birkeland and Samdal (2012) found that satisfaction of the competence need leads to the individual feeling that they can engage and accomplish goals effectively. Ryan and Deci (2000) determined that competency is a critical ingredient in the process of intrinsic motivation. Studies that explored the fulfillment of the competency need confirmed that it does contribute feelings of well-being (Tay & Diener, 2011; Leon & Nunez, 2013).

Niemiec and Ryan (2009) and Ryan and Deci (2000) found two important ways in which competency can be supported by adults and educators. When presenting activities in an educational setting, these activities should be matched to create optimal challenges for students. The opportunity to test and expand student's capabilities through an appropriate challenge will foster competency



growth. In addition to optimal challenges, the provisions of timely and appropriate feedback are important. Feedback is optimized when it is focused on constructive ways to accomplish the task at hand and avoids evaluative information. Because feedback is necessary to satisfy competence, it is closely linked to the second need, relatedness.

### **The Need of Relatedness**

Ryan et al. (2008), Leversen et al. (2012) and Tian et al. (2013) define relatedness as the need to involve authentic social connections in the world in general and to feel a sense of belonging. At the heart of relatedness is the feeling of being cared for by others and also the act of caring for other individuals. Leon and Nunez (2013) and Tay and Diener (2011) found that peer relationships, social support, and feeling respected lead to well-being in individuals and are strongly related to positive feelings.

Niemiec and Ryan (2009) explored relatedness in the classroom and found that it was deeply associated with students who felt that a teacher liked, respected and valued him or her. Relatedness is enhanced when a teacher conveys warmth, caring and respect toward students. Students who felt this sense of relatedness were more likely to internalize learning tasks, while students who felt disconnected or rejected by the teacher were more likely to reject internalization and instead respond to external controls or stimuli (Niemiec & Ryan, 2009). Larson (2000) discussed the potential influence that adult role modeling can provide, pulling adolescents toward positive initiative and adult goal setting. In addition, he discussed the importance of the social group in providing adolescents with peer and

adult relationships that can build valuable social capital for students. While the relatedness need is cultivated through personal relationships, there is also important value for individuals to maintain a sense of freedom and autonomy within their actions.

### **The Need of Autonomy**

Ryan et al. (2008), Tian et al. (2013) and Deci and Ryan (2000) define autonomy in SDT as a sense of choice and volition in one's behavior. Ryan et al. (2008) expands upon this, explaining autonomy as self-regulation, opposite of regulation from external forces. Autonomy is rooted in intrinsic motivation and does not necessarily reject constraints or demands that are set in place; rather it requires that a person feel a willingness to act and freedom within the activity. Eudaimonic pursuits are closely aligned with autonomy; resulting in well-being which is reflected in the human pursuit of growth through following one's true self (Ryan et al., 2008).

Ryan and Deci (2000) found that autonomous pursuits facilitate internalization and are critical for internal regulations to take hold. Niemiec and Ryan (2009) found that teachers who support student autonomy reported an increase in intrinsic motivation, self-esteem and competence in students over time. Three primary observations about autonomy in the education setting were found. First, autonomy is critical for intrinsic motivation, whereas controlling environments diminish students' intrinsic motivation. Second, students learn better and are more creative with autonomy-supportive teachers. Finally, the way

in which a teacher introduces an activity has the potential to promote or thwart both autonomy and competency during the activity.

Niemiec and Ryan (2008) found that autonomy could be supported by “providing choice and meaningful rationales for learning activities, acknowledging students’ feelings about those topics, and minimizing pressure and control” (p. 141). Autonomy is maximized when individuals feel as though they have a voice and choice in activities. Deci and Ryan (2008) found that autonomous motivation is more common among students when the other needs for relatedness and competency are satisfied. It was found that autonomy-related support has a positive effect on students’ well-being, performance and motivation. Autonomy is a necessary component of well-being in the SDT model, a look at current adventure education literature shows many additional and well documented positive outcomes for student participants.

