

# An Empowerment Theory Approach to Adventure Programming for Adults with Disabilities

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## *Abstract*

The purpose of this study was to investigate the effect of an empowerment process on psychological empowerment toward recreation and leisure for adults with disabilities in an adaptive adventure program. Research participants were a convenience sample ( $n = 14$ ) of adults with disabilities registered for one of two 3-day dog-sledding trips. Using a single-factor, nested measures design, participants were involved in both treatment and control groups. This study employed two different analyses: a paired-sample *t*-test and hierarchical linear modeling (HLM). While this study did not demonstrate a significant treatment effect, the HLM analysis did suggest that empowerment may be a dispositional construct versus a situational construct. Implications for both practice and research are discussed.

**KEYWORDS:** *Empowerment theory, psychological empowerment, control, adventure programming, adults with disabilities.*

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One of the main goals inherent in most adaptive adventure programs is to empower their participants. How to accomplish this goal, however, is not yet fully understood. Past research supports the notion that adaptive adventure programs can achieve targeted developmental and psychological outcomes including increased social skills (McAvoy, Smith, & Rynders, 2001), enhanced self-concept (Luckner, 1989), and improved social adjustment (McAvoy, Schatz, Stutz, Schleien, & Lais, 1989). Yet, little research has focused on how to increase perceptions of personal empowerment for adults with disabilities.

A sense of empowerment may be essential for adults with disabilities who have experienced feelings of powerlessness and lack of control. Many people with disabilities have difficulty perceiving themselves as being empowered, which as McWhirter (1991) observed in the context of counseling, may restrict the sense of power and control people have over making the necessary changes in their own lives. As a sense of choice and control over life decisions (e.g. recreation and leisure experiences) diminishes, the need to attain a sense of empowerment becomes more essential for adults with disabilities who experience this difficulty. Empowerment may be defined as the process through which powerless individuals, organizations, or groups learn to (a) become aware of their personal power; (b) develop control over their lives; (c) utilize this control without infringing upon the rights of others; and (d) support the empowerment of others (McWhirter). For adults with disabilities, a higher level of empowerment is thought to be associated with greater control over everyday life events (Pensgaard & Sorensen, 2002); increased self-worth (McWhirter); a higher level of self-determination (Sylvester, Voelkl, & Ellis, 2001); and increased self-efficacy (Wallerstein, 1992). Conversely, disempowerment has been shown to result in the loss of self-confidence, deficient levels of motivation, the absence of decision-making skills, an increase in stress, and an overall lower quality of life (Hughes, 1998).

According to empowerment theory (Zimmerman, 1990), there is a direct link between perceptions of control and psychological empowerment. The literature supports this relationship and suggests that perceived control

measures can be used as an indicator, specifically, of the intrapersonal subtype of psychological empowerment (Kieffer, 1984; Speer, 2000; Zimmerman & Rappaport, 1988). Literature indicates that adventure programs may be designed to increase perceptions of control (Cross, 2002; Hyde-Hills, 1998; Kohn, 1991), which can serve as a proxy measure for the intrapersonal subtype of psychological empowerment. By extension, then, a link between perceived control and psychological empowerment implies that adventure programs which foster perceptions of control may realize greater psychological empowerment outcomes among program participants than those programs that do not focus on control. Therefore, an empowerment process that occurs during an adaptive adventure education program may increase participants' perceptions of control and lead to a greater sense of psychological empowerment in recreation and leisure.

An empowerment process in an adaptive adventure education program may be characterized by an environment in which the facilitators promote participant involvement in activity selection, group support, and program-related activities. Empowerment theory supports this process, suggesting that community programs (i.e., adaptive adventure programs) that implement specific intrapersonal, interactional, and behavioral components will foster higher levels of psychological empowerment than other programs that ignore these components (Zimmerman, 1995). Ideally, this new fostered sense of psychological empowerment may then transfer back into the participants' lives and the choices they make regarding their recreation and leisure time. Therefore, the purpose of this study was to investigate the effect of an empowerment process on psychological empowerment toward recreation and leisure for adults with disabilities in an adaptive adventure program.

## Review of Literature

### *Empowerment and Empowerment Theory*

*Empowerment.* "Empowerment" is rooted in social action philosophy and community psychology (Alinsky, 1946; Freire, 1970; Rappaport, 1981; Zimmerman, 1990). Most of this early research was used to study power differentials within society and to help those

populations who were considered marginalized or powerless to reclaim some sense of power. Despite the common usage of this term, there appears to be little agreement on what empowerment actually means (Blinde & Taub, 1999; Hughes, 1998; McWhirter, 1991; Rappaport, 1981; Sibthorp, 2003). To facilitate clarity, empowerment can be divided into three levels of analysis: community empowerment, organizational empowerment, and individual empowerment (See Figure 1). At the community level of analysis, empowerment focuses on the general needs of a community and seeks to develop the collective action necessary in meeting these needs to improve the overall quality of life of the community at large (Sibthorp, 2003; Zimmerman & Warschausky, 1998). At the organizational level of analysis, empowerment may refer to the study of member participation and worker structure within an organization to improve the effectiveness and achievement of that organization. At the individual level of analysis, empowerment attends to each individual's ability to take control and gain mastery over life experiences (Rappaport, 1987). It is suggested that these areas of analysis, although

described separately, are inherently connected to the others, creating cause and effect relationships (Zimmerman, 2000). For example, a community that consists of individuals who feel empowered may lead to an empowered community. This interaction between the individual and the environment implies that the construct of empowerment is ecological in nature (Rappaport, 1987). Taking into account the impact that environment has on perceptions of empowerment is what distinguished individual empowerment from psychological empowerment.

