Abstracts from the Coalition for Education in the Outdoors **Ninth Biennial Research Symposium**

Held at

Indiana University's Outdoor Center
Martinsville, Indiana
January 11-13, 2008

Compiled by

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Preface

The Coalition for Education in the Outdoors (CEO) is a network of organizations, businesses, institutions, centers, agencies, and associations linked and communicating in support of the broad purpose of education in, for, and about the outdoors. The Coalition was established in 1987 at the State University of New York at Cortland by a group of outdoor educators from around the country.

The purpose of the Coalition is to identify the networking and information needs of its affiliates and the field of outdoor education and, insofar as is financially practical, to meet those needs. Through its publication *Taproot*, CEO presents a broad view of education in the outdoors and a means for outdoor educators to stay abreast of developments in the field, especially those outside their primary interest area. In this way, CEO does not duplicate the work of other organizations, but provides readers with access to that work.

The founders of CEO envisioned that it could play an important role in addressing the research needs of the field. In its early years, CEO formed a research committee, which led to the organization of these biennial research symposia and the refereed publication now known as *Research in Outdoor Education.* Indiana University's Bradford Woods was chosen as the site of the first symposium, held in 1992 and coordinated by Camille Bunting of Texas A&M. Things worked out so well at Bradford Woods that CEO's Research Committee abandoned the idea of rotating the location. The CEO-Bradford Woods partnership in this venture is an excellent example of what CEO's founders envisioned.

Almost 17 years later, the CEO Research Symposium has more than doubled in attendance and tripled in the number of papers presented. Fortunately, the event is still not too large, and it has retained the informal and highly interactive atmosphere that people valued from the start. The purpose has remained the same.

The aim of the CEO Biennial Research Symposium is to assist outdoor educators in advancing the philosophical, theoretical, and empirical bases of outdoor education. It does so in several ways. First, the symposium enables scholars to present their work to one another and, through the publication, *Research in Outdoor Education*, to others in the field. Second, the symposium fosters conversation and builds a sense of community among researchers in outdoor education. Third, the symposium provides a forum to address areas of new or ongoing concern to researchers and scholars in outdoor education.

Papers selected for this and previous CEO symposia went through a blind-peer review. We can thank the reviewers for providing that service, which included giving feedback to authors, a step that enhances the already high quality of abstracts included in this compilation and presented at the symposium.

Following this symposium, authors of these abstracts will have the opportunity to prepare and submit full papers for yet another blind review process. Through that process, papers will be selected for inclusion in *Research in Outdoor Education, Vol. 9*, which will appear in late 2008 or early 2009.

We owe thanks to many people who make this event possible. The reviewers, the CEO Research Committee, and the authors, all listed later, are the ones who bring this program to life. The staff at Bradford Woods make getting there and being there so comfortable. Special thanks go to Karen Neuburger, Michael Porter, and Gary Hostetter, whose work with this event began months before our arrival. Bradford Woods is an extension of the Department of Recreation, Park, and Tourism Studies at Indiana University. We thank that department and its leaders, Lynn Jamieson, Jerry Wilkerson, and Bruce Hronek for their continued support of Bradford Woods and the CEO Research Symposium. They generously host our Saturday evening social. Human Kinetics Publishers is again hosting our Friday evening social and providing a number of books for some lucky attendees. We thank Gayle Kassing for nurturing this partnership between CEO and Human Kinetics. We welcome a new business partner this year, Routledge/Taylor & Francis Group, publisher of the *Journal of Adventure Education and Outdoor Learning*. Finally, our thanks go to SUNY Cortland President, Erik Bitterbaum, and Provost, Elizabeth Davis-Russell, for their continued support of the Coalition for Education in the Outdoors and to Charles Yaple, who keeps it going.

Anderson Young
For the CEO Research Committee

Reviewers for the Coalition for Education in the Outdoors Ninth Biennial Research Symposium

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Coalition for Education in the Outdoors

Ninth Biennial Research Symposium at

Indiana University's Outdoor Center

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Friday, January 11, 2008

2:00 – 4:00 Check in at Bradford Woods – *Bradford Manor*

Note: Shuttle service is available between the residence areas (Bradford Manor, Agape Lodge, and Baxter Village Cabins) and the meeting and dining areas (Carr Center and Baxter Dining Hall).

4:30 Opening Session – *Carr Center*

Welcomes	Andy Young, CEO Research Committee
	Jerry Wilkerson, Bruce Hronek, Indiana University
Logistics	Karen Neuburger, Bradford Woods
Symposium Overview	Andy Young
Research Preview	Jim Sibthorp, CEO Research Committee

5:00 Getting Acquainted - Facilitated by Jen Hinton and students from Ohio University

6:00 Dinner - *Baxter Dining Hall*

7:30 Research Presentation Session I – *Carr Center*

Presider: Penny James, North Carolina State University

Each research presentation session features several papers and ample time for discussion. These sessions, like the entire symposium, are intended to be highly constructive and interactive. Each presenter is allotted 20 minutes and asked to reserve about 5 minutes for discussion. The schedule permits additional discussion of the papers and their implications before adjournment.

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7:55 Stress and Challenge in the Adventure Education Context
Aiko Yoshino, Indiana University

8:15 Predictors of Participant Development though Adventure Education: Replication and Extension of Previous Findings from NOLS
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Sponsored by Human Kinetics Publishers, Champaign, Illinois

Saturday, January 12, 2008

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8:50 Empirically Testing Contact Theory as a Framework for Adventure-Based and Community Service Activities as Diversity Education
Jayson Seaman, University of New Hampshire

9:10 The Effect of Leadership Style on Sense of Community and Group Cohesion in Outdoor Pursuits Trip Groups
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9:30 Having the Right Stuff: Investigating What Makes a Highly Effective Outdoor Leader
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9:50 General Discussion

10:00 Refreshment Break

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10:25 "Camp – A Special World Where We Belong": A Qualitative Analysis of Interest in Camp
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10:45 An Exploration of Camp Directors' Affective Connection to Nature and Camp Programming
Penny A. James, Karla A. Henderson, North Carolina State University; Barry Garst, American Camp Association

11:05 An Evaluation of the Impact of a One-Week Summer Camp Experience on Participants' Social Skill Development
Paul Shirilla, Michael Gass, University of New Hampshire

11:25 Quality Youth Development and the Camp Experience: Results From A Program Improvement Process
M. Deborah Bialeschki, Barry Garst, American Camp Association; Marge Scanlin

11:45 General Discussion

12:00 Lunch and Free Time – *Baxter Dining Hall*

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2:00 A Practical Interpretation of Spoken Interactions during a Challenge Course Activity
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2:20 Climb, Jump and Catch Indicators on a Selected Power Pole Challenge Course Element: An Exploratory, Correlational Study on Predecessor and Audience Effect
Samuel A. Steiger & Julie A. Carlson, Minnesota State University, Mankato

2:40 Cost Effectiveness of the Behavior Management through Adventure (BMtA) Program for Male Offenders in Residential Treatment
Michael Gass, University of New Hampshire

3:00 Examining the Therapeutic Relationship in a Wilderness Treatment Milieu and its Relation to Outcome
Keith C. Russell, University of Minnesota

3:20 General Discussion

3:35 - 4:40 Poster Session and Refreshment Break - *Baxter Dining Hall*

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Exploring Environmental Values, Attitudes and Behaviors of Philmont Program Participants
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Adventure Education and Csikszentmihalyi's Flow Theory: A Critical Analysis of Stress and Optimal Experience as Learning Tools
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5:30 Motivations for Participating in Conservation Easement Programs for Land Conservation
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John Gookin, The National Outdoor Leadership School

6:10 General Discussion

6:30 Dinner – *Baxter Dining Hall*

7:45 Evening Forum – Carr Center

About ***Research in Outdoor Education, Volume 8*** – Jennifer Hinton, Lead Editor
Symposium Summary & Evaluation – CEO Research Committee
Brief Updates on Recent Research Initiatives by Organizations in Outdoor Education

9:00 Social – Baxter Dining Hall

Sponsored by the ***Indiana University Department of Recreation, Park, and Tourism Studies***

Sunday, January 13, 2008

7:00 a.m. Breakfast and Departures – *Baxter Dining Hall*

Bloomington Shuttle to airport picks up passengers at Bradford Manor.
Call ahead at 812/332-6004 or 800/589-6004
Thank you for being here. See you in 2010.
Travel safely.

An Investigation of the Outward Bound Solo Experience

Andrew J. Bobilya & Brad Daniel
Montreat College
Kenneth R. Kalisch

Background

The findings of many studies in the area of "Wilderness Experience Programs" (WEP), indicate that we do not know much about what happens during specific components of the program or how these components contribute to the overall outcomes of the experience (Ewert & McAvoy, 2000; McKenzie, 2000). The Solo experience within these programs has long had an anecdotal reputation for enhancing the quality of each participant's experience and continues to be a popular and consistently chosen component of most wilderness experience programs (Knapp & Smith, 2005). Recent studies have confirmed this perception by showing the Solo to be one of the most influential program components related to participant learning and growth (Daniel, 2003; Maxted, 2005; McFee, 1993). Bobilya (2004) and colleagues have been conducting recent research to better understand the participants' perceptions of their Solo experience during extended wilderness experience programs. The results of their Solo studies have assisted in better understanding this often influential program component, but only within one program type (Bobilya, 2004). The program studied previously was a 14-18-day spiritually oriented Outward Bound-type wilderness experience offered for incoming college freshman and transfer students at a midwestern, private, Christian college. The Solo, within this context, is a time when the students are intentionally separated from their expedition group for 24-72 hours for the purpose of reflecting on their lives, the lessons they have learned while traveling in the wilderness and their role as a small group member. Data collection on participants' Solo experiences in a different program – preferably an Outward Bound program operating courses with various age groups, course length, mode of travel and program locations is needed. Because of the Solo's continued use and documented impact, there is clearly a need to better understand participants' experiences during the Solo in other programs (Bobilya, 2004).

This study was designed to enhance understanding of participants' perceptions of the Solo through replication of previous Solo research (Bobilya, 2004) with a larger, national wilderness experience program utilizing the Solo with a variety of participants in different program settings. This study was guided by two major theoretical frames; Csikszentmihalyi's FLOW Theory (1991) and the Hendee-Brown Model (1988) have both been used as a lens through which to further understand the participants' perceptions of their Solo experience. This study was not intended to test either theoretical model. The purpose of this exploratory study was twofold, (a) to investigate the participants' perceptions of an organized Solo within an Outward Bound program and the effect that the participant(s), the instructor(s), and the environment have on their perception of the Solo and (b) to compare results with previous Solo studies.

Methods

This investigation utilized a "dominant-less dominant design" (Creswell, 1994, p. 177) as a means of combining qualitative and quantitative methods for exploring the Solo experience. The qualitative features of the study remained as the "dominant" and the quantitative features as the "less dominant" method. Participants included 345 students (200 male / 135 female) who chose to enroll in a North Carolina Outward Bound School (NCOBS) course and agreed to participate

in the study. The participants were selected based on simple criterion sampling (Patton, 2002). In particular, the participants had to complete a NCOBS course of at least seven days, including a Solo experience of 24-72 hours.

The study involved two phases of data collection: Phase 1: Participant Solo Questionnaire and Phase 2: Instructor Solo Questionnaire. The first phase of the study captured the participant's perception of their Solo experience while still alone in the wilderness and prior to returning to their expedition group. On the final day of their Solo, prior to returning to their group, the instructors asked the students to complete the written Solo questionnaire. This questionnaire allowed the students the opportunity to reflect on their experience without being influenced by the responses of their peers in the expedition group. Questions asked during Phase 1 included: (a) How did you feel entering the Solo experience? (b) What was the most enjoyable part of the Solo? (c) What was the most difficult part of the Solo? (d) Did the natural environment you spent your Solo in have any affect on the quality of your time alone? (e) How would you describe your Solo experience to a close friend of yours? The second phase of the study focused on the actual implementation of the Solo from the instructor's perspective. This data included length and location of Solo, whether the students were encouraged to fast from food and other important programmatic decisions which assisted in sorting of the data. Phase 2 questions also included: (a) What was the purpose of your Solo? (b) How did you prepare your students for Solo (c) What major activity did the group do following Solo? All phases of data collection were completed on August 27, 2007. The quantitative-based questionnaire data were analyzed and descriptive statistics and frequency tables were produced providing background information on the participants and the Solo. The qualitative analysis followed the Constant Comparative Method (Glasser & Strauss, 1967) where emerging themes are constantly compared with new data being analyzed. Direct comparisons between previous Solo studies (2002-2006) and the current study (2007) will be reported – analysis is currently underway.

Results and Discussion

The descriptive statistics show that 75% of the participants responded that the natural environment did play a role in the quality of their Solo experience. 82% of the students indicated that when given the option to fast, or go without food, they decided that they were going to eat during Solo. 65% of the students indicated that completing the Solo survey helped them draw meaning from their Solo that otherwise may not have happened. Analysis of the qualitative data thus far has focused on the student's response to the question, "How would you describe your Solo experience to a close friend of yours?" The participants' responses indicate the variance in their own experience as evidenced in the following themes: (a) Solo is a time for physical rest, reflection and goal setting, (b) Solo is a time for challenge often resulting in growth, (c) Solo is boring, (d) Solo is peaceful alone time which enhances ones attunement to others, self and nature, (e) Solo promotes transference of lessons learned during the expedition, and (f) Solo offers participants increased autonomy.

The North Carolina Outward Bound School is one of many wilderness experience programs using the Solo for personal growth. Furthermore, given the increased attention to the lack of direct experiences in nature among youth (Louv, 2005) and the importance of offering young people structured opportunities for increased autonomy - these results are instructive. These findings extend the previous Solo research by investigating a program which operates different

courses (purpose, length, activity type, age group and location), all of which attempt to include a Solo experience. Finally, the results help further our understanding of participants' perceptions of the Solo experience and how program administrators and instructors can best utilize the Solo experience as a tool for personal growth within their participants.

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Stress and Challenge in the Adventure Education Context

Aiko Yoshino, Indiana University

Background

Theoretically, an adventure education program provides individuals with stressful and challenging experiences in remote settings that allow personal growth through the successful coping of the situation through the use of self-control (Berman & Davis-Berman, 2005; Priest & Gass, 2005; Walsh & Golins, 1976; Luckner & Nadler, 1997). Numerous studies have examined stress in the context of adventure education, for instance, fear (Ewert, 1986; 1989), stressor (Robinson & Stevens, 1990), anxiety (Ewert, 1988), physiological stress (Bunting et al., 2000), physical and social stress (Watts, et al. 1993; 1994). Based on the Lazarus and Folkman's classification of stress appraisals (1984), however, stress refers to not only negative psychological reaction but includes the positive emotions, such as excitement and enthusiastic; and in essence, empirical study in this positive aspect of stress, challenge, is lacking in the field of adventure education.

Stress is defined as personal and environmental demands that are appraised as challenges and/or threats by the person. The main difference between *challenge* and *threat* is that challenge focuses on "the potential for gain or growth" and they are characterized by "pleasurable emotions such as excitement and exhilaration", whereas threat emphasizes "the potential harms" and is characterized by "negative emotions such as fear and anxiety" (Lazarus & Folkman, 1984, p. 33). Based on this theoretical notion of stress, contemporary research should take account of the positive aspects of stress, which include challenge, so that the multi-dimensional stress construct can provide a better understanding of stress appraisals in adventure education.

Thus, this study was designed to capture both stressful and challenging experience during adventure education courses. Specifically, this study investigates the reasons of stress (stressor), types and levels of the stressful/challenging events associated with gender and previous outdoor experience.

Methods

Participants (N=1,013) who completed either an 8-day or 21-day Outward Bound New Zealand course within the past 10 months were contacted by email to participate in this study. Of the 1,013 participants, 488 (48.2%) responded to a series of on-line psychological surveys. The participant perceived stress was assessed using a mixed measure of open ended questions (i.e., *What was the most stressful/challenging event you experienced during the course?*), and a combination of modified measurements, including Stress Appraisal Measurement (SAM; Peacock & Wong, 1990) and Stressor Inventory (Robinson & Stevens, 1990). Additional information such as demographics and previous outdoor experiences (i.e., number of weeks in the field, longest consecutive number of days in the wilderness, familiarity with the activity, overall perceived outdoor experience) was also collected. After screening data for incomplete, out-of-range or unreliable responses, 23.8% of the responses were removed; this resulted in a usable sample size of 372. This sample consists of 51.7% female respondents, with a mean age of 24.1 years. The OBNZ courses included various outdoor activities, such as backpacking, ropes course, rock climbing and a three-day "solo". Some courses also include abseiling, flat-water paddling, whitewater paddling, and service activities.

Results

Numerous types of stressors were reported. These stressors were subsequently analyzed using two lenses: first, specific events (a micro level) and second a broad categorization of stressors (a macro level). At the micro level, the top three self-reported causes for stress/challenge were "*Lack of sleep*", "*Letting myself down*", and "*The task was too demanding*" (respectively n=164, 45%; n=134, 37%; and n=124, 34%). At the macro level, *"novelty/intensity of activities and program*" was ranked slightly higher than *"novelty/intensity of natural environment*" and *"social interaction with the group member(s)*" (respectively n=255, 69.5%; n=194, 52.9%; n=171, 46.6%). Only 9% of the participants (n=35) reported *"social interaction with instructor(s)"* as causing stressful/challenging experiences. Regarding the duration of stress/challenge, over 70% (n = 101) of the participants indicated that the stressful event lasted less than 24 hours. Out of this 101 participants who indicated the stressful event was shorter than 24 hours, 64.8% (n=169) expressed that the event lasted less than a few hours.

The stress scale, SAM measured the six types of stress: *threat, challenge, overall stressfulness, controllable-by-self, controllable-by-other,* and *uncontrollable-by-anyone* (Peacock & Wong, 1990). The application of a two-way ANOVA resulted in the discovery of significantly different levels of perceived stress across genders. In comparison to males, female participants showed significantly higher level of *threat* and *overall stressfulness* ($p<.01$). Conversely, male participants indicated significantly higher level of c*hallenge* than female participants ($p<.01$). Moreover, the male perception of stressful events was significantly higher in *controllable-by-self* than the female perception. These results suggested that female participants are more likely to perceive their stressful event as uncontrollable or a threat, whereas male participants tend to view their event as controllable.

Interesting results were also found between levels of perceived outdoor experience and levels of stress. The reverse-U shape was found between experience and stress levels. Highly experienced and novice participants indicated lower levels of stress (in *overall stressfulness, challenge*, *controllable-by-self,* and *controllable-by-others*) than moderately experienced participants. This result suggests that moderately experienced participants perceived similar events as being more stressful or challenging in comparison to highly experienced or novice participants.

Discussion

This study supported previous findings that participants experienced various types of stress/challenge in an adventure education program, such as physical, psychological and social stress. Over 50% of participants indicated that the main stressors they experienced were novelty and intensity of natural environment as well as activities and the program. Since these stressors are unique to adventure education programs, the effects of these stressors should be further investigated.

Based on the most stressful/challenging events that the participants indicated, the study found the significant differences in perceived stress/challenge across genders as well as levels of perceived outdoor experience. Although social desirable responses can be a potential issue, male participants tended to view their stressful events as controllable or something that they can conquer with their present abilities, whereas female participants indicated more negative emotions, such as threat, possibly due to the lack of perceived control in the certain event. Therefore, if the dose and types of stress varies in different individuals, how does their stressful/challenging experience influence their growth differently in adventure education programs?