## **Adventure Education Literature**

### **The Known Benefits of Adventure Education**

The benefits to individuals from adventure education include the cultivation of “leadership, self-concept, academic, personality, interpersonal and adventuresomeness” (Hattie et al., 1997, p. 47). Specifically, many researchers that have studied adventure education courses note the positive outcomes of self-awareness and self-confidence (Goldenberg, McAvoy & Klenosky 2005; Goldenberg & Pronsolino, 2008; Martin & Leberman, 2005; Sibthorp, 2003). Goldenberg and

Pronsolino (2008) expand upon this by constructing a hierarchy values map of student values and outcomes on adventure education courses for both National Outdoor Leadership School (NOLS) and Outward Bound courses. In both courses, they found that self-confidence was highly ranked and directly linked to a sense of accomplishment. Acknowledging these established outcomes supports the notion that adventure education has the ability to foster positive psychological outcomes for students. In the following section this literature review will explore the history of adventure education and pertinent outcomes through the lens of SDT needs. Evidence of fulfillment from research on adventure education courses will be used to better understand the connection between these two constructs.

### **Background of Adventure Education**

While this review is focused on SDT need fulfillment in adventure education programming, there are many related education programs that may also employ similar processes. According to the Association for Experiential Education (AEE), other educational disciplines that utilize principles similar to adventure education include educational practices of non-formal, place-based, project-based, hands-on, global, environmental, student-centered, and informal education (AEE, 2014).

Focusing on adventure education programming, most of the research in the United States has looked primarily at the two oldest adventure education organizations, Outward Bound and NOLS. These organizations offer adventure education courses for high school and college-age students ranging from ten days in length, to month-long, semester-long, and yearlong courses (National Outdoor Leadership School [NOLS], 2014).

Modern adventure education can be dated back to Kurt Hahn who founded Outward Bound in England in 1941 (Raynolds et al., 1997). Outward Bound was brought to the United States in 1962, followed shortly after by the founding of NOLS in 1965, Project Adventure in 1971, and the Wilderness Education Association in 1977 (Attarian, 2001). By the mid 1970's there were over 190 adventure programs operating in the United States with much of the growth occurring at college and university outdoor programs (Hale, 1975). Records at NOLS reflect this growth in adventure education, expanding from 100 graduating students in its first year in 1965, to over 120,000 overall graduates by 2014 (NOLS, 2014).

Outward Bound founder Kurt Hahn was inspired to create a program that could build skills needed to address the loss of life he witnessed while working with a shipping line in England. The first Outward Bound course focused on hands-on learning that fostered the development of independence, initiative, self-reliance, resourcefulness and physical conditioning. The successes realized on this course led to the growth of Outward Bound programs around the world (Raynolds et al., 2007). Former Outward Bound instructor and mountaineer Paul Petzoldt founded NOLS in 1965. His goal was to train leaders who would care for and protect the wilderness (NOLS, 2014). NOLS leadership and programmatic courses are guided by core values of wilderness, education, leadership, safety, community, and excellence.

While adventure education programming was steadily growing, Deci and Ryan's (2000) Self-Determination Theory was also being empirically studied and validated in academic research. While psychological research indicates that fulfillment of SDT needs has the ability to lead to well-being in individuals lives

(Ryan & Deci, 2000), still today, little research directly addresses SDT needs in adventure education programming. Nonetheless, considerable research pertaining to adventure education is available, and throughout the remainder of this literature review adventure education will be explored for evidence of fulfillment of SDT needs.

### **Competency in Adventure Education**

Competence in adventure education courses can be developed through designed course challenges and the use of learned skills to the point of mastery. In a study on Outward Bound programming by Walsh and Golins (1976), competence was found to be an important part of student growth during the courses. The concept of “optimal challenge” proposed by Niemiec and Ryan (2009) and Ryan and Deci (2000) is supported in adventure education research as an important vehicle for building competence in students (Walsh & Golins, 1976). The physical environment on the adventure education course is also found to be conducive toward encouraging mastery, because students must employ their own mental, emotional and physical resources (Walsh & Golins 1976).