Although the term "psychological empowerment" had been conceptualized earlier (e.g., Kieffer, 1984), Zimmerman and Rappaport (1988) were the first to empirically test this construct and to officially distinguish it from individual empowerment. Individual empowerment had been criticized as being limited to a single paradigm and for neglecting the contextual nature of empowerment (Rappaport, 1987). With this in mind, Rappaport embraced this notion of person-environment fit, and re-defined psychological empowerment (PE) as the process through which individuals gain

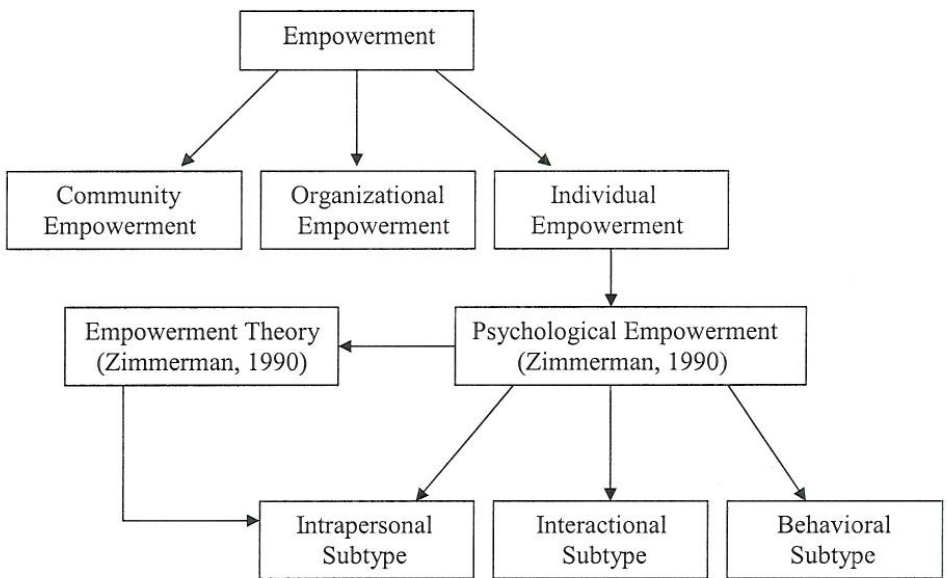


FIGURE 1. DIAGRAM OF THE EMPOWERMENT CONSTRUCT.

mastery and control over the factors that affect their lives. Focusing on the individual level of analysis, psychological empowerment includes skill development and cultural awareness, and it incorporates variables such as motivation to control, locus of control, and self-efficacy (Zimmerman & Rappaport).

Psychological empowerment has been studied both as a variable (Kieffer, 1984; Rappaport, 1987; Spreitzer, 1995; Thomas & Velthouse, 1990; Wallach & Mueller, 2006; Wehmeyer, 1994) and as a construct that had been operationalized through scientific theory (Holden, Evans, Hinnant, & Messeri, 2005; Speer, 2000; Zimmerman, 1990; Zimmerman, 1995; Zimmerman, Israel, Shulz, & Checkoway, 1992; Zimmerman & Warschausky, 1998). Theory helps to explain and predict specific phenomenon and, as such, is an essential component in conducting behavioral science research. Rappaport (1981) argued the need to construct a theory of empowerment, and pointed out that scientific theory provides a field with coherence, a sense of direction, and a focus of attention. Empowerment theory (Zimmerman, 1990) is the guiding theoretical framework of this study; therefore, this research relied on Zimmerman's conceptualization of psychological empowerment.

*Empowerment theory.* Empowerment theory (Zimmerman, 1990) links the environment to the individual and compels practitioners to think in terms of wellness instead of illness (Peterson & Reid, 2003). Empowerment theory is an ecological theory that takes the environment into account while, at the same time, promotes proactive behaviors and participatory processes that engage individuals to improve their overall quality of life (Peterson & Speer, 2000). There are three assumptions upon which empowerment theory is based. First, PE differs from person to person. This implies that individual characteristics will influence the process and understanding of PE (Speer, 2000). For example, one would not expect to find that an individual with a specific disability would have the same perception of what is required to increase his or her sense of empowerment as an individual without a disability or even as another individual with the same type of disability. Second, PE is context and population-specific. As mentioned earlier, levels of PE are dependent upon person-environment fit. For example, for

some people with disabilities, an adaptive adventure education program may be empowering while, for others, this context may promote an overall sense of powerlessness. Third, PE is not a static construct; it constantly changes and evolves over time (Zimmerman, 1990). This suggests that people can be empowered at one point in time and then lose that empowerment at another point in time (Speer).

Empowerment theory divides PE into three subtypes: interactional, behavioral, and intrapersonal. Although this study focused specifically on the intrapersonal subtype, it is important to understand the other two as well. The interactional subtype of PE assesses the manner in which people understand and relate to their social environments and their knowledge of how to succeed within those environments (Zimmerman, 1995). The behavioral component of psychological empowerment involves the precise actions or behaviors one takes to exhibit social and political influence in an environment through participation in a community organization (Zimmerman et al., 1992).

The intrapersonal subtype, the main focus of this study, attends to how people think about themselves, and includes perceptions of control, motivation, self-efficacy, perceived competence, and mastery (Zimmerman, 1995; Zimmerman et al., 1992). It includes individuals' perceptions of the self and their abilities to influence others. Based on the findings of Zimmerman and Rappaport (1988), measures of perceived control captured the intrapersonal subtype of PE suggesting that perceived control may be an indicator of PE. Perceptions of control play an integral role in the intrapersonal component because they may either encourage or dissuade a person from achieving a personal goal (Zimmerman, 1995).

According to empowerment theory, empowerment can be viewed both as a process and as an outcome. This distinction could become important when attempting to utilize empowerment as a measurable construct in research. Both the process and outcome of empowerment are thought to be domain-specific (Schulz, Israel, Zimmerman, & Checkoway, 1995) and may vary from person to person (Rappaport, 1984), thus requiring a measurement approach that can capture this dynamic construct.