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Predictors of Participant Development though Adventure Education: Replication and Extension of Previous Findings from NOLS

Karen Paisley, Jim Sibthorp, Nathan Furman, Scott Schumann, University of Utah
John Gookin, National Outdoor Leadership School

Introduction and Rationale: Two major questions have driven recent research efforts within the field of outdoor education, in general, and within the National Outdoor Leadership School (NOLS), specifically. First, what do participants learn from outdoor education programs? Second, what is the process through which this learning occurs? In previous studies, we proposed a basic model of student development (Sibthorp, Paisley, & Gookin, 2007); identified learning mechanisms valued by students (Paisley, Furman, Sibthorp, & Gookin, in press); and highlighted the role of student autonomy in adventure-based programming (Sibthorp, Paisley, Gookin, & Furman, in press). As we begin to more fully understand the participant development process, we can make more informed decisions about additional predictors to include in a predictive model. The purpose of this paper, then, is to expand prior work to include an investigation of the impact of instructional strategies employed by course leaders on student learning. Such replication and extension of previous studies is seldom conducted, but critical to the process and rigor of understanding social phenomena (e.g. McMillan & Schumacher, 1997).

Literature on new variables: A review of current research and publications containing instructional strategies for adventure-based programming revealed a variety of methods common to outdoor education that are considered beneficial to student development. These predictors include such instructor-dependent approaches as coaching (Gilbertson, Bates, McLaughlin, & Ewert 2006; Gookin, 2003); role modeling (Gookin, 2003; Martin, Cashel, Wagstaff, & Breunig, 2006; McKenzie & Blenkinsop, 2006); demonstration (Gilbertson et al., 2006; Gookin, 2003; Martin et al., 2006); and discussion (Gookin, 2003; Priest & Gass, 2005; Wurdinger & Paxton, 2003). Another series of tactics transfers varying levels of responsibility to the students and includes role plays (Martin et al., 2006); skits; reflection (Drury, Bonney, Berman, & Wagstaff, 2005; Gilbertson et al., 2006; Martin et al., 2006; Priest & Gass, 2005); and self-directed learning (Breunig, 2005; Wurdinger & Paxton 2003). Lastly, despite the theoretical groundings of adventure-based programming in experiential education and tactics, the didactic approach of lecture remains a common strategy employed by instructors (Drury et. al., 2005; Gookin, 2003; Wurdinger & Paxton, 2003).

Methods: Data were collected from the students through the NOLS Outcome Instrument (Sibthorp et al., 2005). Based on NOLS course objectives, this instrument measure perceived gains in leadership (12 items, alpha=.84), outdoor skills (5 items, alpha=.82), and environmental awareness (4 items, alpha=.76) using a retrospective pretest/posttest format (see Howard et al., 1979). After the data were screened and cleaned, difference scores were calculated. Data were also collected from instructor teams and matched to the responses of students on those respective courses. Instructors indicated the value they placed on a variety of instructional strategies and provided demographic information and perceptions and observations regarding their courses.

Data Analysis: Data were then analyzed using HLM 6.0 to account for the nested structure of the data and to replicate the methods from the previous study. Initially, null (or empty) models were run to ensure a significant amount of variance in each outcome variable could be attributed to the course level (level 2). Significant predictor variables from the previous study (Sibthorp et al., 2007) were then added (level 1: age, sex, previous expedition experience, perceptions of empowerment; level 2: instructor rapport, group functioning), followed by the new level 2 variables (the instructional strategies) hypothesized to be important to participant development.

Results: Data were collected from 1,696 participants on 155 NOLS courses between 2005 and 2006. In efforts to constrain the sample to be as representative as possible of the "typical" outdoor program participant, 405 participants over the age of 21 during their courses were deleted; 48 participants who were naval academy cadets participating in custom courses were deleted; 36 who were enrolled in NOLS professional courses (guiding, outdoor educator, or instructor courses) were deleted; and four courses which had only three participants who were 21 or younger were also deleted because of the instability of course-level estimates. These deletions left a usable sample of 1,228 participants on 113 NOLS courses.

The initial null models all showed a significant amount of variance ($p < .05$) was attributable to level 2 (the course level), with ICCs that ranged from a low of .092 (9.2%) for leadership to a high of .168 (16.8%) for outdoor skills. The predictors were then added to each model.

Perceived gains in leadership were significantly predicted by previous expedition experience, sex, age, and empowerment at level 1 (the participant level). Higher gains were reported by participants without previous expedition experience ($t = -3.66$, $p < .01$), male participants ($t = -2.63$, $p < .01$), younger participants ($t = -3.44$, $p < .01$), and those who experienced greater empowerment on their courses ($t = 3.27$, $p < .01$). Of the potential course-level predictors, average rapport with instructor explained a significant amount of the variance (greater instructor rapport with the group was positively associated with perceived development: $t = 3.60$, $p < .01$).

Perceived gains in outdoor skills were significantly predicted by previous expedition experience, sex, and empowerment at level 1 (the participant level). Higher gains were reported by participants without previous expedition experience ($t = -11.60$, $p < .01$), female participants ($t = 4.42$, $p < .01$), and those who experienced greater empowerment on their courses ($t = 4.01$, $p < .01$). Of the potential course-level predictors average rapport with instructor ($t = 3.36$, $p < .01$) and coaching as a valued instructional strategy ($t = 2.17$, $p < .05$) explained a significant amount of the variance (both were positively associated with perceived development).

Perceived gains in environmental awareness were significantly predicted by previous expedition experience, sex, and empowerment at level 1 (the participant level). Higher gains were reported by participants without previous expedition experience ($t = -10.13$, $p < .01$), female participants ($t = 4.96$, $p < .01$), and those who experienced greater empowerment on their courses ($t = 5.24$, $p < .01$). Of the potential course-level predictors average rapport with instructor ($t = 3.17$, $p < .01$) and self-directed learning as a valued instructional strategy ($t = 3.13$, $p < .05$) explained a significant amount of the variance (both were positively associated with perceived development).

Discussion: The purpose of this study was to expand on previous work with NOLS by investigating the effect of new predictor variables on student development. Results suggest several interesting relationships with respect to variables in the original model (Sibthorp, Paisley, & Gookin, 2007), thus the replication, and two new predictor variables (extension). First, sex is related to outcomes (women report learning more technical skills and men report learning more leadership-oriented skills), which may make sense in that women, stereotypically, have higher levels of leadership-oriented/interpersonal skills than men and men, stereotypically have higher levels of technical skills than women. While it may be discouraging to reinforce stereotypes, the data do suggest that this pattern exists. Second, evidenced by the t-values, previous experience has an impact on learning of both leadership-oriented skills and technical skills, but this impact is much larger with respect to technical skills, perhaps due to the sheer novelty of the outdoor skills. Another interesting result involves the impact of "rapport with the instructor," which is

significantly related to and more predictive of perceived gains in all three areas in the present study. This may be due to rephrasing of the item from the student having a "close relationship" with an instructor to an instructor "showing a genuine interest in me [the student] as a person," which may have reduced social desirability among the students (if they liked the instructor they may have reported elevated gains). With respect to extension, both coaching and self-directed learning were identified as new and significant predictor variables. Coaching was positively related to students' perceived increases in outdoor skills, suggesting that consistent, one-on-one, tailored feedback is important to the development of complex technical abilities. Self-directed learning was positively related to increases in environmental awareness, supporting the notion that the mountains can speak for themselves. Thus, not only did we gain insight into new predictors, we also addressed measurement issues through the present study. Perhaps most importantly, this study demonstrated strong support for and clarification of our initial model of student development (Sibthorp, Paisley, & Gookin, 2007).

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An Initial Exploration of the Influence of Short-Term Adventure-Based Experiences on Levels of Resilience

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Introduction

Outcomes from participation in adventure education/experiential education (AE/EE) programs has typically involved issues such as self-concept, self-esteem, personal efficacy, and leadership. Likewise, more contemporary outcomes now include sense of achievement, empowerment, hardiness, sense of coherence, positive adaptation, and resilience. Defined as an individual constellation of characteristics and capacities that mitigate the impact of biological, psychological and social factors that threaten an individual's health (Kaplan, 1999; Ungar, Dumond, & McDonald, 2005), resiliency represents a "bouncing back" from a negative event. The purpose of this study was to investigate the effect of participation in a three-week adventure-based expedition on levels and types of resiliency.

Background and Logic

The concept of resiliency was formulated through the study of children or adolescents who survived situations in which they were exposed to intense adversity, including premature birth, biological heritage, poverty and becoming an orphan due to a war (Masten, 1999; Masten & Reed, 2002; Miller & McCool, 2003). Not only in the study of positive psychology, but also theories, models of adventure education often describe personal growth as a result of overcoming challenging events (e.g., Hendee & Brown, 1987; Luckner & Nadler, 1997; Walsh & Golins, 1976). Few studies, however, have examined whether short-term, expedition-type experience can impact individual resiliency.

The two empirical studies found in the adventure field report inconsistent results. While Neill and Dias (2001) found there to be significant enhancements of psychological resilience for the 41 participants in a three-week Outward Bound Australian program in comparison to the control group, Skehill (2001) did not find any impact on psychological resilience in the students who attended a five-week outdoor education program. Other research using remote wilderness expeditions as the setting and lasting up to 100 days have reported significant effects to the participants on variables such as resilience (Atlis, Leon, Sandal, & Infante, 2004; Leon, List, & Magor, 2004). The literature also suggests that resiliency is similar to other psychological phenomena such as hardiness (Bartone, 1999; Golby & Sheard, 2004) and mental toughness (Clough, Earle, & Sewell, 2002; Loehr, 1986). These concepts are closely related to the previous outcomes found in the adventure education literatures, such as self-confidence and empowerment (Hattie et al., 1997). Thus, there is a substantial amount of corroborating evidence to suggest that AE/EE programs can be effective in enhancing levels of resiliency among participants.

Countermanding the belief that AE/EE programs can be effective in altering levels and types of resiliency is the possibility that a resilience is an "embedded" phenomenon within the personality framework, and as such, not prone to change. Further complicating the issue is one of dosage. That is, can adventure programs sufficiently emulate other traumatic events that studies have shown do impact levels of resilience, such as armed conflict, loss of a loved one, or breakup of one's family.

Somewhat offsetting these concerns is the recognition that many of the experience components inherent in AE/EE programs are remarkably similar to those traits commonly found

among resilient individuals, including physical challenge, desire for reflection, social issues that must be addressed, direct involvement with the natural environment, overcoming adversity, hopefulness, and involvement as a team member (Davis, Ray, & Sayles, 1995; Haras, Bunting, & Witt, 2006; Unger, Dumond, & McDonald, 2005; also see McKenzie, 2003). Thus, while not directly implicating a cause and effect relationship, these similarities form the basis of belief that a short-term expedition may be influential in altering the levels and types of resilience held by participants. Accordingly, the following research questions formed the basis for this study: 1. Do the resilience scores change as a result of a short term adventure education experience? 2. In what ways do levels of resiliency change on specific items between the experiential and non-experiential groups?

Methods

Two groups of students (N=85) who had either enrolled in a traditional college course or in a semester-long outdoor leadership course in spring 2006 or 2007 were asked to fill out a modified version of a 37-item Resilience Scale (Wagnild & Young, 1993) designed to measure levels of resilience. Both groups were matched in the context of enrolling in the same department, recreation, park and tourism studies, similar age (between 19-21 years old) and class standing (mainly sophomore and junior).

Individuals were asked to place a slash on a 10 centimeter line that corresponded with how felt about each of the 37 items anchored by *strongly agree* to *strongly disagree*. The location of this "slash" was measured and served as the unit of measurement. Internal consistency of the instrument, assessed with Cronbach's alpha, was .96. Factor analysis indicated a uni-dimensional factor structure for this scale.

For the experiential group, the survey was administered before and immediately after participating in a three-week outdoor adventure expedition. This expedition was part of a semester-long college program and involved outdoor activities such as rock climbing, winter camping, mountain climbing, desert travel, river crossings, and a three-day "solo" experience. The non-experiential comparison group received the questionnaire over the same time period.

A two-way repeated measure ANOVA was conducted comparing the pretest and posttest resilience scores across the experiential and non-experiential groups. Both aggregated scores of 37 items and scores for each item were separately analyzed.

Findings and Discussion

In total, eighty-two of 85 students (97% response rate) responded to the survey. Of 82 responses, 56 matched pairs (68% of the total responses) were generated. After screening the data for incomplete questionnaires, out-of-range scores or response sets, two matched pairs were removed, resulting in a usable sample size of 54 (N = 28 for the experienced group; N = 26 for the non-experienced group). Both experiential and non-experiential groups indicated increases in levels of resilience over time. Repeated two-way ANOVA and t-tests resulted in *only* the experiential group showing a significant difference at the .05 level (mean = 65.3 in pre-test and 69.0 in post-test for the experienced group, and mean = 68.7 and 71.6 respectively for the non-experienced group, η^2=.51). Of the 37 items in the scale, 33 items for the experiential group indicated a positive gain score (i.e., the mean difference of pre and post scores is positive). Interestingly, of these 33 items, the study found 6 items that showed a statistically significant increase over time and *only* for the experiential group (p < =.05). These findings are consistent with previous findings (Neill & Dias, 2001) and suggest that a short-term expedition can positively influence a participants' level of psychological resilience.

Given the very nature of many experiential programs, it seems reasonable to expect that impacts to levels of resilience could be anticipated and even programmed for. In addition, the results from this study provide useful information for the further improvement on content validity of the resilience scale that enables us to accurately assess the psychological development following an adventure education experience.

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The Neighborhood Project: A National Census of Outdoor Orientation Programs at Four-Year Colleges in the United States

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Introduction

Outdoor orientation programs exist at many colleges and universities in the United States. An outdoor orientation program is a physically challenging introduction to college, using wilderness camping and adventure activities with incoming students working together in small groups. Although numerous programs exist, the exact number and location of programs have eluded researchers. The purposes of this project were to ascertain the number and location of outdoor orientation programs at four-year colleges and universities in the United States, to provide an accurate description of outdoor orientation programs, and to provide baseline data to track future changes and trends in the field of outdoor orientation.

While other attempts to survey the "neighborhood" of outdoor orientation practice have occurred, none to date have attempted to locate and gather information about every outdoor orientation program at four-year colleges in the United States. In 1984, Gass identified and received survey data from 34 outdoor orientation programs. Subsequently, in 1989, O'Keefe conducted a Delphi study and identified 58 programs. Then in 1996, Davis-Berman and Berman surveyed 64 programs. For each of these studies (Gass, 1984, O'Keefe, 1989, Davis-Berman & Berman, 1996), a sampling procedure was used, contacting a sub-set of the total population. The previous researchers suspected more outdoor orientation programs existed than they were able to contact. Thus the primary motivation and original goal behind the Neighborhood Project was formulated: to provide a definitive answer as to how many outdoor orientation programs existed. Also, the previous three studies suggest that the number of outdoor orientation programs in the country is increasing. The researchers wondered if this trend would be substantiated by an accurate census. Lastly, the researchers expected two key variables, program age and size, to impact program characteristics. Comparing new, developing programs with older, more established programs was expected to indicate whether programs are changing, and if so, how. Also, given that managing large numbers of people is a very different task than managing a few people, large outdoor orientation programs (with over a 150 participants) and small programs (under 30 participants) were expected to be fairly distinct.

The purpose of this study was to answer the following questions:

1. How many outdoor orientation programs are operating at four-year colleges in the United States?
2. Are outdoor orientation programs growing in number?
3. What are some of the defining common peer practices among the programs that help describe the neighborhood of practice?
4. How do outdoor orientation programs differ by the age of the program and by the size of the program?

Methods

To provide a comprehensive census of outdoor orientation programs, the researchers committed to contacting every four-year college and university in the United States. Once a school was identified as having an outdoor orientation program, a program representative was emailed a link to an online 62-question survey hosted by *psychdata.com.* Broadly, the survey focused on school and program demographics (e.g. "What is the undergraduate enrollment of your institution?" and "How many leaders are active in your program this year?"), program history (e.g. "What year did your program begin?" and "How did your program begin?"), and program

operations and procedures (e.g. "What is the cost of students to participate?" and "How do you treat your water?").

Survey non-response was followed up via email and/or telephone by a student research assistant who encouraged participation. The survey was kept active for ten months, with a final response rate of 97%. Collected data was downloaded into a SPSS program for cleaning and analysis. During the cleaning process, schools were re-contacted as necessary to decipher ambiguous survey responses and to provide accuracy in the reporting.

Results

1. How many outdoor orientation programs are operating at four-year colleges and universities?

Out of the 1,758 colleges contacted, 202 (11.5%) reported having an outdoor orientation program. After cleaning the number of outdoor orientation programs was 174.

2. Are outdoor orientation programs growing in number?

The results showed an increase in new programs. Of the 162 outdoor orientation programs that reported the year they began, 51 programs started before 1990, 58 from 1990-1999, and 65 from 2000 to the present.

3. *What are some of the defining common peer practices among the programs that help describe the neighborhood of practice?*

Variable	Average	Range
Year program started	1993	1935-2006
Length of program	5.5 days	1-24 days
Number of leaders	22	1-250
Number of leaders (excluding the two largest programs, Dartmouth and Princeton)	10	1-100
Cost per day	$49.98	$0-$212
Cost per program	$279.80	$0-$2500
Number of participants	109	4-1080
Hours of leader training	48	0-1,000
Funding provided to program from college	Mean = $28,042 Mode = $0	$0-$184,000
Number of programs started per year since 2000	9	2-15

4. How do outdoor orientation programs differ by the age of the program and by the size of the program?

Age of Program: The oldest programs tend to be significantly larger, Pearson χ^2 (6, n=157) =39.161, p<0.001, Cramér's V=0.353, be located within private rather than public institutions, Pearson χ^2 (2, n=172)=7.147, p=0.0028, Cramér's V=0.204, have a greater likelihood of having been started by students, Pearson χ^2 (2, n=142)=12.509, p=0.002, Cramér's V=0.297, have a physician on call, Pearson χ^2 (2, 170)=15.191, p<0.001, Cramér's V= 0.299, and offer financial aid to participants, Pearson χ^2 (2, p=151)=13.578, p=0.001, Cramér's V=0.299. Comparatively, newer programs are more likely to be shorter and smaller, to lack an on-call physician, and to not provide financial aid to participants.

Size of program: Very large programs (participants > 150) showed some significant differences compared to medium and small programs. The very large programs were significantly more likely to collect accident data, Pearson χ^2 (6, n=157)=13.28, p=0.039, Cramér's V=0.206, have an on-call physician, Pearson χ^2 (3, n=157)=12.76, p=0.005, Cramér's V=0.285, be located at a private institution, Pearson χ^2 (3, n=159)=9.12, p=0.028, Cramér's V=0.239, and provide more financial aid than the smallest programs (participants < 30), Pearson χ^2 (6, n=157)=19.73, p=0.003, Cramér's V=0.251.

Discussion

The researchers found 174 outdoor orientation programs currently operating at four-year colleges and universities in the United States. These results identify many more programs (n = 112) than the most recent research study, indicating a significantly larger neighborhood than has been reported in the past. Two hypotheses explain such growth: either many programs may have remained unidentified in the past, or many new programs have begun since the Davis-Berman & Berman study (1996). The data shows that both hypotheses are valid. Some programs remained unidentified by the Davis-Berman study (n=16) and many programs have started since 1996 (n=91). Additionally, while the enrollments of older programs have typically stabilized, these newer programs often report increasing enrollments.

There are a number of commonalities uniting the programs, both old and new, in this neighborhood. This study revealed that while outdoor orientation programs are somewhat divided by their size and age, they are strikingly similar in terms of cost, group size, use of student leaders, first aid requirements, and use of cell phones as communication devices.