D’Amato and Krasny (2011) found that full engagement and focus resulted from intensity and challenge on the adventure education course. Their study also found that extended length courses of 30-90 days allowed enough time for the students to confront challenging group members that could have otherwise been ignored on shorter courses. The opportunity for practice from both physical and social challenges led to increased competence in using appropriate skills on the course. This built a sense of achievement and self-confidence in students. While

there are opportunities for growth from successfully overcoming a challenge, Witman (1995) found that learning from failure was also reported by students as valuable program component and outcome.

**Sustained effort over time.** Larson (2000) proposed that sustained effort toward a goal over time is necessary to create competency. In interviews with students after an Outward Bound course, D'Amato and Krasny (2011) reported that a student referenced this process of building competency through perseverance, and not being able to give up. One student addressed the need for sustained effort over time on a course, observing that "you have to make it work...you couldn't stop or else you'd just make things a lot worse for yourself" (D'Amato and Krasny, 2001, p. 247). Another student remarked that experiencing a breakdown or hitting a low was the most important event of the course, as it allowed her to pick herself back up. The challenges and intensity faced by these students created a physical and psychological environment that encouraged competencies and demonstrated to the students their own strengths (D'Amato & Krasny, 2011).

**Overlearning.** Embedded into the core values of NOLS programs is the pursuit of excellence, accomplished when students receive and respond to feedback, learn from failure and celebrate successes (NOLS, 2014). Sibthorp (2003) found that students on adventure education courses "learned by doing, through the experiential method" (p. 151), because they were forced to learn by the authenticity of the task presented to them. Overlearning on courses is another way of developing competency. The concept of overlearning involves mastery of a skill through the process of repetition beyond initial competence (Burke & Hutchins,

2007; Driskell, Willis, & Copper, 1992). Driskell et al. (1992) showed that overlearning confirms the correctness of the task that is being learned, and has a positive effect on retention of knowledge. Jostad, Paisley and Gookin (2012) found that the practice and application of adventure education course skills provides overlearning opportunities for students.

### **Relatedness in Adventure Education**

**The Role of Individuals.** The role of the individual in a group setting is an important part of the adventure education experience. Individual development is essential to building skills conducive toward positive group engagement. On a NOLS semester course, Jostad et al. (2012) showed how one student developed socially valuable skills as the student “learned how to work with people in difficult situations” (p. 22). This student additionally highlighted the importance of the group, stating “the group goal is often more important than my personal goals” (p. 22). Sibthorp and Arthur-Banning (2004) found that participation in the social group context of adventure education can empower individuals through an understanding that their participation brings a sense of importance. This empowerment is critical toward allowing individuals to feel that in certain situations, they can take action that leads to desired outcomes. Kimball and Bacon (1993) found that the social acceptance of individuals by the group provided a sense of value and support for the individual. This can lead to mutual dependence between members, creating a bond that promotes honest emotional expression, and creates a family-like experience.



**The Role of the Group.** Sibthorp, Paisley and Gookin, (2007) found that authenticity is critical for learning in adventure education settings. Based on student interviews, the researchers found that the most important learning came from social interactions and the associated social efficacy that students developed throughout the course. These findings are aligned with NOLS core values of commitment to community through teamwork, awareness of group needs, practical experiences and the commitment to provide students timely feedback (NOLS, 2014).

D'amato and Krasny (2011) found the role of a supportive, tight-knit community was mentioned by all interviewed participants on Outward Bound and NOLS courses that they studied. Students found the community to be critical as they undertook challenges, set group norms and learned on the course. Sutherland and Stroot (2010) found that the outcomes of community and participant growth were supported through the breakdown of personal and social barriers, cooperative teamwork, and communication as well as by embracing others' strengths and weaknesses. An important observation the researchers made involved the positive role of the teambuilding and feedback sessions facilitated by the adult leaders on the course.

**The Role of the Instructors.** The importance of the adult leaders is noted in many studies involving the social aspect of adventure education courses. In a study of a NOLS course by Sibthorp, Furman, Paisley, Gookin and Schumann (2011), students enumerated the instructors' roles in the learning process: "curriculum delivery, role models, agents of inspiration, having attributes or qualities that resonated with specific participants, and as being generally supportive" (p. 117).