*Empowerment as a process.* When empowerment is viewed as a process, the empha-

sis is placed on the specific program details and interventions that can be implemented to foster an overall sense of empowerment. An empowerment process may be characterized by an environment in which facilitators promote participant involvement in activity selection, group support, and all program-related activities. After participating in an empowerment process, individuals learn to understand the impact they have in a specific social context (Sibthorp & Arthur-Banning, 2004). An empowerment process provides people with opportunities to gain control over issues that concern them, to learn how to think critically, and to develop and practice the necessary skills needed to participate in decisions that affect their lives (Zimmerman & Warschausky, 1998). The goal of an empowerment process is to assist people in finding their strengths and worth within themselves so that they can become more self-reliant.

*Empowerment as outcome.* When empowerment is viewed as an outcome, the focus is no longer on the procedures, but on the end result. In the context of research, empowerment as an outcome often takes the form of a dependent variable. In programmatic terms, empowerment becomes a target outcome. Often, and ideally, the result of an empowerment process is empowerment. Studying empowerment as an outcome will provide the needed insight into whether treatment procedures that employ an empowerment process really do achieve greater levels of empowerment.

### ***Adventure Programs and Adults with Disabilities***

Adventure programs for adults with disabilities are increasing in popularity and they may provide a unique context to study the impact of an empowerment process. In the mid 1970s, Outward Bound paved the way by becoming the first adventure program to offer services to people with physical disabilities (Miner & Boldt, 1981). Since then, with the passage of the American with Disabilities Act in 1990, many programs throughout the United States have begun to offer adventure program services to people with disabilities. Adventure programming can be described as a sequence of activities or experiences that provide a group or an individual with compelling tasks to accomplish (Priest & Gass, 1997). Often, adventure

programming includes high-risk activities such as rock climbing, high ropes courses, and white water rafting; however, this type of programming may also include goal-setting, awareness activities, trust activities, problem-solving activities, and processing. Either way, activities are geared to be both physically and psychologically demanding while teaching safety and skill development to promote growth among participants (Nadler & Luckner, 1992).

Through participation in adventure programming, people often learn to overcome self-imposed perceptions of their capabilities and they learn to turn their limitations into abilities. To this end, many therapeutic recreation specialists see adventure programming as an effective treatment modality that results in enhanced self-esteem, increased social adjustment, and positive behavior changes (Anderson, Schleien, McAvoy, Lais, & Seligman, 1997; McAvoy et al., 1989). Despite this perceived effectiveness, little is known about the impact of an empowerment process on an adaptive adventure program for adults with disabilities.

### ***Empowerment and Adventure Programs***

Sibthorp (2003) suggested that optimal participant development may be achieved through programs that foster empowerment and offer opportunities for participant involvement. Adventure education programs may be designed in a way that teaches participants to become their own agents of change (Hyde-Hills, 1998), thus resulting in an outcome of PE. To achieve this, one can look to the empowerment process suggested by Zimmerman (1990). Within the framework of the intrapersonal component are mastery and decision-making. Mastery is necessary in a new environment and is best achieved by physically doing and learning new skills (Kohn, 1991; Sibthorp, 2003). An adventure education program may be an optimal environment to provide opportunities for involvement in both decision-making processes and active participation.

Increasing one's perceptions of control may be a critical step toward enhancing PE. Adaptive adventure programs have the unique structure to provide adults with disabilities the opportunity to make decisions and foster a sense of control. People who perceive themselves as competent, capable, and self-determining will be able to face and deal with life's challenges

as well as influence the direction, nature, and benefits they will receive from their recreation (Ellis, Maughan-Prichett, & Ruddell, 1993). Adults with disabilities, however, may be often looked upon as incapable of controlling their lives or making the appropriate decisions that will directly impact their lives (Pensgaard & Sorensen, 2002). If adaptive adventure programs provide this opportunity for adults with disabilities, PE may increase. Thus, the following hypotheses were examined:

*H<sub>1</sub>: Participant scores of general recreation and leisure control will increase as a result of exposure to an empowerment process during an adaptive adventure program.*

*H<sub>2</sub>: Individuals who are exposed to an empowerment process during a specific adventure activity will have higher levels of situation control than those who are not exposed to an empowerment process.*

*H<sub>3</sub>: Pre-course level of participants' dispositional control will explain a significant portion of the variance in situation control.*

*H<sub>4</sub>: Participant characteristic such as age and sex will explain a significant portion of the variance in situational control.*

## **Methods**

### ***Participants and Program***

Participants in this study were a convenience sample of 14 adults with disabilities who voluntarily registered for one of two 3-day dog-sledding trips through an adaptive adventure program based in a Rocky Mountain state. The dog-sledding program included snowshoeing, dog-sledding, challenge initiatives, and goal-setting activities. All activities were adapted to the needs of the participants. For example, people who had difficulty with balance used adaptive walkers with attached skis, and adaptive cross-country skis were provided to people who used wheelchairs. The majority of the participants lived at or near the poverty level and resided in the rocky mountain region. A variety of disabilities were represented by the participants including: developmental dis-

abilities ( $n = 12$ ); traumatic brain injury ( $n = 1$ ); and bi-polar disorder ( $n = 1$ ).