Notable divisions were found amongst programs of different ages and different sizes. The older, larger programs are more likely to carry National Forest Service permits and travel greater distances from roads. Generally the older, larger programs are more likely to have a purely wilderness-based experience, while the newer, smaller programs are more likely to integrate wilderness experience with adventure-based programming in camp settings. The causes of this rough dichotomy may be the result of a program's age/maturity, in which case newer programs may eventually grow to resemble the older programs. Yet the differences may be the result of a shift in program paradigms from 1980s to the 2000s, in which case the observed differences will not reconcile themselves.

Currently the neighborhood is growing. If outdoor orientation program growth rate continues in the trend of nine new programs each year, the neighborhood will inevitably change. This change may be positive and may boost program recognition on and off campus if programs with strong foundations are utilized as models for developing programs.

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Empirically Testing Contact Theory as a Framework for Adventure-Based and Community Service Activities as Diversity Education

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Participation in experiential programs is believed to enhance people's appreciation for diversity. Washington and Roberts (1999) state: "The attitudes we have about each other, especially those who are different from ourselves, can be addressed through adventure education" (p. 359). Billig (2000) writes that service learning has "a positive effect on … the ability to relate to culturally diverse groups" (p. 661). Such claims undoubtedly accord with experiential educators' basic values and hopes, yet they have received little focused research attention. Given the ongoing issues of diversity in our society, such as those currently surrounding school integration policies, schools and communities will continue to need effective ways to foster positive relations among individuals and groups. Therefore, evaluating the capability of experiential programs to help meet these needs is an important and timely project.

In addition to measuring program outcomes, the current study empirically tested contact theory (Allport, 1954/1979) as a possible conceptual framework for adventure and service activities as diversity education. It sought to address some of the limitations of previous research by elaborating the "theoretical basis for each of the program components" in an experiential program focused on diversity education, as well as the "specific activity conditions that produce particular experiences" for different participants (Baldwin, Persing, & Magnuson, 2004, p. 172). Addressing these points, it was believed, would help generate a plausible theory of experiential activities as diversity education (see Eccles & Gootman, 2002, esp. pp. 15, 207).

Conceptual Framework: Contact Theory

Experiential activities are designed to influence people's interpersonal relationships and, consequently, their understandings of one another. At face value, this approach seems to match the programming methods prescribed under contact theor, which predicts that fostering "actual face-to-face interaction between members of clearly distinguishable and defined groups" under certain "optimal" conditions will result in improved attitudes toward diverse others (Pettigrew & Tropp, 2000, p. 95). These conditions are: (a) opportunities to *associate* with diverse others; (b) *supportive norms* for cross-group contact; (c) perceptions of *equal status* among participants; and (d) engagement in tasks that emphasize *cooperative interdependence*. The current study sought to test whether or not an experiential program satisfied these "optimal contact conditions," and to determine the extent to which the relative presence or absence of these conditions predicted program outcomes.

Methods

Locus and sample. This 2007 study examined a residential, weeklong diversity education program involving 82 Black, White, Latino/Latina, and Asian youth ages 14-18 from the Hartford, CT area. Program goals were to "promote diversity, develop leadership, and provide community service." The program combined adventure-based teambuilding exercises and community service projects. 74 youth consented to participate in the study, 51 of which identified themselves as White, 15 as Black, 7 as Latino/Latina, and 1 as Asian. Following from previous research (Pettigrew & Tropp, 2000), study participants were grouped according to majority (i.e., White; n=51, or 69%) and minority (i.e., Black, Latino/Latina, and Asian; n=23 or 31%) categories for analytic purposes.

Measures. Two instruments were used to measure the extent to which contact conditions were perceived and predicted program outcomes. These instruments were selected based on five criteria: (a) correspondence with program goals; (b) reliability and validity; (c) grounding in established social science constructs; (d) age appropriateness; and (e) relevance to qualitative data, which was also collected as part of the study's overall mixed-methods design.

- The School Interracial Climate Survey (SICS: Green, Adams, & Turner, 1988) measures adolescents' perceptions of the four contact conditions in an educational environment. This survey was given midway through the program.
- The Miville-Guzman Universal-Diverse Orientation (UDO) Scale, Short Form (MGUDS-S: Fuertes, Miville, Mohr, Sedlacek, & Gretchen, 2000). UDO is defined as "an attitude toward all other persons that is inclusive yet differentiating in that similarities and differences are both recognized and accepted" (Miville et al., 1999, p. 292). This survey was given the first morning and again on the final evening.

Results

Hypothesis 1: Program participation will yield changes in appreciation for diversity as measured by MGUDS-S. A paired samples t-test was used to evaluate changes in UDO. For the whole group, results indicated that the mean post-test score (M=72.55, SD=7.89) was significantly greater than the pre-test (M=69.53, SD=6.94), t(73)=-4.83, p<.001. The standardized effect size index, *d*, indicated an overall medium effect (Cohen, 1988). Splitting the data by group revealed nonsignificant differences between majority and minority groups.

Table 1: Paired Samples t-Test for Changes in MGUDS-S Scores, by Group

Group	MΔ	SD	*t*	*d*
Whole (N=74)	3.02	5.39	4.83[c]	.56
Majority (n=51)	3.45	5.00	4.93[c]	.69
Minority (n=23)	2.09	6.19	1.62	.34

Note. [c] *p<.001*

Hypothesis 2: Perceptions of contact conditions predict program outcomes as measured by MGUDS-S. Multiple regression analysis was conducted to evaluate how well various factors predicted post-test scores on the MGUDS-S. Best-fit predictors were the MGUDS-S pre-test and SICS total, while the criterion variable was the MGUDS-S post-test. The best-fitting regression equation was significantly predictive of MGUDS-S post-test scores; R=.75, R^2=.56, adjusted R^2=.55, F(2,69)=44.55, p<.001.

Two further analyses were conducted based on trends in the data and themes discussed in the literature. In particular, the difference between majority and minority groups on pre and post-tests, as well as possible differences in perceptions of contact conditions, were of interest.

Differences in pre/post-test scores between majority/minority participants x equal status. One-way ANOVA revealed significant differences between majority and minority groups only in the condition *equal status* (p<.01). This led to questions about a possible interaction effect between *equal status* and majority/minority group membership on posttest scores. ANCOVA was used to analyze this interaction. When controlling for the pretest, the interaction neared significance (p=.07). As shown in Figure 1 below, the relative perception of equal status among majority participants, controlling for pre-test scores, had a minimal effect on their post-test scores. For minority participants, however, the relative perception of *equal status* had a noticeable effect on their post-test scores. This is exemplified in the considerably lower post-test scores of minority students whose *equal status* scores were below the median and the higher post-test scores of minority students whose *equal status* were above the median, versus the near identical post-test scores of majority participants regardless of *equal status* values.

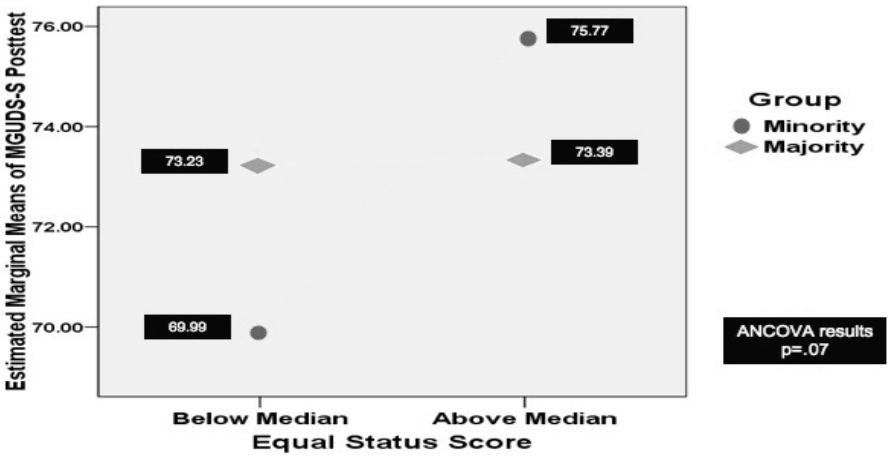

Figure 1: Interaction between* equal status *and majority/minority group membership on MGUDS-S posttest

Discussion

On the whole, these findings support the claim that adventure and service activities positively affect participants' appreciation for diversity. Moreover, contact theory may be a viable framework for studying experiential activities as diversity education. However, the condition *equal status* seemed to be particularly salient for minority participants whereas for majority students it did not differentially affect outcomes. This suggests that participants may perceive "the same" situations in different ways, and that minority participants may be more sensitive to perturbations in key conditions – especially *equal status*. Further research might study the specific situations in which equal status *is* perceived by different people relative to one another, as this appears to be especially important for minority participants.

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The Effect of Leadership Style on Sense of Community and Group Cohesion in Outdoor Pursuits Trip Groups

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Background

The development of positive group experiences and interpersonal relationships is a primary purpose of outdoor pursuits trip programs. These positive experiences can lead to an enhanced sense of community among group members (Mitten, 1999). Sense of community is characterized by sharing an awareness of group membership, influencing each other, fulfilling needs, and being emotionally connected (McMillan & Chavis, 1986). Group cohesion, or sense of belongingness, attraction and unity a group has toward its members (Wilson, 2002), has been found to influence the creation of community, and vice versa (McMillan & Chavis, 1986).

The leader of an outdoor pursuits trip group is in a unique position to influence the sense of community and group cohesion of that group (Martin, Cashel, Wagstaff, & Breunig, 2006). Most outdoor leaders have a preferred style of leadership that they use in a wide variety of situations, which is based on concern for either the task or relationship function of the group (Hersey, Blanchard, & Johnson, 1996).

The purpose of this study was to examine the effects of leadership style on the sense of community and group cohesion of outdoor pursuits trip groups.

Methods

Subjects were enrolled in one of two, 13-day *Outdoor Education Practicum* courses during the summer of 2006 or 2007, spending seven days in a camp-like resident outdoor education setting and six days on a wilderness canoe trip in New York's Adirondack Park. Students were assigned to one of 14 trip groups designed to be as equivalent as possible in terms of balancing gender, personalities, experience, and skill level. All student staff members and students enrolled in the courses (n = 101) were asked to fill out a set of three questionnaires (Group Cohesion Evaluation Questionnaire [Glass & Benshoff, 2002], Perceived Sense of Community Scale [Bishop, Chertok, & Jason, 1997], and supplemental questions) three times during the course: the first night trip groups were formed (Day 4); the first night the trip groups returned to base camp (Day 12); and the last morning of the course (Day 14) to assess changes in these variables. Mean scores were calculated for a group cohesion scale (9 items using a 4-point Likert scale), an overall sense of community scale (30 items scored on a 5-point Likert scale) as well as three community sub-scales: mission (12 items), reciprocal responsibility (12 items), and harmony (6 items). The leaders of the 14 trip groups were asked to complete the Leader Effectiveness and Adaptability Description (LEAD-Self Questionnaire) (Hersey & Blanchard, 1973) on staff training/course set-up day (Day 1). In this study, three dominant leadership styles were evident: 1) high relationship/low task; 2) high relationship/high task; and 3) an equal preference for high relationship/high task and high relationship/low task. Other preferred leadership styles did not emerge among the group of leaders sampled for this study.

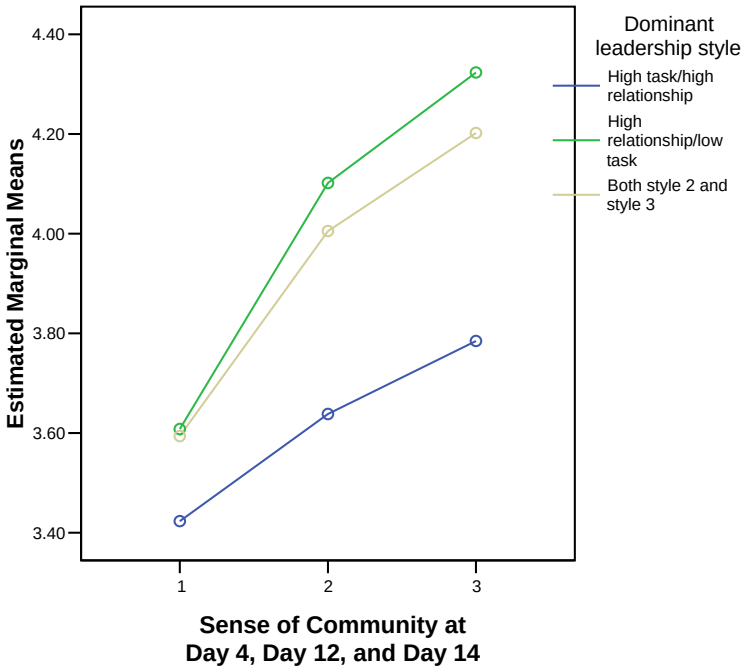
Data were analyzed using a repeated measures ANOVA with sense of community, the three sense of community subscales, and cohesion as dependent variables and leadership style as the independent variable. Specifically, a 3 x 3 mixed-design ANOVA was calculated to examine

the effects of leadership style (the 3 preferred styles) and time (Day 4, Day 12, and Day 14) on sense of community, mission, reciprocal responsibility, harmony, and group cohesion. Paired-sample t-tests were also utilized to examine how leadership style impacted sense of community over time.

Results

When comparing sense of community scores, the repeated measures ANOVAs indicated that although the main effects for time ($F(2,188) = 35.40$, $p < .001$) and leadership style ($F(2,94) = 3.42$, $p < .05$) were significant, no significant time x leadership style interaction was present ($F(4,188) = 1.16$, $p > .05$). Specifically, sense of community positively increased over time for all subjects (Day 4 mean = 3.54, Day 12 mean = 3.92, and Day 14 mean = 4.10), regardless of leadership style. Although average sense of community also differed among leadership styles (high task/high relationship mean = 3.62 and high relationship/low task mean = 4.01), leadership style did not *differentially* affect sense of community over time. However, upon examination of the data, a consistent trend seemed to emerge when comparing leadership styles over time. The gains in sense of community were greatest for groups with high relationship/low task leadership styles and lowest for high task/high relationship styles (see figure 1). Similar patterns of results were also evident when testing mission, reciprocal responsibility and group cohesion scores. The harmony subscale, on the other hand, was least affected by either leadership style or time. Results from paired samples t-tests support these patterns.

Figure 1. Sense of Community over Time by Leadership Style



Discussion

Although the repeated measures ANOVA yielded no significant interaction between leadership style and time, the results of the paired-samples t-tests indicated that changes in sense of community and cohesion were affected by leadership style. It is logical that leaders who are more focused on the relationship function of the group would have a greater impact on sense of community and cohesion than those with a focus on the task function of the group. Additionally, leaders who exhibited a mix of leadership styles positively impacted sense of community and cohesion to a greater degree than those who only preferred a high task/high relationship style. Perhaps leaders with a more balanced leadership style enabled participants to feel a greater connection to one another as some of their efforts were focused on helping the group deal with tasks that needed to be completed. Results of this study confirm previous findings (Todd, Young, O'Connell, Anderson, Anderson, & Breunig, 2007) which indicated that participation in outdoor pursuits trips leads to enhanced sense of community and cohesion. Additionally, these results provide an initial understanding of the potential impact that leadership style may have on sense of community and group cohesion. Although these results confirm intuitive and anecdotal evidence suggesting sense of community increases over the course of an outdoor pursuits experience, researchers are only starting to explore this area. It is recommended that researchers continue to explore the nature of group dynamics in outdoor adventure education settings, as the effects of variables (such as leadership) on facets of group dynamics (such as sense of community and cohesion) have not yet been fully explored (McAvoy, Mitten, Stringer, Steckart, & Sproles, 1996).

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Having the Right Stuff: Investigating What Makes a Highly Effective Outdoor Leader

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Background

The development of competent and capable leaders has been an important research area within the Adventure Education field. The result of these research efforts has been the development of a diverse list of criteria including judgment, decision-making, facilitation, communication, and technical skills; all elements of leadership necessary for employment and the completion of job duties (e.g., Buell, 1981; Cain, 1988; Priest, 1984; Priest & Gass, 2005; Swiderski, 1988). While these criteria have been informative and essential for the development of entry-level professionals, we recognize that that development is an ongoing process. Yet, there is minimal research in outdoor leadership that examines the "other end" of that process: when leadership is at a zenith, i.e., the point where all the components of leadership come together in a highly efficacious mix to allow for highly effective performance – exceptional leadership. What are the elements in that mix? Are there new elements that emerge during the process of leadership development? How do the basic elements adapt as leadership grows or matures? Certainly, any discussion on outdoor leadership *effectiveness* faces serious challenges with concepts such as success, excellence, outcomes, and process. What is excellence? How is it defined? Additionally, assessing the effectiveness of a program, activity, or group is often a subjective process determined by the specific mission, goals, and objectives of the organization rather than a set of broadly applied principles. Because this foundational task formed the overall purpose for this study, the goal of this study was to explore these questions in order to identify the components of highly effective leadership in outdoor adventure programs and begin to layout a conceptual framework for further research.

As leadership theory and research evolved through the 20th century, studies moved from trait-based and characteristic-driven frameworks to those more contextually and culturally based (Kezar, 2004). As Kezar argued, however, the nature of the leadership phenomenon is far too complex to be captured by traditional methods of investigation. Any sustained research program on the subject must first establish an exploratory framework firmly ensconced within the relevant context before proceeding to in-depth investigation and exposition of individual elements. Recognizing that Leadership cannot be defined by a catalog of skills, abilities, or relevant knowledge, we must also concede that simply regarding leadership as a situational phenomenon is insufficient for empirical understanding. Thus, a grounded theory approach was selected to guide the research. Certainly, the complex web that would eventually emerge from the study could have been assumed; what was less apparent at the outset were the individual anchor points of that web. While concepts such as judgment, teaching, communication, creativity, etc. were expected to emerge, there was some expectation that concepts from outside the field (e.g., vision, passion, character) would surface as well. In order to follow the basic premise of grounded theory research however, we were challenged to limit our specific expectations of the results; preferring to allow the data to guide our investigation and exploration (Strauss & Corbin, 1998).

Methods

We used a modified Delphi process to capture the *scope* of highly effective leadership. This technique has been shown to be an effective tool for examining highly complex, multi-faceted topics that have multiple, passionate stakeholders (such as outdoor leadership and effectiveness) (Linstone & Turoff, 1975; Rotondi & Gustafson, 1996). The Delphi panel was

comprised of 22 individuals selected by purposeful sampling using an advisory board and representing independent outdoor programs, collegiate co-curricular programs, higher education/academics, the National Outdoor Leadership School, Outward Bound, and the Wilderness Education Association. Panel members responded to a series of on-line questionnaires in four consecutive rounds; using open-ended questions in Round 1 and a structured agreement/importance-ranking analysis in the Round 4. Additionally, panel members created a personal "top 10" list of most important items to highly effective leadership during each round. In between rounds, panel members reviewed a summary of comments for each item and the collective group response to each item (via median score – less sensitivity to extremes in small samples; see Cain, 1988 and Linstone & Turoff, 1975) from the previous round (Adler & Ziglio, 1996). Items receiving a median score less than 2.5 on the Agree/Disagree scale (indicating majority disagreement) were removed from the list.

Following the Delphi process, a series of qualitative interviews were conducted from June to September 2007 with five participants. The purpose of these interviews was to explore participants' perceptions of highly effective leadership in greater detail, particularly those concepts not fully addressed in the outdoor leadership literature. These telephone interviews used a funneled questioning approach, i.e., initial broad topic questions are followed by more specific and detailed questions. Interview recordings were transcribed, proofread in comparison to recordings, and then reviewed at least two more times. Data analysis consisted of open coding proceeding in the manner dictated by Strauss and Corbin (1998). Upon further coding, a series of member checks were performed to verify the trustworthiness and accuracy of the investigator's interpretations.