They explained that agents of inspiration meant, “students simply wanted to be like their instructors based on a sense of awe” (p. 118).

The intimate relationship that develops between students and leaders due to the nature of adventure education courses is notable for its influence on student learning (Sibthorp et al., 2011). Garst, Scheider and Baker (2001) found that peer and adult trip leaders had the ability to influence participants’ behavior by recognizing and reinforcing positive qualities that were demonstrated by participants. Both Garst et al. (2001) and Sakofs and Schurman (1991) note the role of skilled and caring leaders in addition to other course components as essential toward facilitation of a positive experience that students can draw strength from, in order to experience a more positive side of themselves.

Paisley et al. (2008) found that adult coaching played an important role in learning on NOLS courses. This type of one-on-one instruction had a powerful affect on students. Martin and Leberman (2005) found evidence that students viewed instructors as “excellent and effective tutors” (p. 53) and group feedback sessions were helpful, as observed by a student, to “see myself from others’ perspectives...when we didn’t get what we wanted it was good because it made us all stronger” (p.53). Contrary to Martin and Leberman’s (2005) findings, Paisley et al. (2008) found that the feedback/debriefing/review process, although mentioned briefly by students, did not contribute significantly to student learning during the adventure education course in their study. Transference of learning, however, is closely tied to instructor behavior; Sibthorp et al. (2011) found that appropriate behavior modeling and role modeling increased the amount of transference for

students. Paisely et al. (2008) supports this idea, stating that role modeling behavior is commonly used in adventure education programs.

### **Autonomy in Adventure Education**

Research indicates that the need for and use of autonomy is widespread in adventure education programs. While researching a NOLS course, Paisley et al. (2008), found evidence that student-led autonomous behaviors were a critical part of the learning process. The structure of NOLS programming was found to prioritize and create opportunities that support the autonomous activities of students. Mechanisms for honing learned skills, and assessing choices and decisions were present. One student observed that he learned “through being placed in situations where the knowledge they were giving us was being tested through our actions” (Paisley et al., 2008, p. 219).

NOLS incorporates autonomy into their core values, by encouraging personal responsibility and evolution of judgment (NOLS, 2014). Sibthorp and Arthur-Banning (2004) provide support for the importance of participant involvement during adventure education courses. Their findings suggest autonomy can lead to perceptions of participant empowerment through involvement in decision-making and increased responsibility during the program. Dyson (1995) stated that participants found more meaning in challenges when they were able to take ownership of the activities and outcomes. Schoel, Prouty and Radcliffe (1998) noted the importance of participant choice in defining and setting realistic goals, resulting in an increased likelihood to experience successful outcomes.

Newby (1991), in a study on classroom motivation strategies, found that learning relevance had a significant positive correlation to on-task behavior. The study found that increasing relevance in learning was more effective at increasing motivation than use of rewards and punishment (Harper, 2007). Sibthorp and Arthur-Banning (2004) and Sibthorp et al. (2011) found that relevancy is important regarding autonomy, intrinsic motivation, learning, and transference, and is well documented in adventure education programs. Increasing perceptions of learning relevance increased the value of learning to students by establishing a clear link for how lessons can be applied outside the adventure education course. Sibthorp and Arthur-Banning (2004) state that perceptions of learning relevance were related to the development of students' "life-effectiveness" (p. 46), the belief that they can be effective at major life tasks.

### **Summary**

This literature review assesses adventure education programming through the lens of Ryan and Deci's Self-Determination Theory of basic human psychological needs. Based on the literature reviewed, there is abundant evidence that adventure education programming has the potential to fulfill or satisfy each of the SDT needs during the programmatic experience. Studies from adventure education courses suggest that some or all of the needs are addressed through the substance of the adventure education process. Conclusions can be drawn from this literature review that have important implications for student participants and professionals working in adventure education.