## **Procedures**

Using an event diary approach to data collection, this study examined the relationship between select situational variables (the presence or absence of the empowerment process), individual differences (sex, age, and pretest score of recreation and leisure control), and the overall outcome variable (situational control). In general, this approach requires participants to report on an event each time it occurs (Voelkl & Baldwin, 2000). For example, in this study, participants engaged in four primary activities: snowshoeing, dog-sledding, challenge initiatives, and goal-setting. After each activity, participants were asked to complete a self-report questionnaire. Using a single-factor, nested measures design, participants were involved in both treatment and control groups. Effects are nested if all levels of a factor (e.g. empowerment process) do not occur under all levels of a second factor (e.g. trip), thus creating an asymmetrical design (Maxwell & Delany, 2004). For example (see Table 1), participants on the first trip were exposed to the empowerment process (treatment) during both the dog-sledding and snowshoeing activities; however, during the challenge initiative and goal-setting activity, participants were not exposed to the treatment. The effects in the study are, therefore, nested within participants and individual differences. This design is conducive to testing the effects of situational variables that are nested within participants, as well as testing the effects of individual differences (Sibthorp, Witter, Wells, Ellis, & Voelkl, 2004).

For each 3-day dog-sledding trip, there was a different group of participants; therefore, study participants only went on one 3-day trip. In this study, participants received both the treatment and control conditions (see Table 1). On the trips, participants were exposed to an empowerment process characterized by an environment in which the facilitators promoted participant involvement in activity selection, group support, and all program-related activities. This empowerment process was implemented during what can be described as peak experiences. Peak experiences are the specific program components of the adventure experience that are intentionally designed to meet

TABLE 1: EXPOSURE TO TREATMENT BY TRIP

	Snowshoeing	Dog-sledding	Challenge initiative	Goal-setting
Trip 1 (n = 5)	Treatment	Treatment	Control	Control
Trip 2 (n = 9)	Control	Control	Treatment	Treatment

beneficial outcomes (i.e. psychological empowerment) and do not include parts of the trip that are typically not programmed, such as meal times, down-time, and travel. The peak experiences for this study included goal-setting, snowshoeing, challenge initiatives, and dog-sledding. On the first trip ( $n = 5$ ), participants were exposed to an empowerment process during the snowshoeing and dog-sledding activities while during the goal-setting and challenge initiatives, participants were not exposed to the treatment. During the second trip ( $n = 9$ ), participants were exposed to an empowerment process during the challenge initiatives and goal-setting activities; however, during the snowshoeing and dog-sledding activities, participants were not exposed to the treatment.

### Treatment Process

*Trip one.* Over the course of the first trip, the treatment occurred during the snowshoeing and dog-sledding components of the program. During these activities, an empowerment process was implemented to enhance both general and situational recreation and leisure control. For purposes of this study, general leisure control was defined as people’s ability to determine what happens in the course of their leisure experience (Witt & Ellis, 1985). Situational control was defined as a person’s ability to manipulate circumstances to achieve a desired outcome in a specific context (e.g., being able to control when and where to go snowshoeing). The empowerment process was implemented in several different ways. First, the facilitators made sure that the participants were provided with opportunities to make choices about where and for how long they wanted to snowshoe. As suggested by Kohn (1991), it is important to include program participants in the decision-making processes

from the beginning as this will foster perceptions of personal control. Second, the facilitators explained all the mechanics of snowshoeing and dog-sledding, and how to use all of the equipment needed to do these activities. This level of understanding should help promote participant learning as well as enhance active participation which, in turn, should lead to a sense of personal empowerment (Zimmerman, 1990). Third, while the participants were involved in these activities, the facilitators focused on relating to the participants how these activities are similar to other recreation and leisure opportunities. For example, while snowshoeing, the facilitator might discuss how hiking with snowshoes is very similar to hiking during the summer months. If participants can balance and walk with snowshoes, they may also be able to balance while hiking along a trail in the mountains or desert. Fourth, following each adventure activity, facilitators led the group in a processing session that focused on how participating in snowshoeing and dog-sledding, as well as making personal decisions regarding this participation, are related to recreation and leisure control. Processing, an essential element in both adventure programming and in therapeutic recreation, can promote change by providing participants the opportunity to reflect and analyze their behavior during the activity as well as to begin to generalize from one experience to the next (Luckner & Nadler, 1995). Processing questions were formed to promote participants’ awareness of their control during these activities and how they could implement this control when participating in recreation and leisure experience at home.

During the first trip, control procedures occurred during the goal-setting and challenge initiatives, where they were not exposed to an empowerment process. Instead of participants

forming their own goals, facilitators informed participants of the goal of the trip. By not letting the participants set their own goals, control is automatically placed in the hands of the facilitators. During the challenge initiative, participants did take part in the problem-solving activity, but they did not receive an extensive processing experience. The processing questions focused solely on the activity itself and the facilitators did not make any mention of control or how the participants' experience in the challenge initiative related to their ability to control other recreation and leisure experiences.

*Trip two.* The treatment during trip two focused on the goal-setting and challenge initiative activities. These activities were designed to enhance both general and situational recreation and leisure control. First, the group participated in a simple icebreaker to become acquainted. Second, they participated in a goal-oriented activity, with the purpose of motivating the participants to think about what they would like to accomplish while dog-sledding. Involving participants from the start in the setting of their own goals promotes a sense of control and ownership of their experience (Kohn, 1991). The facilitators then led a group discussion focusing on group support. Participants were asked how they thought they could assist one another in meeting their goals. Encouraging participants to offer support to their peers is another way to instill a sense of empowerment and accomplishment (Kohn). On day two, the group participated in a challenge initiative. Once the challenge initiative was completed, the facilitators led the group in a group processing session that focused on how good communication could assist in obtaining full leisure control.

The control procedures occurred during the dog-sledding and snowshoeing activities. Unlike trip one, these activities were not facilitated according to an empowerment process. While snowshoeing and dog-sledding, study participants were not involved in the decision-making processes, nor did the facilitators work on skill development. All of the major decisions (e.g. picking of the trail, length of time spent on the trail, what time of day to go, and when to take a break) were made by the facilitators. The participants were simply taken on a snowshoeing and dog-sledding trip with little effort made by the facilitators to build connections between

these activities and other recreation and leisure activities. The processing after each of these activities was minimal and all discussion questions were focused solely on the snowshoeing and dog-sledding experience.