Findings

Through this iterative process, the Delphi panel distilled the data into a list of 33 individual items reflecting consistent majority agreement among panel members. Throughout the entire process, items with median scores less than 2.5 were dropped from consideration. Using a basic coding and association strategy, the 33 items were loosely grouped into nine general categories including Self-Knowledge, Traits & Characteristics, Interpersonal Skills, Vision, Educational Strategies & Techniques, Leadership Knowledge & Application, Environmental Skills, Risk Management, and Professionalism. Six items completed the final round with the highest median scores (4.0/4.0): High Moral Character, Group Development Skills, Vision, Exceptional Judgment, Excellent Communication Skills, and Moral Courage.

From the qualitative data, participants have called attention to the value and importance of authenticity in leadership (congruence between thought, stated values, and action), the relationship between authenticity and high moral character (honesty and integrity towards one's one beliefs and values), the impact of the leader's vision on followers (holding followers' best interests at a higher level), and the value of a conceptual model or thought process in aiding leadership development in staff and program participants (ability to explain the purpose of program design and management). These initial areas of authenticity and vision appear to be related to the leader's ability to elicit trust from followers and thus full engagement in the learning opportunities of the program.

Conclusion

Leadership research outside the field of Adventure Education has recently moved away from discussing the outward displays (skills and behaviors) of leadership. Articles focusing on the internal framework that influences those skills and behaviors are increasing (Avolio & Gardner, 2005; Avolio, Gardner, Walumbwa, Luthans, & May, 2004; May, Hodges, Chan, &

Avolio, 2003). The research in outdoor leadership is lacking with regard to the personal honesty and integrity in leadership and its relationship to participant experience. Other areas for further study include the role of vision in leadership, i.e., how the leader constructs a personalized vision, communicates that vision to the participant, the participant's response to that vision, and the resulting impact on outcomes. Additionally, the literature is thin on the emergence, allocation, and withdrawal of participant trust as a result of leadership and which aspects of leadership increase trust among participants.

While the Delphi process is often utilized to encourage consensus and agreement, in this case, the Delphi was used to illuminate constructs and ideas that have received less attention in the outdoor literature and the interviews were designed to expand on those concepts in detail. It was not the intention of this study to provide yet another list of "important skills;" rather it is hoped that the emerging conceptual framework will allow for more directed and insightful research into exceptional leadership.

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"Camp – A Special World Where We Belong": A Qualitative Analysis of Interest in Camp

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Background. Development of interest in positive youth development activities can have a powerful influence on future engagement in intrinsically motivated endeavors that will prepare youth to become fully-functioning adults (Fredricks & Eccles, 2005). In settings with high levels of interest and intrinsic motivation, adolescents are likely to report identity exploration, initiative, and skill development (Hunter & Csikszentmihalyi, 2003; Larson, 2000). Research on youth development settings suggest the need for understanding conditions that best promote engagement and intrinsic motivation, and that lead to adolescent interest in positive activities (Hansen, Larson, & Dworkin, 2003). One setting for youth development is summer camp, for within camp exists an intensive, intentional structure of activities and relationships that can support campers' basic needs for autonomy, relatedness, and competence. Supportive climates that meet these needs are thought to promote opportunities for intrinsically motivated interests and behavior (Grolnick, Deci, & Ryan, 1997). The purpose of this study was to explore how interest in camp was formed, with an emphasis on understanding how opportunities for autonomy, relatedness, and competence were perceived by campers. Understanding how youth become interested in programs such as camp is important for administrators and staff as they seek to promote youth development through positive experiences.

Methods. This study was grounded in the theories of self-determination (particularly the sub-theory of Basic Needs Theory, Ryan & Deci, 2000) and interest development (Krapp, 2002). Individual interviews were conducted with 22 girls from Camp Hidden Falls, a traditional Girl Scout resident camp located in northeastern Pennsylvania. Participants ranged in age from 12 to 15 (M = 12.7), and were ethnically diverse. Campers were purposively selected on the basis of their perceived initial trepidation to attend camp, or by their lack of involvement with camp-like activities at home. In-depth phenomological interviews were employed so as to capture the deep meaning of experience in the participants' own words, and to understand campers' lived experiences. The initial open coding configuration was created using the structure of Basic Needs Theory (i.e. examples of girls' feelings of autonomy, relatedness, and competence) and interest development (i.e. examples of feelings of positive affect, intentions to engage in future experiences), but also remained open to other possibilities. The coding structure was clarified via discussions with three graduate students and two faculty members, and themes were further refined and differentiated. Using a reflective and reflexive approach, discussions between the authors and other graduate students and faculty were held to rank the salience of various themes as they emerged from the codes, and as they related to the intent of the study.

Results. Interest in camp stemmed from two sources: support for basic needs (emphasis on relatedness), and engagement in unique activities and environments found in the camp setting. Most girls retained a high level of interest in camp; for those who began camp with uncertainty, interest increased. Interest in camp was demonstrated through the different reasons why campers enjoyed their experiences (or in some cases, had negative experiences), and why they desired to return to engage in activities and relationships.

With rare exception, campers felt that their needs for autonomy, relatedness, and competence were met. The interrelated contexts of peers, counselors, and activities supported these needs. These contexts and needs were not neatly segregated; rather, there was significant overlap,

particularly via relatedness. Connection with others was the mechanism by which girls developed or reinforced interest in camp. Girls indicated that others at camp supported their autonomy, created a relationship-based living environment, and provided positive feedback on competence-building efforts.

Autonomy needs were met as campers felt that their voices were heard in the group, and when they volunteered to help others. Counselors were particularly supportive of this need, for they gave the groups power to determine what activities they would do and when they would do them, what food they wanted to have for cookouts, and how many times they would do particular activities. None of the interviewees indicated that they felt that the counselors were too controlling, or that they wished they had allowed them to make more decisions. However, some campers expressed preferences regarding camp organizational practices, such as wanting to adjust dining hall menus, sleeping arrangements, and group sizes.

Relatedness needs were met through the strong bonds formed within the intimate camp living environment. Counselors nurtured relationships by supporting campers' efforts at building skills in activities, overcoming homesickness, and gaining confidence. Formalized learning experiences with specialized instructors were much more structured than interactions with counselors, and tended to result in the development of activity-oriented skills, whereas counselor interactions tended to result in coping and relationship-oriented skills. While there were some negative relationship experiences, for the most part, girls' relationships were positive and repeatedly mentioned as the most salient part of their camp experiences.

Competence needs were met when girls helped each other in activities or encouraged confidence-building. Campers also received positive feedback and encouragement from their friends and counselors as they struggled to learn new things or to cope with the challenges of camp life. Challenges included fear of heights or water, missing home, and difficulty in coping with overall camp life. The need for competence was met as confidence arose from succeeding at challenging endeavors, increasing skills, and coping successfully with challenges.

While interest was grounded in campers' perceptions of camp as being supportive of their basic needs, there were additional elements of camp that related to intentions for further engagement. Interest in camp was also found to be characterized by: engagement in new and unique experiences; opportunities to build skills, achieve success and gain confidence; experiences of flow (Csikszentmihalyi, 1990) within activities; connection with nature, and; involvement in meaningful relationships with others. For many campers, camp was a place where they could do unique activities for which they have few opportunities at home. Most indicated that they wished to return to camp to try new activities, or to build skills. Campers set and achieved goals, which provided them with confidence to attempt more challenges. Flow was experienced through intense concentration on challenging tasks, or while relaxing with friends. Many campers lived in a major city, and had few opportunities to connect with nature; camp was a place for them to do so. Finally, campers reflected on the meanings of their relationships with others - the deep bonds formed through shared challenges and good times. These meaningful experiences within activities and the camp setting, as well as with others at camp further explained why campers became interested in camp, or maintained their high interest levels.

Discussion. While this study supports previous findings of other researchers who have studied interest development and contexts that support basic needs (Deci, 1992; Krapp, 2005) it also suggests a new perspective on Basic Needs Theory. It appears that autonomy, relatedness, and competence hold different levels of influence on interest development. Relatedness was the

major, omnipresent factor for campers' interest development, and was perceived more frequently than either autonomy or competence. Within relationship contexts are opportunities to practice self-control, communication skills, conflict resolution, caring for others' well-being, and identity development.

These findings suggest three primary implications for practitioners. First, intentional programming by camp directors in which training and instruction are undertaken concerning how to create positive healthy relationships can lead to greater interest development in camp. Second, offering campers opportunities to connect with the natural environment throughout camp experiences and in free time periods can promote interest. Third, although most camps currently do offer a variety of activities; unique or progressive activities that offer campers the ability try new things or continually strive for new skill levels can further advance interest development.

This study has a few limitations. First, this was a purposive sample, and it is possible that the participants' experiences are not representative of all campers. Second, campers were interviewed at the end of their two-week sessions, and could have been experiencing the elation that comes at the end of an intensive experience. Third, no interviews were held with any of the four campers who left early due to profound homesickness or physical ailments; certainly, these campers had qualitatively different experiences than those who persevered to the end. Future research could elucidate the distinctions between satisfaction of basic needs and the other potential characteristics that led to interest in camp. The findings from this study enrich the body of literature concerning programming for camps and other contexts for positive youth development.

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An Exploration of Camp Directors' Affective Connection to Nature and Camp Programming

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The publication of Richard Louv's (2005) book, *Last Child in the Woods*: *Saving our Children from Nature-Deficit Disorder*, brought national attention to the importance of children's connection to the natural world and stirred the outdoor education community. Louv made a distinction between cognitive knowledge of environmental issues and tacit knowledge gained through direct experience. The latter leads to an affective connection and enduring bond with the natural world, which has been shown to contribute to healthy human development and cultivation of compassion and empathy for the planet (Mayer & McPherson Frantz, 2004).

Traditionally camps have been considered synonymous with such nature-based opportunities while contributing to positive youth development. Research has demonstrated that intentional programming in camps increases the likelihood of achieving youth development goals (Marsh, 1999). Further, camp programming, as an educational endeavor, generally is influenced by the personal attitudes of the educator. Researchers have found that people with stronger affective connections to nature demonstrate more environmentally responsible beliefs and behaviors (Mayer & McPherson Frantz, 2004). Given the long history of organized camping's role in the provision of outdoor recreation and environmental education, some interesting questions are raised. How connected to nature do camp directors today feel? Do camp directors who feel a strong personal connection to nature differ in their programming emphasis from those camp directors who feel less connection?

The purpose of our study was to explore the relationship between camp directors' personal attitudes about their own connection to the natural world and programming offered at their camps. We also wanted to ascertain whether these attitudes related to camp directors' perceptions regarding the state of children's connections to nature in contemporary society.

Methods

In May 2007, a random sample of 529 camp director email addresses was drawn from the ACA camp membership list that included 2500 accredited camps. These individuals were invited to participate in an online survey (via Survey Monkey) developed by the authors in collaboration with members of the ACA Children, Nature, and Camp Task Force. The instrument was designed to measure camp director's agreement with claims purported by Louv (2005) regarding the state of child-nature interactions and to provide demographic information about their camp operations, programming and clientele. Volunteers also completed the Connectedness to Nature Scale (CNS; Mayer & McPherson Frantz, 2004). The CNS consists of fourteen questions to which respondents express their agreement based on a 5-point scale where 1 = strongly disagree and 5 = strongly agree. Item scores were totaled and all statistical analyses were conducted using CNS mean scores for each camp director. A total of 144 surveys were completed. Twenty-two addresses were not valid resulting in a response rate of 28%.

Results

Descriptive statistics for the Camp/Nature survey are presented on the American Camp Association (ACA) website. The CNS was found to be reliable, alpha = .86, and a confirmatory factor analysis was consistent with the developers' findings (Mayer & McPherson Frantz, 2004). Camp director's CNS mean scores ranged from 2.21 to 5.00 (M = 3.71, SD = .60). ANOVAs and t-tests were conducted to determine if CNS mean scores differed based on characteristics of the director's camps. An alpha level of .05 was used for all statistical tests. CNS mean scores were found to be significantly higher: a) if a camp's activities were primarily conducted outdoors; b) with increased duration of camp operation, with one exception—camps operating for approximately 10 years had highest CNS scores; c) if camps were ethnically diverse, i.e. included Caucasians and minorities; d) if camp's mission statements explicitly included "nature" related words; and e) if camp directors believed that their camp's mission matched their personal philosophy about nature.

Significant differences were found based on how integral the natural environment was believed to be for conducting several camp activities. CNS mean scores were found to be significantly higher if camp directors: a) perceived the environment as at least somewhat important to arts and crafts and camp craft activities, b) believed the environment was essential for conducting primitive skills and trip/travel activities, and c) did not offer field sports at their camps. No significant differences in CNS mean scores were found based upon: average time camper's spend outdoors, camp goals related to nature, degree to which nature opportunities influence parental decisions, camp affiliation (e.g. independent for profit, religious, agency affiliated), day camp vs. resident camp, length of residential sessions, camp locale (e.g. urban, rural), or primary programming focus (e.g. traditional outdoor, sport, specialized activity). Nor were significant differences found based on camper demographics of age, abilities, gender, income level, or locale.

The survey assessed camp directors' level of agreement with items representing Louv's (2005) claims related to the state of children's connection to nature in contemporary society, the role of camp in fostering such connections, and the reasons for any "disconnect" that has occurred based on a 5-point scale, where 1 = strongly disagree and 5 = strongly agree. A principal components analysis with varimax rotation, conducted to reduce the data for further inferential analysis, revealed the following components: a) *importance of camp in child-nature interactions;* b) *children's disconnect from nature;* and c) four constraint categories*: external constraints,* i.e. decreased access to nature, decreased time, decreased transportation, lack of environmental knowledge, and lack of outdoor recreation knowledge; *fear*, i.e. parental fear of strangers, parental fear of wilderness, and fear of litigation by either parents or organizations; *personal interests*, i.e. lack of imagination/creativity for unstructured outdoor play, lack of interest in being outdoors, and discomforts associated with outdoors, e.g. weather or bugs; and *technology*, i.e. greater interest in electronics/media, and decreased interaction with environment for survival. ANOVAs were conducted to determine if agreement with Louv's claims differed based on a dichotomous split of CNS mean scores into (high) defined as $M \geq 3.52$ and (low) $M \leq 3.51$. Mayer and Frantz (2004) found a M = 3.52 for the general population during development of the CNS. Camp directors with high CNS mean scores demonstrated greater agreement with the *importance of camp in child-nature interactions* component. No differences were found for the *children's disconnect from nature* component or for any of the four constraint categories.

Regardless of CNS mean score, most camp directors expressed at least some agreement with every proposed cause for children's "disconnect" from nature in contemporary society.

Discussion

These preliminary analyses showed support for a relationship between the degree that camp directors' felt affectively connected to the natural world and differences in some aspects of camp programming. Further multivariate analyses are planned and will perhaps illuminate these findings. Louv's (2005) book has been criticized for the lack of empirical support. This study is a first step toward exploring some of the issues he raised. We found that camp directors who themselves felt connected to the natural world were more likely to agree with Louv's claims. This finding could account for the great reception he has received from the outdoor community. While the majority of respondents were affiliated with traditional outdoor camps, and thus many of the findings may appear *predictable*, the lack of significant findings in some areas may be more telling. Overall, these camp directors scored higher than the general public on the CNS, yet no differences were found based on camp affiliation, most camper demographics, type of camp, or length of session. While there was universal support for what Louv portrays as contributing causes of children's *disconnect* from nature, this study provides empirical support that camp directors continue to perceive nature as important to camper's experiences. The findings of this study may have implications for not only camp directors and ACA but for other outdoor and environmental educators.

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An Evaluation of the Impact of a One-Week Summer Camp Experience on Participants' Social Skill Development

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Background

Social skill development is emerging as an important issue for educators and practitioners in their work with adolescent youth. Social skills have been shown to be a fundamental asset for healthy psychosocial development and are critical to the educational process of adolescent students (Moote Jr & Wodarski, 1997; Scales, Benson, Leffert, & Blyth, 2000). In addition, social skills are also thought to serve as a preventative tool for several future problematic behaviors such as school and criminal behavior, dropping out of school, unhealthy stress, and violent behavior (Mahoney, Stattin, & Magnusson, 2001; Marsh & Kleitman, 2002). While acting a deterrent, social skill development has also been shown to be a significant factor in current as well as future academic functioning and achievement (Malecki & Elliot, 2002).

Given the influence of social skills in positive youth development, researchers within the camping and outdoor education fields have also called for a more intentional focus on promoting social skill acquisition in their respective programming (Jordan, 1994; Nicholson, Collins, & Holmer, 2004). While some research on camp and adventure programs has not shown significant change in social skill development (Dickey, 1996; Michalski, Mishna, Worthington, & Cummings, 2003), other research has shown the effectiveness of such programming to promote prosocial development among adolescent participants (Boyle, 2002; Guettal & Potter, 2000; Reefe, 2005; Thurber, Scanlin, Scheuler, & Henderson, 2007).

Beginning in 2006, the authors of this research project partnered with the University of New Hampshire Cooperative Extension's 4-H summer camp program to further investigate the impact of a one-week residential summer camp on the social skill development of its participants. Results from both the 2006 and 2007 summer research are included in this presentation.

Methods

In the summer of 2006 a total of 138 campers (60 females and 78 males) participated in the research during the eight one-week sessions of summer camp at the 4-H Bear Hill Camp in Allenstown, New Hampshire. Participants ranged in age from 6 to 16 years old, with the average age being 11.32 years old. The 2006 research utilized a simple pre/post design. Campers completed the Social Skills Checklist (SSC) (Gass, 2005) at the beginning and end of their week of camp. The Social Skills Checklist is a 20-item self-report survey which asks campers to evaluate their own social skill ability. It contains an Intrapersonal and Interpersonal subscale.

Prior to the 2007 summer season, several adjustments were made to the research logistics, design, and camp curriculum/facilitation to improve the overall quality of the 2007 research. The 2007 research utilized a pre/post/post design, with a follow-up SSC sent out to participants in early October to investigate whether any effects on social skill development were sustained over time. As a result of the improvements made to the data collection process, the 2007 research included a more representative sample size of 456 campers (264 females and 192

males). Participants ranged in age from 6 to 18 years old, with the average age being 11.5 years old. Participants again completed the SSC at the beginning and end of their week of camp. Follow-up surveys were collected in mid-November. Results of this additional data will be shared in the presentation.

Results

Paired samples t-tests were used to compare mean pre/post differences in SSC scores in the both the 2006 and 2007 data. Results from the 2006 analysis show that there was a statistically significant increase in campers' overall SSC score ($t(137) = 3.38$, $p < .001$) as well as in their Intrapersonal subscale scores ($t(137) = 4.19$, $p < .001$). Effect size values for these two results were d=.29 and d=.37 respectively, indicating small-to-medium effects. Interpersonal subscale differences, however, were not statistically significant ($t(137) = .92$, $p > .05$).

Results for the 2007 data showed similar trends to the 2006 data. Campers' showed a statistically significant increase in overall SSC score ($t(455) = -3.78$, $p < .001$) as well as in their Intrapersonal subscale scores ($t(455) = -5.36$, $p < .001$). Effect size values for these two results were d=.18 and d=.25 respectively, indicating small effects. Interpersonal subscale differences, however, were again not statistically significant ($t(455) = -.76$, $p > .05$).

Discussion

The results of both the 2006 and 2007 research suggest that the 4-H Bear Hill Camp Program had a positive impact on the overall social skill development of its participants, primarily in the development of individual, intrapersonal skills. It is important, however, to use caution in linking causation to the camp and generalizing these results to broader populations, especially since this evaluation did not utilize a comparison group. However, the results of this research do suggest that the 4-H Bear Hill Summer Camp Program succeeded in fostering greater social skill development of its participants. It will be interesting to see the outcome of the follow-up measure to examine whether these gains in social skill development were maintained once campers return to their everyday lives.