## Chapter 3

### CONCLUSIONS

This chapter will present a synthesis of findings from the literature that can be used by educational practitioners and those who interact closely with students and youth. There are a number of recommendations for increasing student's need fulfillment that will be summarized and presented for practical application. In addition the potential implications and importance of these findings will be discussed including the importance to society as a whole. Finally, the limitations and future research directions of this literature review are presented.

#### Recommendations

For each SDT need there are techniques that instructors can use to promote or increase opportunities for fulfillment during adventure education courses. There are also ways in which organizational values and structures can increase need fulfillment opportunities. Transference techniques can also help students maintain or carry over skills that may be conducive to fulfilling needs in post-course life. Instructors and persons responsible for program structures may find pertinent value in these recommendations.

**Competency.** There are a number of applicable recommendations that may help promote competency in the adventure education setting. As observed by D'Amato and Krasny (2011) extended course lengths of 30-90 days can provide additional opportunities for competency to develop. Niemiec and Ryan's (2009) findings are also pertinent, stating that competency can be met by providing

students with optimal challenges that are followed by appropriate and timely feedback that is constructive and non-evaluative. Instructors should focus specifically on understanding where individual students are situated on a spectrum of ability, in order to provide optimal challenges. They may also find value in practicing and developing the skill of providing feedback to students in order to optimize student growth and competency.

Additionally, the process of overlearning through repetition and practice may be valuable. Learning beyond initial competence has the ability to contribute toward competence fulfillment in students (Driskell et al., 1992). Opportunities for overlearning should be utilized whenever possible, especially relating to “life skills” that may be applicable to students home environment post-course.

**Relatedness.** As stated by Ryan et al. (2008), Leversen et al. (2012) Tian et al. (2013), relatedness is fostered by a sense of belonging, care, and authenticity in social situations. There are many opportunities for fulfillment of relatedness on adventure education courses. Instructors have the ability to set the social group values and norms in order to promote relatedness. Instructors hold increased influence around role modeling behaviors, and should pay attention to their actions and act with deliberate awareness when around students. The use of teambuilding activities coupled with feedback sessions has been shown to foster a sense of relatedness among the group and can be a positive tool for instructors (Larson, 2000; Sibthorp et al., 2011; Sutherland & Stroot, 2010; Gookin & Leach, 2009). Another important way to promote relatedness, supported by Niemiec and Ryan, (2009) is to convey warmth to the student and the feeling that the instructor

respects, likes, values and generally cares about the student. Engagement with students on an individual level at the outset of the course is one way to initiate a sense of relatedness from the start.

**Autonomy.** The need of autonomy can also be satisfied in the adventure education setting through a number of techniques. Niemiec and Ryan, (2009) found the importance in providing a sense of choice and meaningful rationales to students as a means of promoting autonomy. They also found that it was important to acknowledging students' feeling about topics and minimizing pressure and control. Instructors should involve students in decision-making whenever possible and allow students to set and define individual and group goals. The importance of activity presentation is noted by Paisley et al. (2008), instructors should use heightened awareness during these events. Finally, allowing students to use the knowledge that has been obtained through the course can support autonomy and competency needs and is supported in the literature (NOLS, 2014; Ryan et al., 2009; Paisley et al., 2008).

**Instructors.** The importance of instructors as mechanisms of social learning and transference is shown through this literature review and heavily supported by research (Sibthorp et al., 2011; Sibthorp, 2003). Sibthorp et al. (2011) showed that adventure education instructors are very important to course learning, insofar as they are viewed by students as role models, mentors, and inspirational and supportive adults. Due to this unique position of influence, adventure education instructors have the potential to foster or hinder the process of SDT need fulfillment for students. Providing instructor trainings specifically on SDT needs and the

psychological processes of SDT could be of benefit to student participants.

Instructors who fully understand what the needs of autonomy, relatedness and competency are and how to facilitate fulfillment, can better promote students' well-being. Passarelli, Hall, and Anderson (2010) also call for instructor self-awareness of their own strengths, feelings and behaviors as a process toward better serving positive individual and group growth outcomes. Trainings and improved instructor self-awareness could allow for increased opportunities for the needs to be taken into account throughout the course that ultimately lead to increased well-being for students.