### *Measures*

Two scales were used in this study. First, the Perceived Leisure Control Scale, a subscale of the Leisure Diagnostic Battery (Witt & Ellis, 1985), was used to measure participants' perceptions of psychological empowerment. Perceived control is believed to be an indicator of the intrapersonal subtype of psychological empowerment and has been found to be a reliable measure of this variable (Kieffer, 1984; Speer 2000; Speer, Jackson, & Peterson, 2001; Zimmerman, 1990; Zimmerman et al., 1992; Zimmerman & Rappaport, 1988). The Perceived Leisure Control Scale measures the extent to which participants feel they can determine what happens in the course of their leisure experiences (Witt & Ellis). This scale has earned wide acceptance within the therapeutic recreation community and has been used with a variety of populations including: individuals with chronic pain (Peebles, McWilliams, Norris, & Park, 1999); people with depression (Morris & Ellis, 1993), adults with spinal cord injury (Blake, 1991); adolescents with spina bifida (Zoerink, 1988); and adolescents with mental retardation (Hoge, Dattilo, & Williams, 1999). A Cronbach's alpha of .90 for the Perceived Leisure Control Scale was reported when used with adults experiencing chronic pain (Peebles et al.), indicating adequate internal consistency. For each of the 17 items, participants rate, on a 5-point scale (ranging from Strongly Disagree to Strongly Agree), the extent to which they agree with the statement. Sample items are, "I can do things during a recreation activity to enable other people to enjoy doing the activity with me" and "I usually decide who I will participate with during recreation activities."

The second scale used in this study was a 5-item, modified version of the Perceived Leisure Control Scale. This scale was utilized to capture the effect of an empowerment process on situational control. Like the Perceived Leisure Control Scale, the modified version also used a 5-point scale (ranging from Strongly Disagree to Strongly Agree) and, for each item, participants rated the extent to which they



agreed with the statement. To form this scale, five items were selected (based on content, item-to-total correlations, and inter-item correlations) directly from the original Perceived Leisure Control Scale and placed in the context of an adventure activity (i.e., group activities, snowshoeing, and dog-sledding). This resulted in a total of three modified five-item scales: (a) one for group activities (goal-setting and challenge initiatives); (b) one for snowshoeing; and (c) one for dog-sledding. These scales were adapted with the assistance of one of the original authors of the Leisure Diagnostic Battery. A sample item is: "When I go snowshoeing again, I can be as good as I want to be at snowshoeing."

Questionnaires were made into packets (two Perceived Leisure Control Scales to act as the pretest and posttest, and four modified versions to measure situational control after peak experiences). Pretest and posttest measures of the Perceived Leisure Control Scale were collected on both trips. Participants completed the Perceived Leisure Control Scale upon arrival at the pre-trip planning meeting held at the agency site and again at the end of the trip at the dog-sledding facility before the participants left to go home. The modified version of the Perceived Leisure Control Scale was administered after each peak experience (goal-setting, snowshoeing, challenge initiatives, and dog-sledding). In some cases, due to poor reading skills, the questions on both scales were administered verbally by the researcher.

### *Data Analysis*

This study employed two different analyses: a paired-sample *t*-test and hierarchical linear modeling (HLM). The extent to which an empowering process had an effect on perceived recreation and leisure control was determined by using a paired-sample *t*-test. All participants were exposed to some of the treatment (empowerment processes). Thus, it was expected that participants' overall perceived recreation and leisure control would increase. As this study utilized both pretest and posttest measures of the Perceived Leisure Control Scale, 27 measures were completed out of a possible 28. One participant failed to complete a posttest measure in full, resulting in removal of that data.

To determine the extent to which an empowerment process had an effect on situational

control, a two-level model of HLM was used. Multilevel modeling is essential when studying variables that operate at different levels (e.g., empowerment can occur at the individual and group level). Hierarchical linear modeling is a highly effect multilevel analysis tool that allows studies to have small and unequal sample sizes (Sibthorp et al., 2004). When using HLM techniques, the researcher aims to explain some dependent variable (e.g. situational control) based on one or more predictor variables that occur at more than one level (Luke, 2004). For example, in this study the first level was the treatment and the second level was the individual participant. Predictor variables at level one included the fixed effect of treatment (empowerment process) or no treatment. Predictor variables at level two included the participant's age, pretest score of recreation and leisure control, and sex.

### **Results**

The paired-sample *t*-test analysis indicated no difference between the mean scores of the treatment (empowering process) and control groups ( $p = .931$ ); however, at the situational level, analysis of the unconditional HLM model revealed that participants, as a predictor variable, was significant ( $p < .01$ ). In this data set, 48% of the variance in situational control could be attributed to differences among participants (see Table 2). The model's reliability was estimated at .80.

As the unconditional model was significant, treatment effect (coded as 0 for no treatment and 1 for treatment) was added as a level one predictor to determine the relationship between treatment (presence of an empowering process) and situational perceptions of recreation and leisure control. Treatment was not significant as a level one predictor ( $\gamma_{10} = -0.153$ ,  $t = -1.199$ ,  $p = 0.252$ ).