As social skill development becomes a more recognized component in the education of today's youth, this research supports the claim that summer camp programs can play an important role by intentionally focusing their programming to foster this development.

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Quality Youth Development and the Camp Experience:
Results From A Program Improvement Process

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Introduction

Many camp professionals find themselves challenged to address the issue of quality of the experiences they offer to youth. Within the larger youth development community, this issue is receiving critical attention with more evaluations including an assessment of program quality and incorporating setting-level measures in their designs. At the practice level, organizations are looking for tools that help document effective practice and allow practitioners to assess, reflect on, and improve their programs (Yohalem, Wilson-Ahlstrom, Fischer, & Shinn, 2007). The purpose of this paper is to describe the results of a program improvement process the American Camp Association (ACA) and Youth Development Strategies, Inc. (YDSI) implemented to increase the quality of developmental opportunities through the camp experience. The specific research questions were: 1) does the process result in change in campers' perceptions of the supports and opportunities needed for positive youth development? and 2) what strategies are most effective for positive change?

Background

This project was part of a larger national study undertaken by ACA. The project was a two-phase study that generated a benchmark for the supports and opportunities offered through a camp experience (Phase 1) and the program improvement process (PIP) undertaken by a sub-set of camps to develop strategies to provide a more supportive environment. The study was situated within a positive youth development framework. Youth development encompasses efforts to create organizations and communities for youth that supply supports and opportunities necessary to go beyond problem prevention and move youth toward healthy adulthood (Eccles & Gootman, 2002; Witt, 2002). The Community Action Framework for Youth Development (Gambone, Klem, & Connell, 2002) served as the theoretical model for the project. This model asserts that increasing supports and opportunities for youth will result in improvements in developmental outcomes that ultimately help move a young person into a healthy adulthood.

Methods

The program improvement phase of the study (Phase 2) enabled twenty-three of the eighty benchmark camps from Phase 1 to complete a year long process of planning and action that led to the development and analysis of the effects of camp-determined program improvement strategies. Over 2200 campers between the ages of 10-17 completed the survey during the summers of 2004 and 2005. The improvement process began with a week-end training during the Fall of 2004. During that weekend camp administrators received their benchmarking scores from the summer and were introduced to the program improvement process to be undertaken in preparation for Summer 2005 when campers would be re-assessed. The camp administrators continued to design their strategies over the winter as well as conduct an organizational assessment, then came together for another three hour training held in conjunction

with the 2005 ACA National Conference. At this time their strategies for change were reviewed by YDSI staff as were their targeted rates of improvement. After re-surveying in Summer 2005, these camp administrators came together for one more weekend in the Fall of 2005 to process their second round of scores and discuss strategies that resulted in positive changes in the supports and opportunities for youth development in their camps. The data were analyzed with a YDSI method that does not focus on traditional statistical processes based on averages. Instead the results are expressed in terms of youths' experiences measured against a standard based on prior youth development research. These combined responses fit into one of three categories: optimal, insufficient, or mixed. This scoring method is designed to measure the extent to which young people experience the supports and opportunities at camp that are the necessary *prerequisites* to achieving the developmental outcomes central to positive youth development (Gambone, Klem, & Connell, 2002). Statistical significance was measured by >10% change in score.

Findings

When answering the first research question, we found that the PIP camps did show significant improvement in the developmental dimensions. Most camps designed their strategies primarily to focus on Youth Involvement and Skill Building since these areas received the least acceptable benchmark scores to the directors. Eighty-three percent of the camps experienced significant improvement in one or both of these two areas. Even though camps designed fewer strategies related to Supportive Relationships and Safety, more than one third of the camps also strengthened these experiences for youth. The consistent pattern of significant improvements in the developmental quality of youths' experience at camp showed that intentional, camper-center assessment and planning yielded a richer experience for youth.

The second research question was more difficult to answer. Since camps were free to design strategies that fit their mission and setting, these strategies were often similar but not identical. The projected list of "best practices" could not be determined; however, categories of effective strategies did emerge. These strategies were grouped into seven areas: mission/ intentionality, camp activities, programming/scheduling, staffing patterns, camper planning, staff training, and facility concerns. One of the critical findings from this project was that camps that focused strategies in at least one structural (S), one policy (P) and one activity (A) organizational practice were more likely than those camps who did not to see improvements in the supports and opportunities across the board. Specifically, the PIP camps that focused across S, P and A in their improvements were twice as likely (64% vs. 33%) to have improvements across at least three of the four supports and opportunities. This finding may appear somewhat simplistic, but the complexity and time demands of an improvement process often lead organizations to prioritize certain organizational practices in which they will work in a given year. Organizations often neglect this broad view of integrated organizational practice in favor of implementing improvement strategies that address their targeted developmental dimension(s). Such a non-holistic approach that focused exclusively on the dimensions appeared to be a much less effective strategy for achieving the level of success sought by organizations.

Discussion

The program improvement process undertaken by the PIP camps resulted in significant improvements in the four dimensions of supports and opportunities important to positive youth development. The findings support the theoretical framework and suggest the importance of an

intentional approach to change that moves beyond “best practices” to a process that emphasizes an integrated, holistic approach to the role of organizational practices and the mission, goals, and philosophy of the organization.

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A Practical Interpretation of Spoken Interactions during a Challenge Course Activity

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Background

The last three decades have seen an increase in the use of challenge courses (CCs), especially in outdoor adventure education (Attarian, 2001; Ewert, 1987; Martin, Cashel, Wagstaff & Breunig, 2006). Challenge courses can be described as giant playgrounds made from steel cable, rope, wood, and other specialized hardware, usually suspended between utility poles or hardwood trees (Haras, Bunting & Witt, 2006). These playgrounds are comprised of smaller obstacles called elements, which participants climb or traverse from the ground to 30 or more feet in the air (Rohnke, 1999).

This increased use of CCs can be linked to several factors: (a) an increase of companies that build CCs (Rohnke, 1999); (b) the formation of a professional organization: the Association for Challenge Course Technology (Martin et al., 2006); and (c) the ease of access these artificial climbing environments provide for recreational programs in densely populated areas where there is limited access to natural areas (Potter & Henderson, 2004).

Challenge courses are used commonly as social learning tools because they are thought to promote the growth of interpersonal and intrapersonal relationships for participants such as trusting other people and enhancing self-confidence (Martin et al., 2006). Although the use of CCs have been critiqued suggesting that outcome based "evidence" (such as promoting trust amongst people) is based on assumption, arguing that these artificial environments may provide no learning benefits (Wolfe & Samdahl, 2005). It is also suggested that due to the artificial nature of CCs, promoting these activities as outdoor oriented may hinder participants from deepening their relationship with the natural world (Dunekel, 1999). It has been inferred that these assumptions may be linked to an overemphasis on outcome-based research. Thus, there is less of a need to conduct outcome-based research and more of a need for research that explores the relationships between specific parts of CC programs and human behavior (Priest, 1999).

To contribute to this need the author has chosen to investigate how participants use conversation to construct interaction during a common CC activity often referred to as the Pamper Pole or Pamper Plank. This type of activity involves a participant climbing to the top of a pole or platform using a supporting belay rope, and then jump into the air for an object (usually a trapeze) suspended overhead from a steel cable (Rohnke, 1989). Although it would seem advantageous to examine several CC activities, from the author's practical experiences many of these events are used to elicit different forms of interaction. Thus, this event was chosen for the purpose of studying how people construct this experience through talk and how practitioners use talk to manage this event.

Methods

For the purposes of this study, the author will incorporate both an autoethnographic narrative (Havitz, 2007) and a conversation analysis (CA) of online videos. As a method, autoethnography is an evocative writing technique where the author examines personal life moments by recalling his or her physical feelings, thoughts, and emotions for the purpose of building a story that elicits a visceral reality for the reader (Ellis & Bochner, 2003). However, this form of writing restricts the researcher to their own interpretations, limiting them from understanding the inner life of another person. By blending this approach with a CA of Pamper Pole scenes transcribed from online videos, this study will relate the author's story to additional accounts of recorded in situ social life (Brown, 2002; Psathas, 1995). Turn-taking, (a central

tenet of CA), can be defined as the principle that one party speaks at a time (Sacks, Schegloff & Jefferson, 1974). This will be studied in the online videos and analyzed by indentifying specific turn-taking sequences (Psathas, 1995). The author has incorporated the turn-taking aspect of CA into this layered account, taking the stance that social actions are naturally organized, produced through talk, and are therefore meaningful to the people who produce them (Psathas, 1995; Sacks et al., 1974). This is a postmodern reporting technique that enables researchers to try new writing formats by integrating autoethnography and empirical data sources to support abstract theoretical thinking (Ronai, 1995). Currently, the researcher has transcribed the conversations from 20 videos and is still collecting data for this study from online sources. As participants continue to upload their personal videos to publicly accessible websites such as You Tube, more information is being made available on a continual basis. A final analysis will be completed closer to the date of the CEO conference so that the author may collect additional data as it becomes available.

Results

Preliminary analysis indicates that participants commonly freeze before standing on top of the Pamper Pole or nearing the edge of the Pamper Plank, using talk to garner the attention of their belayers. Once on top of the pole or at the edge of the plank initial analysis has indicated that participants usually ignore their audience's verbal prompts to jump until they verbalize their intention to jump. As a CC practitioner this early analysis indicates to the author that: (a) practitioners should anticipate that participants will freeze and call for attention before positioning themselves to jump and (b) that it may be more effective to wait for the participants to verbally signal when they are ready to jump, instead of using talk to prompt them to jump.

Discussion

This study appeals to a practical interpretation for the purpose of encouraging other CC practitioners to share their interpretations of the Pamper Pole event (Dana & Yendol-Silva, 2003). By sharing these interpretations of CC activities, practitioners can begin to develop theories of how talk constructs interactions when using CCs (Loughran, 2005). As traditional academic writing appears to divide the self from the subject and seems to prefer abstract ideas over experiential events, readers are distracted by the bias of their subjectivity, maintaining a gap between academic theory and the personal world (Bochner, 1997; Richardson, 2003; Sparkes, 2003). Therefore, it is important that theories are developed both by scholars and by practitioners so that theory and practice become integrated to benefit both parties (Dana & Yendol-Silva, 2003). This draws on an educational epistemology developed by teacher educators to bridge the gap between theories and practice (Loughran, 2005). By reflecting on practice and theory, this epistemology strives to develop stronger CC pedagogy (Loughran, 2005).

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Climb, Jump and Catch Indicators on a Selected Power Pole Challenge Course Element: An Exploratory, Correlational Study on Predecessor and Audience Effect

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Background

Somewhat varied in design from location to location, the Power Pole element on challenge courses basically entails climbing a tall pole, standing on top of the pole or affixed platform, jumping, and attempting to catch a trapeze bar (or, in some cases, touch a hanging object). Although the definition of *success* on a challenge course element is commonly promoted by instructors as residing within each participant, success is often viewed by participants as equivalent to catching the trapeze bar. It is generally believed among Power Pole facilitators that the ability to catch the trapeze bar (on Power Poles built to industry-recommended design specifications) is more closely related to socio-emotional processes than physical ability, since the distance necessary to jump in order to reach the trapeze is only a few feet.

It is possible that the actions of the previous Power Pole participant (the predecessor), and the extent that that the previous participant completed the element, may have significant influence on the completion or catching of the trapeze bar for the following participant (the successor). It is also possible that the gender of the predecessor may have influence on successor completion rates. Power pole completion rates may also be influenced by the gender ratios that exist in the spectator group (the audience) observing the participant's performance.

Purpose. The main purpose of this study was to identify statistically significant relationships, if any, between a Power Pole participant's extent of completion and gender with a predecessor's extent of completion and gender. The secondary purpose was to identify correlations between a participant's extent of completion and the gender ratios of the audience.

Significance. If such correlations are determined for the Power Pole, it follows that predecessor effect or audience effect likely exists for other challenge course elements. Although further and more controlled research would be necessary, such correlations may implicate the need for serious re-examination of current challenge course facilitation practices.

Related Literature

Social facilitation theory. A comprehensive review of the literature for exploratory studies is not possible before data analysis (to be completed in December 2007). However, there is an area of research that is closely associated with the issues in this study that bears mention here. *Social facilitation theory* (SFT) posits that the presence of others has an effect on cognitive and physical behavior and performance (Uziel, 2006). SFT is based on the original 1898 work of Norman Triplett who discovered that bicyclists rode faster against a clock when in the presence of other bikers (Feinberg & Aiello, 2006).

In 1924, Allport determined that performance increased when people were in the presence of others doing the same task or action (Uziel, 2006). This was eventually termed *coaction effect* (Wadeley, 2001). Seminal research by Robert Zajonc in 1965 revealed that the complexity of the task influenced whether the performance of an observed subject increased (with simple tasks) or decreased (with complex tasks) (Feinberg & Aiello, 2006).

Audience effect. Zajonc also studied the effects of passive observers on a subject's performance, referred to as *audience effect*. Further research on audience effect has validated the relationship of subject personality to effects of SFT (Uziel, 2006). Extroversion with high self-

esteem and introversion with low-self esteem have been found to be strong influential variables on the performance of an observed subject. Likewise, anxiety over being appraised by others or *evaluation apprehension* can hinder performance. *Distraction-conflict* or the ability of a subject to ignore distractions from the audience also affects performance (Uziel). Furthermore, if a task is well-honed, subjects tend to perform better whereas if a task is ill-honed, performance tends to be weaker (Wadeley, 2001).

Gender influences. Zajonc's 1965 work further identified the increase of arousal that emerges when a person is in the "mere presence of others" (Feinberg & Aiello, 2006, p. 1088). This arousal displays itself as an increased drive in behavior. A few studies related to arousal and gender may have implications for this Power Pole study. Corston and Colman (1996) found that females performed better when observed by a female audience than when performing alone or in front of a male audience. The performance of the males in the study, in contrast, was not affected by the presence or gender of an audience. A 1974 Canadian study (Dutton & Aron) found that arousal of a sexual nature was increased when young males were asked to complete a task while in the presence of an attractive female while on a very high and wobbly suspension bridge.

Methodology

Because studies pertaining to predecessor or audience effect have not previously been conducted on challenge course elements, *an exploratory, field-observation design* was chosen as an especially appropriate method to address the research purpose of the study, as well as to identify additional areas for future challenge course studies.

Exploratory research is useful for emerging or rarely researched topics and is often used to bring to light possible new areas and precise questions for "more systematic and extensive stud[ies]" (Neuman, 2000, p. 21). It is common for an exploratory study to become the first in a sequence of related studies. The intent is to use this study to determine what factors, predicted or unforeseen, were significant enough to warrant more scrutinized future investigation.

Observational research attempts to document natural behavior in the field or in natural settings without manipulating or altering participant behavior (Fraenkel & Wallen, 2006). Additionally, observational research does not control for confounding variables, other than researcher intrusion and bias, which were minimized in this study.

Subjects. Subjects in this study were participants who attempted the Power Pole element as part of an organized community or campus group arranged through Minnesota State University, Mankato's Adventure Education Challenge Course Program (AEP) between August 1, 2006 and December 1, 2007. All subjects were at least 12 years of age. There were 100 subjects in the study sample (this is a projected number – the study is not yet completed).

Data collection. Unobtrusive observation methods were used to collect data for this study. The roles of the researchers were as non-participant complete observers, meaning that the researchers did not interact with the subjects and the subjects were not aware that they were being observed as part of a study.

Observation data were recorded in the field that included the type of group, estimated age range and gender mix of the group, instructor information, and general weather conditions. For each subject, data collected included coding schemes for participant gender, time the subject began and ended the Power Pole element, and the extent of completion of the element.

Data analysis. Field observation data were analyzed with SPSS quantitative research software using regression analysis to determine predictive forecasting between variables. In this study, the dependent variable was multi-categorical (various rates of Power Pole completion). Therefore, specific multinomial logistic regression tests were conducted (Green & Salkind,

2005). Such tests allow for the identification of which independent variables are correlated to the dependent variable and measure the influence of each variable separately (Carver & Nash, 2006).

Variables. Each participant's extent of completion on the Power Pole served as the dependent variable. Primary independent variables included the predecessor's gender and progress on the Power Pole, plus the gender ratio of the audience. Covariates that were of secondary interest, but had the potential for being correlated to the dependent variable, included type of group, age range of group, gender of facilitator, weather, and time of day.

Results and Discussion

Collection of data for this study will continue through December 1, 2007. Final analysis will include correlation statistics and discussion of the effect of independent variables upon the participants' extents of completion. Unforeseen emergent factors that indicate the need for future research will also be provided. The full report will be ready for distribution at the symposium.

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Cost Effectiveness of the Behavior Management through Adventure (BMtA) Program for Male Offenders in Residential Treatment

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Background

Adventure therapy programming, especially when defined as "wilderness adventure therapy," has come under increased scrutiny when treating of adolescent offenders (Aos, Miller, & Drake, 2006). Not only have such programs been questioned in terms of treatment effectiveness, but also the cost effectiveness of such programs. The purpose of this research project was to examine the cost effectiveness Project Adventure's Behavior Management Programs for Male Offenders in Residential Treatment, determining: (1) financial benefits (or losses) for the State of Georgia Health system and (2) compare cost effectiveness figures with outdoor therapeutic programs (OTP) bootcamps labeled as "wilderness therapy" by Jones, Lowe, and Risler (2004) and the 90-day boot camp programs conducted by the State of Georgia (YDC-90) conducted during the same time period.

Method

Sample

The Georgia Department of Juvenile Justice (DJJ) provided the existing data used in this study. The database contained all youth committed to the state by juvenile courts between July 1989 and May 2002 (N= 15,311). These computer based archival records excluded the names or additional identifying information. Youth ranged in age from 8 to 18 years. Institutional Review Board approval was granted.

In order to achieve a similar dataset, only male youth who were admitted between January 1995 and January 2001 were included in the sample (N = 2115). The purpose of this study was to examine differences between Project Adventure's BMtA program (BMtA), Residential Outdoor Therapeutic Programs (OTP) (termed "residential wilderness" by Jones, Lowe, & Risler (2005)), and the State of Georgia's Youth Development Center's 90 day STP programs (YDC-90). All male youth who had a length of stay in any of these programs for longer than 30 days and less than 366 days were included in the sample. Thirty days of service was deemed to be the time for an adequate dosage effect to take place and allow the treatment to have any potential impact. Youth who were 17 at the time of release were also excluded from the dataset to match criterion applied by Jones, Lowe & Risler. The remaining sample (N=1675) included the following numbers: BMtA (N=347), OTP (N = 661), and YDC 90 day (N = 667). To bring the samples closer to equivalence, a random sample of 347 juveniles was chosen from each of the remaining OTP and YDC-90 samples using the select cases procedure of the Statistical Package for Social Sciences (SPSS) version 14. The remaining dataset included BMtA (N=347), OTP (N = 347), and YDC 90 day (N = 347).

Procedure

The Statistical Package for the Social Sciences (SPSS), Release 14 was used for initial statistical analysis. A 2x3 Chi square analysis was conducted on re-arrests or no re-arrests data at six months, one year, two years, and three years for the youth in each program. Effect sizes were also computed with the Effect Size Determination

Program (Wilson, 2001), using the Probit method for frequency or dichotomous data at six-month, one year, two year, and three year re-arrest rates.

Once statistical differences were determined, cost benefit figures were calculated using the procedures outlined in Aos, Miller, & Drake (2006). In brief, these procedures predict how much money would be saved by taxpayers if crime was reduced. They estimated these savings in five specific areas: (1) savings in police costs, (2) savings in criminal filings and conviction processes, (3) savings in prison costs, (4) savings by crime victims in terms of monetary, out of pocket costs, (5) savings by crime victims in terms of quality of life issues.