If instructors are aware of SDT needs and potential opportunities for satisfaction of these needs, there will likely be increased use of techniques stated in this chapter that promote need fulfillment. When instructors are aware of the SDT needs they should be able to design activities that increase need fulfillment on adventure education courses. In addition to the important role of instructors, incorporation of the SDT needs at the organizational level can influence course values, designs and structures that foster increased need fulfillment.

**Course Structure.** While instructors are the primary adult contact for students on adventure education courses, programmatic structures and values are often established before the course begins. Incorporating the conditions that lead to fulfillment of SDT needs into the organization's values, mission and learning objectives is another way to increase the potential for SDT need fulfillment for students. NOLS (2014) supports this notion with core values that align strongly with SDT need fulfillment such as values of community, excellence and autonomy



that are fostered through the use and practice of judgment and leadership skills throughout the course. Goldenberg and Pronsolino (2008) found evidence that NOLS students strongly correlated independence with skill development, while Outward Bound students instead correlate new experiences with skill development. This use of “independence” as a learning tool on NOLS courses addresses both SDT needs of autonomy and competence and is incorporated into the learning process as a part of NOLS core values (NOLS, 2014).

The development of these needs, specifically relatedness on a course can build tight social connections. It may also be valuable to incorporate structures that expand the positive social interactions beyond the close-knit group or tribe that may exist on the adventure education course. One way to do this could be to incorporate service-learning opportunities into the course structure. Eyler and Giles (1999) found the benefits of service learning can strongly impact student’s social and emotional development. This may align with need fulfillment and support the improvement of social connections both inside and outside of the adventure education community.

**Transference.** Understanding transference may also have positive outcomes for participant need fulfillment on adventure education courses. Sibthorp et al. (2011) and Sibthorp (2003) showed that the most important learning on the adventure education course came from the acquisition of “life skills,” including social learning and efficacy. He also found the skills that transferred to post-course life were relevant to students’ lives at school, work, and useful in optimal functioning at home. Fostering opportunities to develop transferable “life skills”

that are relevant and valuable to student learning, may have positive impacts on SDT need fulfillment in post-course life. If students can learn social skills to deal with a challenging individual during a course, they may be able to use these skills after the course and incrementally increase their ability to meet a related need later in their life.

Sibthorp et al (2011) concluded that the mechanisms involved within transference from adventure education courses are highly individual and complex. They recommended the use of many different tools to increase the likelihood of transference. Martin and Leberman (2005) call for the need for increased understanding of transference. They would like to see future research studies that look at post-course learning; providing insight toward potential transfer mechanisms and tools to be used on future adventure education courses.

### **Implications**

A key implication is that if SDT needs can be fulfilled on adventure education courses, then this can help instructors better understand the psychological state of well-being or ill-being for student participants. If instructors are highly attuned toward the psychological needs and growth of student participants this may allow for an enriched experience that can result in increases to student's eudaimonic well-being and overall health. Ryan et al. (2008) concludes that human happiness and quality of life will be enhanced by structures that incorporate relatedness and psychological freedoms. While this literature review is directly pertinent to adventure education instructors, there are also applications for the broader field of experiential education as a whole.

Classroom teachers may find valuable information in this literature review. Many parallel opportunities may exist for classroom teachers who have extensive contact time and influence on students. Teachers who are attuned to SDT needs and incorporate need fulfillment opportunities into students' educational experiences may increase the well-being of their students' lives and additionally support intrinsic motivation. Parents, coaches, and mentors who have close contact and influence on youth may also find SDT need fulfillment patterns in this literature review valuable. Learning from techniques that adventure education programming employs can help create environments where needs are more likely to be fulfilled and result in many additional well-being benefits to student participants.

Other implications of this literature review may apply to the process involved in achieving known adventure education programming results. Ewert (1983) called for studies of "how and why" (p. 27) adventure education outcomes are achieved, and many researchers have since taken up this question. Understanding SDT need fulfillment may also shed light on part of this question and possibly raise new and relevant questions along this line of thought. The inquiry of how and why outcomes are achieved lends nicely to future research studies that directly study SDT need fulfillment in adventure education courses.