Pretest scores were then added as a level two predictor to determine the relationship between pre-trip level of recreation and leisure control and the level of situational control demonstrated on the trip. Pre-trip level of recreation and leisure control was significant as a level two predictor ( $\gamma_{01} = -0.814$ ,  $t = -7.167$ ,  $p < .001$ ). Thus, the pre-trip levels of recreation and leisure control did explain a significant portion of the variance observed in situational control. In this data set, 65% of the participant-

TABLE 2: FINAL ESTIMATION OF VARIANCE COMPONENTS WITH PARTICIPANTS AS A LEVEL 1 PREDICTOR

	Std	Variance	df	Chi-square	<i>p</i>
Participant	0.459	0.215	13	63.541	<.001
level-1	0.476	0.227			

TABLE 3: FINAL ESTIMATION OF VARIANCE COMPONENTS WITH PRE-TRIP CONTROL AS A LEVEL 2 PREDICTOR

	Std	Variance	df	Chi-square	<i>p</i>
Participant	0.271	0.074	12	29.097	<.001
level-1	0.476	0.226			

level variance in situational control can be attributed to the pre-trip level of recreation and leisure control (see Table 3). Further, 31% of the total variance in situational control can be attributed to the pre-trip level of recreation and leisure control.

To determine the relationship between participant characteristics and situational control, age and sex were added as level two predictors. Results were not significant ( $p > .05$ ), indicating that age and sex did not explain a significant portion of the variance observed in situational control.

## Discussion

### Summary of Results

Although the results of the paired-sample *t*-test indicated no difference between the mean scores of recreation and leisure control, suggesting no treatment effect, examination of the HLM analysis did indicate a positive result. The variance in situational control could be attributed to participant differences, including participants' levels of pre-trip recreation and leisure control. This suggests two findings of interest. First, levels of recreation and leisure control varied among participants, supporting one of the underlying assumptions of empowerment theory which states that PE will differ from person to person (Zimmerman, 1990). This may be attributed to individual characteristics (e.g., marriage, travel, upbringing, and

being born with a disability versus acquiring a disability later in life) which are suggested to influence the process and understanding of PE (Speer, 2000).

Second, study participants who felt recreation and leisure control appeared to have applied those feelings of general control to snowshoeing and dog-sledding, even though these were highly novel activities, suggesting that the intrapersonal sub-type of PE maybe a dispositional construct and not a situational construct. This implies that people who already feel a certain level of general control will also feel that same level of control in specific situations. This finding directly contrasts empowerment theory's second assumption, which suggests that PE will take different forms in different contexts (Zimmerman, 1995).

A construct that is dispositional versus situational is an important distinction to understand. A construct that is dispositional would imply that it already has been developed in one's psychological make-up and that it may generalize from one situation to the next. A construct that is situational would suggest it to be context-specific and dynamic in nature. The dynamic nature of a situational construct may make generalizability a bit more challenging and not as likely. If PE is, in fact, dispositional, then this may imply that programmatic efforts to increase empowerment may not be effective.

### *Limitations*

One complication is that neither trip met full capacity, resulting in the small sample size of 14 and, as a result, low statistical power when trying to investigate general recreation and leisure control. Small program sizes, however, are very typical of adaptive adventure education programs for several reasons including: (a) need for a large number of staff and volunteers for a small number of participants; (b) trip expense making the program difficult to afford; (c) lack of knowledge about these programs. Both the size and type of sample make the findings of this study difficult to generalize.

The staff of the adventure program was experienced in providing the technical and logistical aspects of adventure programs for people with disabilities; however, they did not have the educational background (e.g., degrees in therapeutic recreation, experiential education, wilderness therapy, or adventure therapy) that could facilitate development and delivery of theory-based programs. Although the researcher of this study did train the staff on all of the aspects of the empowering process, training time was limited and relied on the assumption that staff were experienced in all aspects of program facilitation. Huebner, Walker, and McFarland (2003) suggested that there is a need for quality staff development in the areas of theory-based programming and group processing techniques.

### *Implications*

One implication of this study is its support for the need of professionally and educationally trained staff in the field of adventure programming. It was apparent in this study, that people who possess the skills and the “know how” in terms of the technical and logistical aspects of adventure education still may not be adequately prepared to implement theory-based programs. Theory provides a framework or rationale for programs and facilitates the identification of achievable outcomes (Allen & Cooper, 2003). A program that is theory-based helps ensure that the programs are intentional and outcomes are measurable. In the adaptive adventure field, there appears to be a need for skilled professionals who possess training in theory-based programming. Thus, adaptive adventure providers may want to consider employing staff that have been professionally

trained in the techniques that are necessary in providing theory-based programs.

This study implemented quantitative measures and utilized HLM to analyze data. Hierarchical linear modeling is a highly effective technique that appears to be underutilized in research that pertains to therapeutic recreation. The strength of HLM is that it allows studies to have small and uneven sample sizes where study participants are nested within the treatment (Sibthorp et al., 2004). Most recreation programs for adults with disabilities take place in a group setting and, in order for the program to be safe and effective, these groups must remain small. The majority of the research in the recreation field (especially in the emphasis areas of therapeutic recreation, experiential education, adventure therapy, and wilderness therapy) struggles with obtaining large, even, and random sample sizes. For this reason, HLM may promise to be a viable solution. As such, it is important that researchers learn how to effectively use HLM.

### *Future Directions and Conclusion*

Empowerment theory suggests PE differs from person to person and that it is highly dependent upon context and population (Zimmerman, 2000). Although this study did not support the situational nature of PE, more research is needed to further examine this construct. Future studies may want to investigate whether PE is dispositional (as this study suggested), or if it is, as empowerment theory suggests, situational. To do this, future studies may want to measure the entire PE construct capturing all three sub-types. Future research may also want to focus on samples of one specific type of disability. This may produce a greater understanding of how PE may impact a specific population. In addition, future research may seek to acquire a random and/or larger sample, which may increase the chances of attaining more statistical power and a larger effect size.

If PE can be affected by programmatic efforts (meaning that it is not dispositional) then more accurate measurement becomes critical. This study utilized the Perceived Leisure Control Scale, which is a subscale of the Leisure Diagnostic Battery (Witt & Ellis, 1985). This scale was designed to measure leisure and recreation control, thus it only captured one sub-type of PE. Psychological empower-

ment is suggested to have three subtypes: (a) intrapersonal empowerment; (b) interactional empowerment; and (c) behavioral empowerment (Zimmerman, 1990). As PE is suggested to be a complex, ever-changing, and contextual construct, there is a need for a comprehensive measure that captures all three aspects in the context of adventure programming.