Results

The BMTA program achieved significantly less re-arrest one, two and three years after release than either the OTP or YDC-90 programs. There also were statistically significant differences between months from release until re-arrest for the BMTA program and the OTP and YDC-90 programs.

From these differences, even though the Legacy Program cost $25 per day more than the treatment as usual program (YDC) and $3 less than the OTP bootcamp program, its significant treatment effectiveness not only produced more non-recidivating youth, it also resulted in a savings of $986,722 over the YDC "treatment as usual" program. When compared to the OTP bootcamp program, it resulted in a $1,786,062 savings for the State with these youth.

Discussion

Participants in BMTA program were compared with a random selection of similar juveniles from other outdoor residential treatment programs operating in Georgia (OTP) as well as "treatment as usual" 90 day boot camp programs in state institutions for juvenile offenders (YDC-90). This study found BMTA participants to possess significantly less re-arrest over a three year period than participants in the other two programs. BMtA programming also produced an overall savings of $4151,312 savings for the State of Georgia over the length of the data base study (1998-2001).

Such findings not only demonstrate the treatment effectiveness of the BTMA program and its cost effectiveness for the State of Georgia, but also the importance of understanding intervention/treatment fidelity of treatment programs. When future research examining the evidenced-based research effectiveness is conducted, a clear understanding of treatment fidelity must accompany such results in order for professionals to make accurate assessment of adventure therapy programs for their clients.

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Examining the Therapeutic Relationship in a Wilderness Treatment Milieu and its Relation to Outcome

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Introduction

The therapeutic alliance is a well researched process factor in psychotherapy, and is reasoned to be one of the most significant predictors of treatment outcome (Horvath & Symonds, 1991). The therapeutic alliance definition used in this study defines it as a collaborative relationship between the client and therapist that consists of an emotional *bond* and a shared belief regarding the *tasks* and *goals* of the treatment process (Bordin, 1979). Four important research findings on the therapeutic alliance suggest a growing understanding of the measurement and role that it plays in understanding treatment outcome. The first is that early assessments (rather than later) of the therapeutic alliance are stronger predictors of outcome (Luborsky, 1984). Second, ratings by the client rather than the therapist have been stronger predictors of outcome (Horvath & Symonds, 1991; Horvath, 1994). Third, reviews of studies (Horvath & Simond, 1991) on the therapeutic alliance suggest that the alliance is predictive of outcome across multiple treatment modalities, making the construct generalizable to a variety of treatment milieus. Finally, Bickman et al. (2004) conclude that most research has only focused on adult samples, and much less is known about the therapeutic alliance in adolescent- and youth-based interventions. Because the "ability of the therapist to successfully form, model, and maintain a caregiving relationship with the [youth] may be essential to improved treatment outcomes for troubled youth" (Bickman et al., 2004, p. 135), examining this construct and its relationship to outcome appears warranted. .

Past research on wilderness treatment suggests that a dynamic backcountry living situation shared by youth and leaders/therapists may facilitate a therapeutic alliance that is unique, enhanced, and powerful (Russell, 2003; 2005; 2006), yet few research studies have specifically examined how best to measure the alliance, and what relationship the alliance may have outcomes. To address this research need, a sample of wilderness treatment clients were asked to complete the Group Therapy Alliance Scale (GTAS) at the mid-point in treatment and again at discharge. Because at least three staff members typically work with any one group at a time, adolescent participants were asked to reference one member of the treatment with whom they "connected with" best, and complete the assessments based on this relationship. Past research using the GTAS had shown it to contain only a single factor structure represented by a total scale score (Marziali et al., 1997). Exploratory factor analysis was therefore conducted to determine if a multiple factor structure was evident. This is first reported and then followed by results obtained at admission and discharge on group therapeutic alliance, including an analysis of how these scores were related to specific outcome dimensions involving substance use frequency and family relations.

Methods

Data were collected on all participants enrolled in five wilderness treatment programs between June 1, 2003 and June 1, 2004. Parents and clients were asked to complete a consent form and were assured of their anonymity ($N = 650$). Upon agreeing to participate in the study, clients completed the GTAS at the mid-point of the treatment process (approximately day 25, given the median treatment length of 49 days) and again at discharge. The Personal Experience Inventory (Winters & Henley, 1989) was also completed at this time and again at 6-months,

which asked respondents a variety of questions pertaining to their substance use frequency prior to treatment and during their post-discharge time at the six-month follow-up period. Specific sub-scales comprising the PEI were used as outcome (dependent) variables, which included substance use frequency and family functioning.

Results

An iterative principal axis factor analysis with an oblique rotation was conducted to determine the underlying structure of the GTAS using the SPSS 14.0 (Tabachnick & Fidell, 2001). The factor solution was determined using the scree plot method to try to limit the probability of over- or under-estimation which is reasoned to occur using the Kaiser criterion for eigen values of greater than one. It was decided that a factor load of .35 was appropriate to include items for each extracted factor. Items were selected for each factor that had the highest loadings on that particular factor and which were at least .10 different than the other factors (Safren, Turk, & Heimburg, 1998). In each of the five factors, the top 3-5 items were selected based on this decision rule. The factor solution comprised a total of 30 items grouped into four factors that accounted for 55.49% of the variance. Factor 1, Helpful Group Leaders (eigenvalue = 10.01), accounted for 33.61% of the variance and included nine items that related to characteristics of group leaders that were empathetic, caring, and understanding of the clients' perspective. Factor 2, Unhelpful Group Leaders, (eigenvalue = 2.881), accounted for 9.61% of the variance and included nine items that related to group leader characteristics that were unhelpful or depreciative towards helping the clients while in treatment. Factor 3, Peer Support (eigenvalue = 2.151), accounted for 7.17% of the variance and included six items that related to perceptions of peer group members and their level of support and active participation in the treatment process. Factor 4, Group Cohesion (eigenvalue = 1.508), accounted for 5.03% of the variance and included five items that addressed the degree to which the peer members of the group were working together and trusted one another during the treatment process.

Table 1 shows that the GTAS total score averages as $M = 3.55$ at the mid-point of treatment, and at $M = 3.72$ at the discharge assessment (1 = strongly disagree to 5 = strongly agree.). The score differences from the mid-point to discharge were statistically significant, suggesting improvement in the therapeutic alliance construct over this time period ($t = 7.371$, $p < .001$). The highest average items rating for any of the four factors were represented by the Helpful Group Leaders ($M = 3.98$ at mid-point and 4.14 at discharge) and Unhelpful Group Leaders (reverse scored; $M = 3.84$ at mid-point and 4.01 at discharge), indicating significant agreement by clients that leaders were helpful in their treatment process, and that a strong relationship existed. These two factors were rated higher than the Peer Support and Group Cohesion at mid-point, suggesting that the alliance between peer members was not as strong as the alliance between the clients and group leaders. At discharge, scores across all three of the four factors converged on a 4.0 average which indicates agreement on the part of clients that group leaders and peer members were supportive of the clients and the goals of the treatment process. Interestingly, Group Cohesion remained fairly low at discharge ($M = 3.15$), only slightly above neutral.

Pearson product moment correlations and regression analysis was used to explore the relationship of therapeutic alliance to four specific outcomes at the six-month follow-up period: a) alcohol use frequency reduction scores, b) marijuana use frequency reduction scores, c) perceptions of family pathology, and perceptions of family functioning. Results showed that

none of the therapeutic alliance total or factor scores at mid-point or discharge were significantly correlated with any of the three outcome variables. For example, the correlation between discharge therapeutic alliance score for Factor 1-Helpful Group Leaders, which indicates the degree to which clients felt that leaders understood them and were confident in their abilities to help them, had a very weak correlation to the reduction in alcohol use frequency reported at the 6-month follow up ($r = .043$, $p = 0.635$). Similar results were found across other dimensions of therapeutic alliance and outcomes, all of which were non-significant and weak.

The results of this analysis are puzzling given the strong empirical support for the role that the therapeutic alliance plays in understanding variance in therapeutic outcome. The factor structure of the GTAS suggests that there are different factors inherent in the scale, and that exploring these further maybe important to understanding the role the construct plays in mediating outcome. The question which arises is: Why is the therapeutic alliance not a significant predictor of outcome in wilderness treatment. It may be that researchers should ask clients in specific groups to focus on one leader in the group who is primarily responsible for the well-being of the client. Asking clients to select a leader they were most familiar with may have biased the findings in that clients may have avoided leaders with whom they had conflict, leading to higher scores. It may also be that more data points are needed and that the assessments should begin earlier in the process (not at mid-point) and that this early alliance score maybe more predictive than latter scores, which is also supported in the literature. Also, a different assessment tool may be more useful to capture the nuances of wilderness treatment, and that standard alliance measures used in psychotherapy are not appropriate in this milieu. Finally, the therapeutic alliance could simply not be predictive of outcome in wilderness treatment. Other antecedent, mediator, or demographic variables may be more significant predictors of outcomes. More research is needed to address these issues.

Table 1.

GTAS subscale and total scale scores at mid-point and discharge for a sample of OBH clients, including frequency of respondents, average item score within that factor (five-point Likert scale from 1 = strongly disagree to 5 = strongly agree), standard deviation and results from a paired sample comparison of mid-point to discharge scores.

Subscale	*Period*	*N*	*M Item Score*	*SD*	*t-test*[2]
Helpful Group Leaders Client perceptions of the group leaders as helping, attending, and empathetic to their needs and the group's needs.	Mid-Point	619	3.98	.63	**
	Discharge	650	4.14	.61	
Unhelpful Group Leaders (Reverse Scored) Negative client perceptions of the group leaders not helping, attending, or empathetic to their and the group's needs.	Mid-Point	619	3.84	.87	**
	Discharge	650	4.01	.75	
Peer Support Client's perception of the degree to which other members of the group are helping them and are engaged in the treatment process.	Mid-Point	619	3.69	.65	**
	Discharge	650	3.94	.62	
Group Cohesion Client's perceptions of the degree to which the group as a whole is functioning well and understanding of one another's needs.	Mid-Point	619	3.06	.67	**
	Discharge	650	3.15	.65	
GTAS Total at Mid-point		619	3.55	.54	**
GTAS Total at Discharge		650	3.72	.54	

Note: 1. The average item score for each item relating to this factor based on a scale of 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.
2. T-test significant at the $p < .001$ level of significance

The Status of Outdoor Leadership Programs in US Colleges and Universities

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Introduction

The increasing growth and interest in outdoor adventure programs and activities, and issues surrounding program accountability has prompted a need for more professional outdoor leaders. Traditionally, outdoor leaders received their training primarily through personal, Outward Bound, NOLS, or military experiences. More contemporary training continues to be offered through NOLS, Outward Bound, WEA, and similar programs, along with colleges and universities.

To meet the training needs of today's outdoor leaders, institutions of higher education have created 2 and 4-year degree granting programs in outdoor leadership (OL). OL degree is defined as a degree offered from a college or university that has a declared major, minor, concentration, associates or bachelor's degree in outdoor leadership. Many of these programs offer opportunities for students to combine theory with practice in a supervised, supportive and collegial setting.

Research conducted by Priest (1987) suggested a set of core competencies critical for effective outdoor leadership. These include technical, safety, environmental, organizational, instructional, and facilitation skills, professional ethics, flexible leadership style, experience-based judgment, problem solving skills, and effective communication. Priest's Core Competencies for Outdoor Leaders (CCOL) provide the foundation for this descriptive study exploring the status of undergraduate outdoor leadership programs in US colleges and universities.

Methods

Colleges and universities in the United States offering degree granting programs in OL were identified through three primary sources: Canberg & Daniels (2004), the *Association for Experiential Education Directory of Schools and Colleges* (2006), and the *Society of Park and Recreation Educator's Curriculum Guide* (2006). Through this process 58 colleges and universities were recognized with degree granting programs in OL. Once an institution was identified, its OL program was reviewed by examining its website to see if it met the operational definition for an OL degree. Following this assessment, five institutions were eliminated. On-line curriculum displays of the remaining 53 programs underwent a content analysis, which involved reviewing courses and other degree requirements.

The next step involved sending each program administrator an e-mailed letter describing the research and encouraging his or her participation. A short, two-part survey was also included consisting of seventeen questions designed to collect information about the institution, the structure and operation of the OL program, and the resources used to deliver and support the program. An e-mail reminder was sent ten days following the initial mailing. Following these procedures, 39 colleges and universities returned a completed questionnaire (73% response rate).

Results

OL Curriculum Review

Curriculum reviews suggest that each of the OL programs reviewed offer coursework and experiences in three primary areas: technical skill development, a varied core curriculum, and leadership experiences and training. Technical skills instruction tends to focus on common land (backpacking, rock climbing, mountaineering, challenge course) and water (flat and whitewater canoeing, kayaking, rafting) activities. Snow and ice based activities (winter camping, ice climbing, cross-country skiing) were included based on the geographic location of the college or university, although location was not a limiting factor. Core courses in the OL curriculum focus on the foundations, leadership, organization and administration, teaching, environment, and the safety and risk management of outdoor pursuits. Leadership experiences centered on Internships and practicum experiences allowing students to put theory into practice. Some programs were found to offer courses involving extended expeditions lasting up to a semester in length utilizing both domestic and international locations. In addition to coursework programs offered opportunities for students to receive certifications in areas such as Wilderness First Responder (69%), Leave No Trace Trainer (46%), and American Canoe Association Canoe Instructor (35.8%).

Program Characteristics

Data analysis suggests that OL programs are geographically distributed throughout the country, with over one-third (35.8.%) found in the Western and Northwestern United States and the remainder found almost equally distributed throughout the Northeast (20.5%), Southeast (23%) and Midwest (23%). Almost half (46%) of OL programs are offered as an academic major and almost one-third (30.7%) academic minors.

Staff & Program Resources

An average of 2.43 full time faculty teach in OL programs. Almost every program (92.3%) utilized part-time faculty and sub-contractors (56.4%) to deliver parts of the curriculum. Both natural and artificial (challenge courses and climbing walls), teaching environments are integral to the delivery of the OL curriculum. Natural teaching environments tend to be close to campus (mean distance from campus to nearest canoeing site, 11.3 miles; backpacking, 28.8 miles; rock climbing 39.3 miles. Almost nine out of ten (89.7%) programs use low challenge course elements and high ropes course experiences (79.4%) in their programs. Indoor climbing walls are utilized by 79.4% of programs, outdoor climbing walls 20.5%.

Discussion

This study found a variety of OL programs dispersed throughout the United States. These programs include academic courses and experiences that incorporate many of the CCOL competencies identified by Priest (1987), and utilizing a variety of resources for program delivery. Findings also support Sugarman (1999) who noted that similarities exist in the types of courses offered, differences exist in how programs are named, where programs are located geographically, and in what departments or colleges they're located.

Presently no standard or core curriculum exists in the field of adventure education and outdoor leadership. Instead, the foundation for OL curriculums are based on the OL competencies identified in the research literature. This suggests that the current status of OL programs in US colleges and universities has remained relatively constant for almost a decade providing the coursework, training and experiences important to the development of outdoor leaders.

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Encouraging Minimum Impact Behavior: A Multi-Theory Approach

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Background

Participation in outdoor recreation is tremendously popular in the United States. Unfortunately, high participation rates often result in damages to natural resources. One way to minimize these damages is to encourage visitors to use minimum impact recreation practices. However, there is not currently strong evidence supporting which method(s) effectively encourage people to actually follow these practices. Borrie and Harding (2002) note it has been assumed that a recreation user only needs to be provided with information about appropriate behaviors in order to comply. But, in reality, just receiving a message does not mean that a visitor always follows the desired behavior.

In order to investigate the potential effectiveness of minimum impact recreation messages the theories used to design such messages need to be understood. As Roggenbuck (1992) argues, "knowingly or unknowingly, recreation managers use one of three distinct conceptual routes to persuasion and learning; applied behavior analysis; the central route to persuasion; and the peripheral route to persuasion" (p. 170).

Central persuasion encourages people to attend to, understand, and evaluate the message presented. The person then integrates this information into a reasoned position, either favoring or not favoring the message and may choose to modify beliefs and resulting behaviors (Manning, 2003; Petty & Cacioppo, 1981). This method is popular since it is typically seen as educative, lighthanded, and may lead to long-term behavior change (Hendee, Stankey & Lucas, 1978). Peripheral persuasion targets social norms and the actual source of a message is important. For example, message recipients may decide whether to adopt a behavior based on how expert, attractive, or powerful a message source is. Finally, applied behavior analysis focuses only on eliciting the desired visitor behavior rather than changing attitudes, beliefs, or knowledge levels. Generally, visitors are told what to do and/or promised rewards or punishments based upon their behavior. Of the three theories, it is not clear which, if any, is the stronger catalyst for encouraging minimum impact behavior.

The purpose of this study was to test which of the three persuasive theories trail users believed would be most effective in changing their minimum impact behaviors and why. It was hypothesized that a message incorporating all three theories (multi-theory) would be the most effective in encouraging intended behavior change since it would reach visitors who might be persuaded to change based on any one of the three routes to persuasion.

Methods

Data was collected from June to September 2007 on the Roosevelt National Forest in Northern Colorado. Recreation users at trailheads were asked to read four signs. Each of the first three signs incorporated a message that individually used one of the three persuasion theories. The fourth sign included a message using all three theories simultaneously. All four signs addressed the minimum impact practice of confining travel to established trails. After visitors read the signs they were asked to rank them based on how likely each would be to encourage them to confine their travel to the trail. They were also asked to briefly explain their rankings. In addition, visitors were asked to indicate the extent to which the signs would encourage behavior change and how often they already confine their travel to the trail. The total number of surveys collected was 302 and of these 281 were used in the final analysis.

Results

The mean age of respondents was 35 years. Males made up 49.7% of the sample and females 43%. Sixty-eight percent lived in the Colorado Front Range, 28.5% lived outside of Colorado, and 2% lived outside the United States. Ten percent of respondents were recreating alone and 82.1% were recreating with friends and/or family. The average number of people per group was 2.94. Hiking was the most popular activity, with an 83.4% participation rate, while 3.7% were mountain biking and the remainder participating in other activities.

Independent sample t-tests confirmed that the location of the signs, the time respondents completed the survey and the order in which the signs were displayed did not affect the responses given in the survey.

The sign rankings supported the hypothesis that the multi-theory sign was the most effective. This sign was ranked as the first or second most influential sign 65.8% of the time. Of the remaining three signs, central persuasion ranked as first or second 59.8% of the time, applied behavior analysis 45.2% of the time and peripheral persuasion 28.1% of the time.

In addition to the results from the rankings, the qualitative comments revealed additional insight regarding why the signs were or were not influential. Over half of the respondents noted that including reasons why they should stay on the trail (central persuasion) would influence their behavior. In addition, about a third of the respondents mentioned that the inclusion of a $50 fine (applied behavior analysis) would encourage them to stay on the trail. It should be noted that many people mentioned they did not like the inclusion of the fine, often because it made the sign seem less friendly or even threatening. But, less than 10% of the total sample mentioned that they would actually act against the suggested behavior and travel off trail if the fine were included. Finally, about one third of the respondents noted that the signs they found most influential were those that contained the fewest words (applied behavior analysis and peripheral persuasion). Those who liked the shortest signs often did not mention that the message content was influential (the inclusion of the $50 fine or the appeal to social norms), only that they liked that the message was brief.

A repeated measures one-way ANOVA was used to see if the signs differed significantly from each other in terms of the extent to which each would influence respondents to travel on the trail. In addition, it was tested if these extents differed from respondent's self-reports regarding how often they already confine their travel to the trail. The applied behavior analysis sign ($F(3, 275) = 58.71$, $p = .175$) and multi-theory sign ($F(3, 275) = 58.71$, $p = .050$) did not differ significantly from the central persuasion sign. All other signs and self-reports of current behavior differed significantly from each other, although the effect size was relatively small (eta-squared = .176).