Finally, Ryan et al. (2008) stated that fulfillment of all the SDT needs are a necessary condition for the growth and integrity of a person that leads to well being. There are implications for society as a whole through better mental health and the development of more socially responsible citizens (Ryan et al., 2008; Kasser, Ryan, Zax & Sameroff 1995). The importance of this is captured by Ryan et al. (2008),

finding that the literature supported well-being and the associated eudemonic lifestyle as having many benefits to society. This includes citizens who are more socially responsible, have smaller environmental footprints, are less extrinsically materialistic and behave in ways that are more favorable to social interests. In addition these individuals are found to be engaged as responsible citizens and overall “show more care, concern, and responsibility for their actions” (Ryan et al., 2008, p. 164). The long-term effects of eudemonic living and the development of growth-oriented citizens in their youth may have implications that transfer far beyond the adventure education experience.

If participation in adventure education courses can foster conditions that increase these qualities in youth entering adulthood, then this has implications for both students and adventure education’s role in the broader educational establishment. Adventure education has the potential be valued as more than an alternative education opportunity in a unique wilderness setting and increasingly for its role in promoting personal growth, psychological health, and well-being in individuals. Continued expansion of the field of adventure education specifically through integration and increased partnerships with traditional education institutions, would increase access for all students to participate. Overall, increasing the role and access to adventure education could play an important role in youth development and benefit society as a whole.

### **Limitations**

This literature review is limited in its ability to generalize across students and adventure education courses. Due to the reliance on existing research,

conclusions may not be assumed to be true in all adventure education programs that are currently operating. This could be due to the individual nature and variance in adventure education programming, students, and instructors on each course and adventure education organization. Additionally, there is the limitation that no existing research has asked these questions to date.

There are a number of experiential education and adventure education courses that occur every year besides NOLS and Outward Bound. Limitations also arise from the absence of recorded data or documentation of participant outcomes and techniques employed by these organizations. In agreement with Paisley et al. (2008), research conclusions should be considered with the understanding that there may be other ways of learning that were not studied and thus not represented in these conclusions.

The issue of equal student access to adventure education programming is another potential limitation of these findings. The financial cost of attending courses may put participation and the associated psychological need fulfillment benefits out of reach for many students. Scholarship and youth developmental organizations may help address this issue, however it remains a real limitation for a large demographic of students, thus limiting who may or may not participate.

This chapter does however provide a foundation for future research. While reviewing studies on experiential education it became evident that there is a need for longitudinal research regarding long-term outcomes of adventure education programs, as called for by many researchers (Larson, 2000; Paxton & McAvoy, 2000; Goldenberg et al., 2005). Limitations of this literature review also include the

deficiency of research regarding psychological need fulfillment specifically on adventure education courses.

### **Future Research**

Future research that would be of great value to the body of knowledge on need fulfillment in adventure education should include original research that directly studies this topic. A follow-up study could further explore this topic, looking at the long-term effects of short-term need fulfillment that may occur during adventure education courses. D'Amato and Krasny (2011) capture this concern, stating that many students reported post course disorientation, feeling disconnected and missing the close-knit course community. Researchers might ask the following questions; does need fulfillment that is satisfied on a short-term experience have positive or negative long-term effects? What are the long-term benefits or harms of fulfilling needs on a temporary basis? Can student's understanding of SDT need fulfillment affect the impact of need fulfillment for students in adventure education courses?

A pertinent observation by Martin and Leberman (2005) involves the recommendation for more robust adventure education research and data collection. They propose that there is great value in a mixed methods approach, specifically highlighting the value of qualitative data collection in adventure education research. They found that quantitative data was shown to have limitations in its ability to assess program outcomes. Qualitative data was found to provide the most valuable insight toward adventure education course learning and impacts that highlight the

actual value of the program to the students. Future researchers may benefit by considering these data collection objectives in their research methodology.

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