This study implemented a quantitative design, which was appropriate for the question that was being investigated. Future studies may, however, want to use qualitative methods, such as participant observation and interviews, when trying to measure the impact of an adaptive adventure education program on PE. This approach may assist in gaining a deeper understanding of how the empowering process is perceived by adults with disabilities as well as to investigate what empowerment may mean to people with disabilities.

Theory-based programming is essential for both researchers and practitioners who want to target specific and measurable outcomes. Responding to the need for theory-based recreation programming and research (Hill & Sibthorp, 2006), this study employed empowerment theory as its guiding framework in attempting to increase PE among adults with disabilities and enhance beneficial outcomes for participants. While further research is needed to determine the extent to which empowerment theory may be useful in a therapeutic recreation setting, we believe the utilization of a theoretical framework to be a good first step. Future therapeutic recreation research should focus on the utilization of theory (either empowerment or some other appropriate theory) to target specific program outcomes.

### References

- Alifsky, S. (1946). *Reveille for radicals*. Chicago: Chicago University Press.
- Allen, L. R., & Cooper, N. L. (2003). *Benefits-based program curriculum manual*. National Recreation and Parks Association.
- Anderson, L., Schleien, S.J., McAvoy, L., Lais, G., & Seligman, D. (1997). Creating positive change through an integrated outdoor adventure program. *Therapeutic Recreation Journal, 31*(4), 214-229.
- Blake, J. G. (1991). Therapeutic recreation assessment and intervention with a patient with quadriplegia. *Therapeutic Recreation Journal, 25*(4), 71-75.
- Blinde, E. M., & Taub, D. E. (1999). Personal empowerment through sport and physical fitness activity: Perspectives from male college students with physical and sensory disabilities. *Journal of Sport Behavior, 22*(2), 181-202.
- Cross, R. (2002). The effects of an adventure education program on perceptions of alienation and personal control among at-risk adolescents. *The Journal of Experiential Education, 25*(1), 247-254.
- Ellis, G. D., Maughan-Pritchett, M., & Ruddell, E. (1993). Effects of attribution and imagery on self-efficacy of adolescents diagnosed with major depression. *Therapeutic Recreation Journal, 27*(2), 83-97.
- Freire, P. (1970). *Pedagogy of the oppressed*. New York: Seabury Press.
- Hill, E., & Sibthorp, J. (2006). Autonomy support at diabetes camp: A self determination theory approach to therapeutic recreation. *Therapeutic Recreation Journal, 40*(2), 107-125.
- Hoge, G., Dattilo, J., & Williams, R. (1999). Effects of leisure education on perceived freedom in leisure of adolescents with mental retardation. *Therapeutic Recreation Journal, 33*(4), 320-332.
- Holden, D. J., Evans, D., Hinnant, L. W., & Messeri, P. (2005). Modeling psychological empowerment among youth in local tobacco control efforts. *Health Education and Behavior, 32*(2), 264-278.
- Huebner, A. J., Walker, J. A., & McFarland, M. (2003). Staff development for the youth development professional: A critical framework for understanding the work. *Youth and Society, 35*(2), 204-225.
- Hughes, K. J. (1998). Antecedents to empowerment: A preliminary investigation. *Journal of Geography in Higher Education, 22*(2), 229-248.
- Hyde-Hills, I. (1998). It is better to learn to fish: Empowerment in adventure education. In *Exploring the Boundaries of Adventure Therapy: International Perspectives*. Proceedings of the International Adventure Therapy Conference (Perth, Australia).
- Kieffer, C. H. (1984). Citizen empowerment: A developmental perspective. In J. Rappaport, C. Swift, & R. Hess (Eds.), *Studies in empowerment: Steps toward understanding and action* (pp. 9-36). New York: Haworth Press.
- Kohn, S. (1991). Specific programmatic strategies to increase empowerment. *The Journal of Experiential Education, 14*(1), 6-12.
- Luckner, J. L. (1989). Effects of participation in an outdoor adventure education course on the self-concept of hearing-impaired individuals. *American Annals of the Deaf, 134*(1), 45-49.
- Luckner, J. L., & Nadler, R. S. (1995). Processing adventure experiences: It's the story that counts. *Therapeutic Recreation Journal, 29*(3), 175-183.