Discussion

The hypothesis that a message incorporating all three theories (multi-theory) would be the most effective in encouraging intended behavior change was supported. This sign was ranked as the first or second most influential more often than were the other three. Also, the extent to which the multi-theory sign would affect behavior was significantly different from two of the three other single-theory signs. In addition to the support for the use of a multi-theory sign, the respondents overwhelmingly supported including an educational message in the signs (central persuasion). While not the focus of this study, this finding is important in that it supports the efficacy of education for encouraging minimum impact behavior.

Nevertheless, this support for the use of a multi-theory sign was not without caveat. As mentioned, many recreation users noted educational information (central persuasion) as well as the inclusion of a fine (applied behavior analysis) would be influential in encouraging them to confine their travel to the trail. But, the inclusion of the peripheral persuasion message received little support. Only about 15% of the respondents mentioned this message at all in the qualitative comments, and those who did were split whether this message would influence their behavior or not. The problem may have been that generic norms were used in the sign message instead of exploring the norms salient to this population (Basman, Manfredo, Barro, Vaske & Watson, 1996). A second caveat is that many respondents wanted the signs to be brief. The multi-theory sign contained the most words of the four signs. This became an issue because many respondents noted any short sign would have the most potential to influence their behavior, no matter the message. Thus, for these recreation users, the theory(s) used makes little difference.

In light of the findings from this study, it seems the most influential sign is one that includes reasons why to act in a particular way (education), a mention of a sanction and an appeal to a salient norm, all said as briefly and in as friendly a manner as possible. Although not explored in this study, perhaps the inclusion of a graphic to convey some of this information would decrease the wording needed on a sign. While creating a sign that includes each of these suggestions would not be a quick or mindless task, the resulting sign may have the best potential for encouraging recreation users to practice minimum impact behaviors, and thus afford the best opportunity to protect the natural resources used for outdoor recreation activities.

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Exploring Environmental Values, Attitudes and Behaviors of Philmont Program Participants

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Background

The Boy Scouts of America (BSA) is typically portrayed as a socially and culturally conservative organization. Historical accounts of the organization support this view (MacDonald, 1993; Macleod, 1983; Rosenthal, 1984), as do more contemporary portrayals of the organization (Mechling, 2001). The researchers were interested in determining the degree to which the organization's generally conservative orientation toward social and cultural issues is reflected in its members' orientations toward the natural environment. Further, the researchers were interested in exploring the possibility of a conservative justification for environmentalism by examining the value orientations of Scouts toward the natural environment. John Bliese (1997) argues that environmentalism is typically thought of as a liberal cause in American society. However, he argues that support for environmentalism can also be found in conservative intellectual thought in America. He proposes five justifications for environmentalism based on the principles of traditionalist conservatism: (1) patriotism, (2) piety, (3) anti-materialism, (4) prudence, and (5) a concern for future generations.

To determine the extent to which the BSA's generally conservative orientation toward social and cultural issues is reflected in the views of its members, the researchers first explored where along a continuum between biocentrism versus anthropocentrism the environmental views of Scouts are positioned (Dunlap, Van Liere, Mertig, & Jones, 2000; Ewert, Place & Sibthorp, 2005; Jurin & Hutchinson, 2005; Manfredo, Teel, & Bright, 2003). Second, the researchers categorized the views of Scouts participating in the study in terms of the five traditionalist justifications noted above (Bliese, 1997).

Methods

Site & Sample

The study was conducted at Philmont Scout Ranch near Cimarron, New Mexico during the summer of 2006. Owned and operated by the Boy Scouts of America (BSA), Philmont consists of over 137,000 acres and hosts more than 20,000 participants annually. It is the largest youth camp in the world and is the largest member of the American Camp Association. The study included Scouts participating in two Philmont programs in particular: the General Trek and Rayado. The 10-day General Trek is Philmont's largest program and is designed for Scouts ages 14-18 and their adult advisors. Rayado is a 21-day trek designed for both male and female participants (assigned to single-gender groups) who are 16-20 years of age.

Instrument

Data were collected for this study via a paper-and-pencil survey instrument. Data consisted of responses to open-ended survey questions exploring the environmental values, attitudes, and behaviors of Scouts:

1. Do you support strong environmental protection? If so, why? If not, why not?
2. Who has influenced your views of the natural environment the most? What has this person taught you about the environment?
3. Describe your favorite place to go in the outdoors? Why is this place special to you? Do you believe that this place should be protected? Why or why not?
4. Has your experience in Scouting influenced your views of the environment and the need to protect it? If so, describe how. If not, why not?
5. What specific things do you do in your daily life, if any, to protect the environment?

Procedures

Surveys were administered to approximately eight groups (crews) of arriving program participants every Tuesday and Thursday from June 19 through August 8, 2006. Crews were selected based on size (opting for larger crews) and geographical distribution (selecting no more than two crews from the same Scout Council on a given day). Crews arriving on Tuesdays completed the survey at the end of their Philmont experiences. Crews arriving on Thursdays completed the survey at the beginning of their Philmont experiences.

Analysis

Seven-hundred, seventy-three participants, including both adults and youth, completed the survey. Survey data were transcribed into a Microsoft Word format. Survey responses were then separated into separate data files by question. Survey responses are currently being reviewed to determine whether they represent anthropocentric versus biocentric views of the natural environment and to determine whether they can be categorized according to the five traditionalist conservative justifications discussed earlier (Bliese, 1997).

Results

Survey data are still being analyzed. Complete results will be reported during the poster presentation at the CEO research symposium.

Discussion

The importance of developing conservative justifications for environmentalism is based on the need to build consensus between the political right and the political left in American society around the issue of environmental sustainability. Indeed, in a country split between liberal and conservative political parties, environmentalists must reach out to the conservative side if we are to succeed in building back up the consensus on the need for environmental protection that we experienced briefly in the 1960s and 1970s. A general case has been made in the literature outlining conservative justifications for environmental protection (Bliese, 1997). This study contributes by attempting to provide evidence that traditionalist conservative values are actually used in justifying pro-environmental views. The BSA can be viewed as a socially and culturally

conservative organization; however, the organization can also assist in promoting environmentalism on the basis of its conservative values.

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A Relational View of Place: Perspectives from Outdoor Recreation Professionals

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Background: The purpose of this study was to describe the perceptions of outdoor recreation professionals toward place meanings in natural environments. Researchers and theorists suggest place meanings, sentiments, and attachments are results of affective, cognitive, and experiential elements, which coalesce to create embedded meanings and preferences related to particular settings (Kyle, Mowen, Tarrant, 2004; Low & Altman, 1992; Tuan, 1977). Those involved within the outdoor recreation profession have taken greater notice of the particularities of place meanings due to their possible link to increased pro-environmental behaviors and ethics (Borrie & Roggenbuck, 1996; Williams & Stewart, 1998). Although an abundance of place-based research has been conducted on outdoor recreation participants, there has been little focus on how professionals within outdoor recreation understand the place meanings they themselves attach to natural environments. Outdoor recreation professionals may be able to further utilize place meanings by becoming aware of the construction of their own perceptions toward outdoor settings.

Methods: Q methodology was the research strategy chosen for this study and is based on the scientific study of subjectivity (Brown, 1993). Q-method inquiries are utilized to explore people's views toward particular topics or issues and are able to delineate differences in the arrangements of opinions within those subjective dimensions (Dennis, 1986). Typically, Q-studies are carried out by a person or a group of people rank ordering stimulus items (called a Q-set) on a continuum using their views to assess and structure the importance of each item in comparison to other items according to a condition of instruction. In this study, the 48 items that formed the Q-set were structured statements from two prior Q-studies (see Hutson & Montgomery, 2006; Wilson, 2005) and related literature that reflect place meanings found in natural environments. Low & Altman's (1992) description of place attachment acted as a guide to formulate these statements and was the theoretical framework for the study.

The participants included 30 outdoor recreation professionals from a variety of backgrounds who live in the Midwestern United States. Twenty-five participants described their ethnicity as Caucasian. Four participants described their ethnicity as Native American and one as Asian. The participants included 15 males and 15 females. Years working as outdoor recreation professionals ranged from one year to 43 years of experience. Participants were between 18 and 60 years of age. Participants were asked to reflect on an outdoor place of personal significance. Then, each participant sorted 48 statements on a factor array according to the following condition of instruction: "How do you find meaning in a place in the out-of-doors?" Analysis consisted of statistical procedures including correlation of the sorts and factor analysis for computation of the factor scores. Varimax rotation was performed on a three-factor solution, which best represented statistical and theoretical significance. Z-scores were calculated for each statement on each factor to interpret each of the theoretical factor arrays along with distinguishing statements, demographic information, and exit question. The three factors were interpreted as: 1) *Relational,* 2) *Natural,* and 3) *Spiritual* representing three different perspectives toward place meanings. The focus of discussion for this presentation is to describe the *Relational* point of view.

Results: *Relational* is the name given to the four Q-sorts that define this factor. Two men in the age range of 51-60 each with over 35 years of experience in the outdoor recreation profession, one man in the age range of 18-30 with 5 years of experience, and one woman in the age range of 51-60 with 43 years of experience define this viewpoint. Participants who define this view work or worked in environmental education, outdoor education, and outdoor recreation resource management. Of the four participants who helped to define this view, three described their ethnicity as Caucasian and one as Asian.

Those who subscribe to the *Relational* view value family and social relationships in outdoor settings. The strongest agreement among those who subscribe to this perspective is with statement 35 (Experiencing time with my family). These people find meaning in outdoor places through relationships that unfold with family and others during time spent outside. These relationships seem to become embedded into the memories of those with this view through a ritual of participation. The second highest ranked statement 42 (Being part of the rituals and celebrations of a place) punctuates the importance of ritual to those who subscribe to this perspective. As evidenced by statements 35 and 42, social and familial engagement ritualizes the meaning of place over time for these outdoor recreation professionals. Other salient features of the *Relational* view include relationships over time to the physical environments that hold special significance. Those who subscribe to this view not only like to feel close to other people, but the positioning of statement 39 (Being in a place I have history with) shows the importance attached to experiential involvement over time. Those who subscribe to this view appear to want their personal history to connect to the history of a place. The place meanings that define this view emerge through a ritual of maintaining relationships that unfold over time to both people and settings of preference.

Discussion: The *Relational* view suggests attachments to ongoing relationships to be defining characteristics of the place meanings for some outdoor recreation professionals within this sample. Low and Altman (1992) stress places are given meaning through group, personal, and cultural engagement. The *Relational* view exudes this combination of elements with its emphasis on the relived experience. Group engagement is important within this perspective through the meaning attached to mature relationships with people and places over time. Personal engagement emerges within this view in the need to return to settings to re-experience positive cognitions. Finally, cultural engagement is reflected within this view through emphasis on ritual and the attachment of one's personal history to the history of the setting. This view illuminates the possibility of emotional memories defining the efficacy of place meanings within the *Relational* perspective consistent with Low and Altman's theoretical lens. These results indicate that perceptions of natural environments within the *Relational* perspective can be viewed as dynamic phenomena contingent on the meanings that are attached to them over time. If those who hold the *Relational* view practice pro-environmental behaviors, it appears that these practices may be resultant of the meanings attached to relationships that evolve within particular settings. Further research could explore this relationship. These findings should be viewed as encouragement for those who define the outdoor recreation profession to continue exploring the multiple meanings that are attached to outdoor places so they may be utilized more effectively by practitioners. Then, environmental ethics may begin to have a more particular context within the meanings they arise out of and become more potent in the minds and practices of those people who spend time recreating in the out-of-doors.

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What Children's Perceptions of Indoor- and Outdoor-Type People can Tell Us?

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Background

Learning is a lifelong process incorporating thinking, feeling, and acting (Novak, 1998). As the learner perceives and learns about his/her world, a mental model of the world is organized and constructed. A person's knowledge is not static but evolves with new experiences and ways of thinking about these experiences. Each individual builds knowledge through personal interest, prior knowledge/experience, hands-on activity and social interaction with a knowledgeable expert, peer, or adult (Piaget, 1954; Vygotsky, 1978; Wertsch, 1984). New experiences and challenges force the learner to build upon and modify his/her mental model (Boud, Cohen & Walker, 1993; Arends, 2000).

How a child perceives an outdoor person is influences through these experiences and social processes. A child's social and cultural world has a significant influence on his/her learning process (Vygotsky, 1978). These influences can help to determine whether a child participates in outdoor recreation activities. As a part of a larger ethnographic study on how children make sense of nonformal learning experiences, the participants took part in a Five Field Map (FFM) (Samuelsson, Thernlund & Ringstrom, 1996) exercise to determine their perception of the social supportive network outdoor influences. This paper's focus will be on the FFM exercise analysis results portion of the study.

Methods

One method that can help determine a child's social network is the Five Field Map (FFM) (Samuelsson et. al., 1996) specifically developed for children. The study participants were 20 gifted fourth- and fifth-grade students attending a three-day nonformal environmental learning program. A series of observations and interviews were conducted before, during and after the trip. The participants completed an FFM exercise. During this exercise the students were asked to write out how they defined an 'indoor person' and 'outdoor person.' Then each participant was provided instructions on how to fill out the FFM to represent family members and friends significance in his/her life. Finally, the participants were to indicate through color code what each person on his/her FFM was an "outdoor" (yellow) or "indoor" (green) type person. The FFM and definitions were then discussed in an interview with each participant. The participant definitions, FFMs and interviews were analyzed using domain analysis (Spradley, 1980).

Results

The participant definitions of outdoor and indoor people centered on activity level, boredom or fun, inactive or active, and sensory (see Table 1 for participant definitions). They attribute personality characteristics such as energetic, healthy, or lazy. Some of the definitions were sensory oriented such as sweaty, dirty, active, or inactive. Laziness, couch potato, TV, video games, and computers characterized an indoor person. An outdoor person was characterized as energetic, hard working, fun to be around, and sports. These definitions shed light into the participant's cultural influences about what typifies an indoor or outdoor person. Some of their definitions were characterized by the feeling of dirtiness, a sensory orientation. Dirty was used as a distinction to define an indoor and outdoor person.

Interviewer: So everybody you know is an outdoor person?
Student A: Umhumm [affirmative]
Interviewer: That's cool and you are an outdoor person. Let me see how you define that. An outdoor person is a person who loves to get dirty and …

Student A: …have fun.

Interviewer: And then a person who is indoor is afraid they will get sunburned and they will not go out because they might get dirty. Okay. So everybody you know doesn't mind getting dirty. How would you define dirty?

Student A: Maybe playing in the sand or working hard and getting sweaty and having to plant a garden and not mind getting you hands dirty…getting dirt under your fingernails.

Play was indicative of both definitions of indoor and outdoor. However, outside play seems to be more kinesthetic. Outdoor people were those who participated in a sport activity (e.g., football, basketball, or baseball). One participant spoke of making the indoors like the outdoors through activity level.

Interviewer: …If you could you'd be outside doing what ever.

Student B: Yeah, unless it were raining… I'd try to make it inside because inside I try to make it outside when it's raining yeeeeeyah!

Interviewer: How do you make the inside like the outside?

Student B: Playing tag and stuff like that.

Some of the participants did define outdoors as having an interest in both sports and nature.

Discussion

The participants definitions centered on activity level – boredom or fun, inactive or active and sensory. Also, play was indicative of both definitions of indoor and outdoor. Reflective in human development are parental values and cultural norms. These definitions provide insight into the child's perception of what it means to be an outdoor-type person. If parents value outdoor or indoor activities, a child's meaning-making will be influenced (Dunn, 2003). Similarly, if the surround culture values outdoor or indoor activities, a child's perception and learning will be thus influenced (Vygotsky, 1978).

During childhood one develops both positive and negative attitudes toward his/her surroundings. "Childhood is thus also a period of socialization, of adult investment in the creation of socially relevant skills and beliefs, and motives" (Garbarino, 1989, p. 18). Consequently, childhood contacts with the physical environment, involvement in social interactions, and a significant person or event are crucial to developing an appreciation of the natural environment (Tanner, 1980; Chawla, 1988; Bixler, Carlisle, Hammitt, & Floyd, 1994). The social interactions and accumulation of experiences that occurs throughout a child's development can develop preferences, motivations, and choices.

Through participation in activities an individual gains knowledge, skills, and norms associated with activity settings (Vygotsky, 1978; Bixler et al., 1994; Novak, 1998). The child's participation is socially mediated promoting knowledge construction and meaningful learning. However, negative perception of an outdoor-type person has consequences to adoption of wildland activities and an environmental ethic. Understanding these cultural and social influences on children's' perceptions of social and cultural meanings of outdoor recreation can provide insight into program planning and participation.

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Helping Relationships in Wilderness Therapy: A Closer Look at Goal, Task and Bond Constructs of the Working Alliance Inventory.

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Background

Wilderness therapy (WT) programs have shown promising treatment outcomes for adolescents with diagnosed problem behaviors (Harper, Russell, Cooley, & Cupples, 2007; Russell, 2003). Numerous potentially mediating variables present in the WT milieu have not been thoroughly examined. One change process variable deserving attention in WT is the working or therapeutic *alliance* between the wilderness leader/therapist and the client. The alliance is described in treatment literature as the combined strength and quality of the relationship formed between client and therapist (Horvath, 2001). Alliance is built conceptually on three constructs: (a) goal (i.e., agreement on necessary change), (b) task (i.e., agreement on how to achieve said change) and (c) bond (i.e., quality of attachment) between client and therapist. The alliance has been portrayed in literature as the most consistent in-treatment predictor of outcomes and may stand to provide more explanatory power than therapist training and treatment model variables (Bordin, 1979; Horvath & Symonds, 1991; Martin, Garske, & Davis, 2000). A recent WT study demonstrated significant development of alliance, however results did not support the predictive quality of the alliance relative to client social and psychological treatment outcomes (Harper, 2007).

This study is an exploratory investigation of an assessment of client-therapist alliance in WT. Specific objectives of the study were to (a) identify change in alliance scores pre- to post-treatment across client- and program-level variables, (b) explore how change occurs across goal, task and bond constructs, and (c) discuss findings and provide recommendations for further investigation.

Methods

Data was utilized from an assessment of treatment outcomes in which alliance was not predictive of these outcomes and reported elsewhere (see Harper, 2007). Participants were adolescent clients (n = 85) enrolled in a 21-day WT program between June and September 2006. Of the participants, approximately two-thirds were male, one-third female. Treatment included individual and group therapy processes, challenging outdoor travel, living, and related activities. A three-person clinical team consisting of wilderness guides and at least one Masters-level therapist were responsible for client groups of seven. The Working Alliance Inventory (WAI, Horvath, 2001) was utilized in a pre-post repeated-measures design. A delayed (3-7 days) pre-treatment administration of the measure, as suggested in alliance literature, was utilized to allow adolescent anger and resentment at pre-treatment to subside, and an initial alliance to manifest. This initial anger, often the result of being enrolled in treatment against their will, was reasoned to negatively influence an accurate portrayal of the relationship forming between client and wilderness leader/therapist.

Data were analyzed with paired sample *t-tests* for pre- to post-treatment change of (a) total WAI scores, (b) scores by construct (goal, task, bond), and (c) by age, gender, treatment length, and diagnosis. One-way ANOVA was utilized to analyze differences in constructs across age, treatment length, and diagnosis groups. Correlations were utilized to test linear

relationships between total scores of the three scales of the WAI. As an exploratory investigation, Familywise Type I error controls were reasoned too restrictive for the purpose of the study. Significance is therefore reported at $p < .05$ and .01 along with effect sizes. A small convenience sample and subsequent small sub-group samples, lack of control/comparison group, and repeated *t-tests* limit generalizations. This study is offered as an initial inquiry of therapeutic alliance in WT and results should be interpreted cautiously. This study aims to further develop theoretical understandings of the alliance and its potential role/relationship to outcomes in WT and hopefully raise questions of practice related to helping relationships in treatment.