- Luke, D. A., (2004). *Multilevel modeling*. Thousand Oaks, CA: Sage Publications.
- Maxwell, S. E., & Delaney, H. D. (2004). *Designing experiments and analyzing data: A model comparison perspective* (2nd. ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- McAvoy, L., Schatz, C., Stutz, M. E., Schleien, S. J., & Lais, G. (1989). Integrated wilderness adventure: Effects on personal and lifestyle traits of persons with and without disabilities. *Therapeutic Recreation Journal*, 23(1), 50-64.
- McAvoy, L., Smith, J. G., & Rynders, J. E. (2006). Outdoor adventure programming for individuals with cognitive disabilities who present serious accommodation challenges. *Therapeutic Recreation Journal*, 40(3), 182-199.
- McWhirter, E. H. (1991). Empowerment in counseling. *Journal of Counseling and Development*, 69(3), 222-227.
- Miner, J. L., & Boldt, J. (1981). *Outward Bound USA: Learning through experience in adventure-based education*. New York: William Morrow.
- Morris, C., & Ellis, G. D. (1993). The attributional basis of perceived freedom in leisure. *Therapeutic Recreation Journal*, 27(3), 172-185.
- Nadler, R. S., & Luckner, J. L. (1992). *Processing the adventure experience: Theory and practice*. Dubuque, IA: Kendall/Hunt Publishing Company.
- Peebles, J., McWilliams, L., Norris, L. H., & Park, K. (1999). Population-specific norms and reliability of the leisure diagnostic battery in a sample of patients with chronic pain. *Therapeutic Recreation Journal*, 33, 135-141.
- Pensgaard, A. M., & Sorensen, M. (2002). Empowerment through the sport context: A model to guide research for individuals with disability. *Adapted Physical Activity*, 19(1), 48-68.
- Peterson, N. A., & Reid, R. J. (2003). Paths to psychological empowerment in an urban community: Sense of community and citizen participation in substance abuse prevention activities. *Journal of Community Psychology*, 31(1), 25-38.
- Peterson, N. A., & Speer, P. W. (2000). Linking organizational characteristics to psychological empowerment: Contextual issues in empowerment theory. *Administration in Social Work*, 24(4), 39-58.
- Priest, S., & Gass, M. A. (1997). *Effective leadership in adventure programming*. Champaign, IL: Human Kinetics.
- Rappaport, J. (1981). In praise of paradox: A social policy of empowerment over prevention. *American Journal of Community Psychology*, 9(1), 1-25.
- Rappaport, J. (1984). Foreword - Empowerment: An antidote for folly. In J. Rappaport, C. Swift, & R. Hess (Eds.), *Studies in empowerment: Steps towards understanding and action*. (pp. 1-20). New York: Hawthorn Press.
- Rappaport, J. (1987). Terms of empowerment exemplars of prevention: Toward a theory for community psychology. *American Journal of Community Psychology*, 15(2), 121-149.
- Schulz, A. J., Israel, B. A., Zimmerman, M. A., & Checkoway, B. (1995). Empowerment as a multi-level construct: Perceived control at the individual, organizational, and community levels. *Health Education Research*, 10(3), 309-327.
- Sibthorp, J. (2003). An empirical look at Walsh and Gollins' adventure education process model: Relationship between antecedent factors, perceptions of characteristics of an adventure education experience and changes in self-efficacy. *Journal of Leisure Research*, 35, 80-106
- Sibthorp, J., & Arthur-Banning, S. (2004). Developing life effectiveness through adventure education: The roles of participant expectations, perceptions of empowerment, and learning relevance. *Journal of Experiential Education*, 27(1), 32-50.
- Sibthorp, J., Witter, E., Wells, M., Ellis, G., & Voelkl, J. (2004). Hierarchical linear modeling in park, recreation, and tourism research. *Journal of Leisure Research*, 36, 89-100.
- Speer, P. W. (2000). Interpersonal and interactional empowerment: Implications for theory. *Journal of Community Psychology*, 28(1), 51-61.
- Speer, P. W., Jackson, B. C., & Peterson, N. A. (2001). The relationship between social cohesion and empowerment. *Health Education and Behavior*, 28(6), 716-732.
- Spreitzer, G. M. (1995). Psychological empowerment in the work place: Dimensions, measurement, and validation. *Academy of Management Journal*, 38(5), 1442-1465.
- Sylvester, C., Voelkl, J. E., & Ellis, G. (2001). *Therapeutic recreation programming: Theory and practice*. State College, PA: Venture.
- Thomas, K. W., & Velthouse, B. A. (1990). Cognitive elements of empowerment: An interpretive model of intrinsic task motivation. *Academy of Management Review*, 15(4), 666-681.
- Voelkl, J. E., & Baldwin, C. K. (2000). Daily experience research and applications in therapeutic recreation. *Therapeutic Recreation Journal*, 34(3), 227-244.
- Wallach, V. A., & Mueller, C. W. (2006). Job characteristics and organization predictors of psychological empowerment among paraprofessionals within human service organizations: An exploratory study. *Administration in Social Work*, 30(1), 95-115.
- Wallerstein, N. (1992). Powerlessness, empowerment, and health: Implications for health promotion programs. *American Journal of Health Promotion*, 6(3), 197-205.

- Wehmeyer, M. L. (1994). Perceptions of self-determination and psychological empowerment of adolescents with mental retardation. *Education and Training in Mental Retardation and Developmental Disabilities*, 29(1), 9-21.
- Witt, P.A., & Ellis, G.D. (1985). Operationalizing leisure: Making the abstract concrete. In T.L. Goodale, & P.A. Witt (Eds.), *Recreation and leisure: Issues in an era of change* (pp. 105-117) (2nd ed.). State College, PA: Venture.
- Zimmerman, M. A. (1990). Taking aim on empowerment research: On the distinction between individual and psychological conceptions. *American Journal of Community Psychology*, 18(1), 169-177.
- Zimmerman, M. A. (1995). Psychological empowerment: Issues and illustrations. *American Journal of Community Psychology*, 23(5), 581-599.
- Zimmerman, M. A. (2000). Empowerment theory. In J. Rappaport, & E. Seidman (Eds.), *Handbook of community psychology* (pp. 43-63). New York: Kluwer Academic/Plenum.
- Zimmerman, M. A., Israel, B. A., Shulz, A., & Checkoway, B. (1992). Further exploration in empowerment theory: An empirical analysis of psychological empowerment. *American Journal of Community Psychology*, 20(6), 707-727.
- Zimmerman, M. A., & Rappaport, J. (1988). Citizen participation, perceived control, and psychological empowerment. *American Journal of Community Psychology*, 16(5), 725-749.
- Zimmerman, M. A., & Warschausky, S. (1998). Empowerment theory for rehabilitation research: Conceptual and methodological issues. *Rehabilitation Psychology*, 43(1), 3-16.
- Zoerink, D. A., (1988). Effects of a short-term leisure education program upon the leisure functioning of young people with spina bifida. *Therapeutic Recreation Journal*, 22(3), 44-52.