Results

Fifty-seven pre-treatment measures and 54 post-treatment measures were completed with only 31 complete data sets resulting in a 36% response rate. Data collection was problematic due to program logistics and incomplete measures. Non-response biases was checked and no significant differences were found on client- and program-level variables between complete and incomplete data sets (pre- or post-only). Of complete client data sets, 19 were male, and 12 were female.

Initial results indicated significant pre- to post-treatment improvements in total WAI scores (t (31) = 2.99, $p < .01$). Analysis of total WAI scores by gender and age groups (i.e., 13-15, 16, 17-18) showed significant improvements for males, and for 16 and 17-18 year old age groups. Analysis of total WAI scores by diagnosis group (i.e., substance use, mental health, dual-diagnosis) resulted in only the mental health diagnosis group showing significant improvement. Analysis of total WAI scores by treatment length groups (<22, 23-47, and 48+ days) showed only the 48+ day treatment length group approaching significance. Subsequent analysis by goal, task, and bond constructs comprising the WAI found significant improvements for goal and task (t (31) = 2.62, $p < .05$; t (31) = 2.49, $p < .05$) while the bond construct approached significance (t (31) =2.03, $p = .052$). Construct scores were then analyzed across gender, age, treatment length and diagnosis groups resulting in significant change occurring (a) for males on task (t (19) =2.63, $p < .05$) and bond for females (t (12) = 3.0, $p < .05$), (b) in the two older age categories (16 yrs., t (10) = 3.31, $p < .05$; 17-18 yrs., t (8) = 2.58, $p < .05$), but not for the 13-15 year olds, and (c) for 48+ day treatment length on bond (t (11) = 3.0, $p < .05$). Analysis of variance found no significant differences in scores when comparing age, treatment length and diagnosis groups for each construct. Results from the three scales comprising the WAI were found to have medium to large correlations (r = 0.43 to 0.68) with the goal and task scales showing a significant relationship (Bonferroni controlled, $p < .008$). These relationships provide empirical support for the WAI measure's three-construct conceptualization of working alliance.

Discussion

Results portray a significant increase in client total WAI scores suggesting a strong alliance present in this WT sample. While not predictive of social and psychological outcomes, as reported in a previous study (Harper, 2007), results suggest alliance manifests inconsistently across client and program variables. For example, younger clients are not building positive client-therapist bonds in the manner older participants are. Further, the strongest development of alliance for males in this sample was within the task construct, which may reflect an *alliance* to, or agreement with, program activities. For females, the strongest development of alliance was in

their bond with leaders/therapists, which may reflect an *alliance* to leader characteristics, or suggest a preference for stronger emotional bonds with staff in the WT treatment process.

Study participants were allowed to choose any member of the three-person clinical team to complete the WAI, either a therapist or wilderness leader. This clinical team approach utilizes shared responsibilities for guiding, safety and therapeutic intervention thereby reducing the perception of therapeutic responsibility from the actual therapist in the field. In numerous WT programs, often with longer average treatment lengths, therapists may visit clients in the field for pre-determined amounts of time; subsequently clients spend a considerable amount time with wilderness leaders (i.e., not therapists). In this *paraprofessional* role, wilderness leaders may contribute significantly to the therapeutic change process, a suggestion previously expressed in treatment literature (Weisz, Weiss, Han, Granger, & Morton, 1995). The bond construct—the attachment between client and therapist/leader—needs to be explored further to increase the capacity of WT therapists and leaders in maximizing change processes.

Alliance research is receiving significant attention in many treatment settings. Understanding how it manifests in WT will better serve clients and families within this treatment milieu. WT inherently possesses a unique ecological paradigm, *nature*, which may itself play a role in the development of alliance and resultant treatment outcomes. Further, the often abrupt and involuntary transition of adolescents from their home/communities into WT programs may be responsible for heightened alliances with WT program staff in contrast to alliance assessed in conventional treatment settings. While reasoned an important component of the WT process, academics and practitioners are now challenged with the task of developing and testing theoretical frameworks to better understand the alliance and its relationship to treatment outcomes in WT.

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A Backcountry Experience as Spiritual? How Can I Get to that Point?: Learning from a Means-End Study

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Background

It seems that educational experiences are undertaken by an individual in order to develop skill, knowledge, or both. When psychology was studying rats to learn about human behavior, Abraham Maslow undertook this same goal through the study of individuals who seemed to be living well-balanced and accomplished lives; they had self-actualized (James, 1890; Maslow, 1964). The Maslow hierarchy of needs was a result of this early work. Later, self-transcendence, the essence of spiritual enlightenment, was added as another tier to this now familiar pyramid (Maslow, 1971). The point being, that in order to deliver outcomes from educational experiences, the educator must have a basis for the curriculum. In the case of adventures in backcountry settings, if one is to develop a proficiency in personal skills that allows for independence, one needs a set of goals and a map. Thus, to provide educational experiences that can yield a spiritual meaning, a purposeful understanding of the connections between the attributes of an experience and the meaning ascribed should be intentionally employed. The present study addresses such potential of purposeful curriculum for the attainment of spiritual meanings from backcountry adventure.

The rationale for this study lies in the small pool of leisure and recreation research that has identified spiritual outcomes from backcountry adventures (Williams and Harvey, 2001; Behan, Richards & Lee, 2001; Young & Crandall, 1984). Scholars and writers have recognized the contribution of backcountry experiences to spiritual development (Driver, Dustin, Baltic, Elsner & Peterson, 1996; Fredrickson & Anderson, 1999; Hendee & Dawson, 2002; Kaplan & Kaplan, 1993; Mitchell, 1983; Stringer & McAvoy, 1992). North American leisure scholars have called for an increased study of participant leisure experiences as a way to better understand the social and contextual meaning of leisure and leisure satisfaction (Coalter, 1999).

The purpose of this study was twofold. First, to establish an understanding of what is meant when someone describes a backcountry adventure as spiritual. Second, to better understand the relationships between the attributes, consequences, and values (ACV) of the spiritual aspects a backcountry adventure.

Methods

To understand the relationships between attributes, consequences, and values of a backcountry adventure, an analysis guided by means-end theory (Gutman, 1982) was employed. Means-end theory originated in the research of consumer behaviors: discovering what attributes of a product or experience provided which consequences to the consumer and the valuation that the consumer placed on those consequences. Means-end theory provides the basis for understanding the cognitive connection between specific situational knowledge and self-knowledge (Gutman, 1982; Mulvey, Olson, Celsi & Walker, 1994). Means-end analysis (Reynolds & Gutman, 1988), through use of the laddering interview technique, addresses the question of understanding these cognitive connections. Thus, the benefit of employing a means-end approach is the potential to gain understanding that can be applied in program development. The primary limitation of the method is that, while protocols aim to circumvent the issue, the qualitative interpretation of the data is based on linguistic interpretation, and thus could misrepresent an informant's intent. The method has been successfully used in exploring several

aspects of adventure education (Goldenberg, McAvoy & Klenosky, 2005; Goldenberg, et. al., 2000; Haras, Bunting & Witt, 2006; Goldenberg, Pronsolino & Klenosky, 2006).

Interviews were conducted with 63 backcountry users in the region of Teton Pass, Wyoming. Of the 42 men and 21 women who participated, 32 self-identified as having a backcountry skill level as advanced and 28 as expert. The protocol of a means-end laddering interview (Gutman, 1982; Reynolds & Gutman, 1988) was used. Data analysis consisted of two main stages. First, informant statements were coded during content analysis. For stage two, implication matrices were generated for the frequency of association between the attribute, consequence, and value concepts identified. These connections were represented in hierarchical value maps. A total of 18 hierarchical value maps (HVM) portraying the strength of relationships between the attribute, consequence, and value (ACV) concepts were generated for analysis, two for the overall data and one for each of the 16 subgroups. These HVM were interpreted visually and numerically based on frequency and strength of ACV associations. An analysis of informant subgroups was conducted based on gender, age, years of backcountry experience, type of activity leading to spiritual experience, and level of skill associated with that activity.

Results

The HVM were established using a total of 23 ACV content categories that were in turn derived from 511 ACV concept references: six attribute, nine consequence and eight value concept categories were the result. These concepts compose the spiritual experience of backcountry adventures expressed in the data. Informants confirmed that the summary of the values identified equated to what they considered to be the meaning of the term spiritual. Inter-rater reliability was calculated at 99.22%.

The study identified values reflecting spiritual development as a transcendent experience (63%), increased awareness (46%), connection with others (43%), and a sense of fulfillment (29%). The major benefits were focus (38%), reflection (30%), tranquility (32%) and an appreciation of beauty (32%). The benefits of sharing (27%), enjoyment (25%), experiencing a challenge (24%), a sense of competency (22%) and a feeling of healthiness (22%) also contributed to the spiritual meaning. The primary attributes were the natural backcountry setting (95%), the adventure (35%), and exercise, both mental and physical (35%). While not all ACV concepts were interrelated, all benefits from a backcountry adventure were associated with spiritual meaning.

Discussion

The use of the term spiritual described for the informants, an experience that is grounded in the backcountry setting where mental and physical exercise and skill development are part of an adventure. From these attributes, a series of personal emotional, social, mental, and physical benefits result. Awareness of these benefits is not new (Driver, Brown & Peterson, 1991). However, relating these benefits to spiritual meaning is a contribution made by this study. Meaningfulness emerged from the benefits that were valued in a way both scholars and laymen recognize as the components of spiritual development and experience. Thus, if the education setting offers a curriculum that is designed to both impart skills and knowledge that provide the student with competence in backcountry adventure, as well as the guidance in applying this learning toward realizing some combination of the nine benefits recognized above, then the opportunity to pursue adventures can yield individual spiritual meaning. These findings can be used as a basis to guide practice and policy for adventure and outdoor education programs, to enhance individual spiritual development, and to further extend research in this arena. The

findings contribute the understanding of the role that adventure education programs can play in building competencies that can yield spiritual meaning for some individuals.

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The Healing Power of Nature

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> *"It would not be too bold to assert that direct and indirect experience of nature has been … a critical component in human physical, emotional, intellectual, and even moral development"* (Kahn & Kellert, 2002).

Adventure education, organized camping, environmental education and interpretation, adventure therapy, and other outdoor education contexts usually have the outdoors as a common element. Understanding the research about the benefits of being in the natural world can help practitioners as they plan programs, design research, and generally continue to evaluate and improve their programs. Additionally, this information is useful when practitioners and administrators need to justify their programs for clients, grants, or other administrators.

The aim of this paper is to show the scope and depth of the research about the impacts of the natural environment on human health and development and how this research supports the conceptual and theoretical bases of many practices of outdoor educators. To that end I have reviewed the research and literature base about nature and health. In addition to the outdoor fields, research and theories from a number of fields, including medical, psychology, sociology, social work, landscape architecture, urban planning, biology, deep ecology, ecopsychology, and biophilia will be included.

This paper is organized in two major sections. One section highlights connections between ways that nature is incorporated into programming and health benefits. Some of the programming examined includes, helping people find personal meaning through engaging with the natural environment, incorporating nature in the creation of rituals, helping people create personal environmental ethics, facilitating people becoming politically engaged in environmental concerns, and using nature as a place to achieve competence, learn skills, or as a therapeutic environment.

The second section identifies the research demonstrating how time in the outdoors positively impacts people in their physical, psychological-emotional, social, and spiritual domains. The benefits of being outdoors will be categorized into these four areas and cross referenced with the programming aspect.

Background: This topic is timely. Today, with the publication of such works as Richard Louv's (2006) book, *Last Child in the Woods: Saving our children from nature-deficit disorder*, more people are being made aware of the importance of nature to our basic human health. Place-based education, becoming more common even in traditional educational settings, works to create a tie between people and the land and develop community. This community extends beyond humans and is based on Aldo Leopold's (1968) theoretical constructs of community. E. O Wilson's (1984) biophilia hypothesis is more well-known and ecopsychology is taught at the university level. The practice of *nature therapy* has begun to have a research base (Berger & McLeod, 2006). The medical field is taking an interest (Burls & Caan, 2005).

The topic has deep historical roots. An understanding of the restorative and transformative power of nature is not contemporary, not unique to western culture, and not unique to outdoor programming. In medieval times hospitals often were situated near

monasteries so that patients would walk in the gardens and sit in the outdoor courtyards of the monasteries. Medicinal and culinary herbs grew in the monastery gardens. Writers such as John Muir and Thoreau wrote about our connections with nature and the importance of being in nature in order to know oneself. Carl Jung discussed symbolic archetypes, as represented in dreams and reflective of human connections to the natural world in "the power of a Scared Space" archetype.

In pioneering attempt to understand the connections between children and nature, Elwood Shafer of the Forest Service's Pinchot Institute of Environmental Forestry Research organized a symposium in 1975 titled, "Children, Nature, and the Urban Environment." Participants included people in the fields of child development, environmental studies, and recreation. Some participants were from academics; however most were practicing in their fields. Twenty-five years later Peter Kahn, a psychology professor at the University of Washington, teamed with Stephen Kellert, a social ecologist from Yale, to edit a collection of work of mainly university-based ecologists, biologists, and psychologists. Despite the different origins of these publications and the years that separate their publications, their conclusions, that children need opportunities to explore wild places and to learn about nature for healthy maturation, are similar. Cobb (1977) and Kellert (2002) have said that a child's direct and ongoing experience of accessible nature is an essential, critical, and irreplaceable dimension of healthy maturation and development.

In outdoor fields Rachel and Stephen Kaplan's (1989) work is seminal, ranging from connecting nature to restorative practices to looking at the impact of landscapes on human behavior, and continues to be cutting edge today. A number of researchers have used Kaplan and Kaplan's Attention Restoration Theory (ART) as their theoretical framework. For example, Dr. Dawn Yankou (2002), researching in nursing and using ART as her framework, has shown that nature is a powerful restorative environment for people with depression and attention fatigue.

Summary: Nature can be a place to journey, connect with the soul, and acquire skills. Nature is a therapeutic setting. While facilitation and programming are integral to the success of outdoor trips, the fact that these experiences take place outdoors in a natural environment is probably a critical factor. We use nature to stimulate adventure, to help in restoration, to help people engage and be involved in environmental protection and to help create a sense of place. Understanding the evidence-based research supporting the health aspects and healing power of nature is useful and valuable to educators in all outdoor education contexts. It can enrich, strengthen, and improve outdoor educators' work. In addition to summarizing the current research base about nature and health, this review will show how the rich and building literature in this area supports the conceptual and theoretical bases of practitioners.

Author's qualifications: Since the 1980s research about the power of nature in terms of human health and healing has been a focus of the author's. The author has looked at sense of place (Mitten 1985), has proposed that being nature is a primary factor for the global changes often reported from participation in outdoor adventures (Mitten 1995), and, as a research assistant for the Center for Spirituality and Healing at the University of Minnesota, looked at the specific evidence-based research supporting the health benefits of being in nature for both general and specific populations, including elderly people, people with asthma, and children with attention

deficit disorder (ADD), attention deficit hyperactive disorder (ADHD), and oppositional defiant behavioral disorder. The author presented some related research in a keynote for the 4IATC.

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A Closer Look at Course Components at Outward Bound Singapore: The Solo and Final Expedition

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Background

The purpose of this study was to investigate the long-term impact of a 21-day Classic Challenge course run by Outward Bound Singapore (OBS) between 1997 and 2005. The data for this study was collected in 2005. A portion of that data was reported at the 2006 CEO and published in the Proceedings of that symposium. That paper focused on overall long-term benefits of the course. The current paper reports on a different portion of the study data and is specifically focused on the level of long-term impact of selected course components for group, nationality and year of participation. The study also examined course components as predictors to long-term impact.

The main theoretical concept that relates to these long-term impacts of course components is the concept of transference. Transference refers to how and to what extent learning gained from an experience can be, or is later utilized in life (Gass, 1999). Transference can be specific or non-specific or, metaphoric. In summary, this study focused on the influence of OBS course components and the transference of outcomes to participants' lives in the long-term.

Nearly all of the 96 studies examined in an often cited meta-analysis by Hattie, Marsh, Neil, and Richards (1997) were conducted in America, Australia, and New Zealand. None of the studies reviewed in the meta-analysis were conducted in Asia. This is ironic considering the first outdoor adventure education school (Outward Bound) in Asia was founded in 1952 in Lumut, West Malaysia before the establishment of Outward Bound in Australia in 1956, America in 1961, New Zealand in 1962, and Canada in 1969. The limited attention given to Asia is troubling, especially since the two most populated countries in the world (China and India) are located there (Infoplease, 2005).

In Asia, research on outdoor adventure education programs such as Outward Bound has not developed at the same pace as in other parts of the world. There have been very few studies in Southeast Asia and Singapore specifically. The primary studies that have been done in Singapore have examined program effects quantitatively in the short term (Tan, 1995; Ho, 2003; Wang, Ang, Teoh-Koh, & Kahlid, 2004; Wang, Woon-Chia, & Kahlid, 2006).

Outward Bound Singapore, founded in 1967, is an important educational organization within the island nation of Singapore. It operates year-round and is based on Pulau Ubin (Granite Island), off the northeast coast of Singapore. The organization is viewed by Singaporeans as the leader in experientially based outdoor adventure education (Jeremy Tay, personal communication, July 26, 2005). Outward Bound Singapore offers a wide range of programs from children's' course to corporate programs for professional executives.

Methods

This study was a portion of a larger study that looked at an outdoor adventure education experience in Singapore (Gassner, 2006). The larger study utilized both qualitative and quantitative methods although the quantitative features remained dominant (Creswell, 2003). This current study focused primarily on quantitative course component data from a self-administered questionnaire that participants filled out either on paper or an equivalent Internet based version. A total of 318 questionnaires were successfully completed (209 by mail and 109 by the Internet) which resulted in an overall response rate of 34.29%.

Adult participants of an Outward Bound Singapore 21-day course were asked on a self-administered questionnaire to rate how meaningful each course component was to their lives in the long-term. Participants rated on an 8 point Likert-type scale which course components of their 21-day course had been most meaningful. Data were initially analyzed using (a) descriptive statistics, (b) ANOVA procedures to determine the importance of course components, and (c) multiple linear regression to determine the relative contribution of course components to long-term impact.

Results and Discussion

The results of this study assert that components of the program did impact participant's lives, many years after participation in the course, and in different ways. The study also highlighted the relative importance of two primary course components, a final expedition and a solo experience. Overall, participants rated the final expedition more meaningful than the solo.

Of the three distinct groups that participated in the OBS course (Singapore Airline pilot cadets, Singapore Police Academy cadets, and State Scholars), the final expedition was most meaningful to the Police Academy cadets. Of the two primary nationalities that attended the course, Singaporeans rated the final expedition more meaningful in the long-term than Malaysians. With regards to course year, data on the final expedition as a course component show a relatively constant level of long-term impact between the years 1997 and 2005.

The solo did not appear in the top three most meaningful course components for long-term impact with participants in this study. Police Academy Cadets rated the solo more meaningful in the long-term than the other groups. In contrast to the final expedition, the solo was rated higher by Malaysians than Singaporeans. Results also suggest the solo may become increasingly more meaningful to participants as more time has elapsed since their course.

The study also examined course components as contributors to long-term impact. Results suggest that reflection, either individually or in groups may be the most important contributor to long-term impact.

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Gender Differences of Outcomes Associated with Outward Bound and NOLS: A Means-End Investigation

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Background of the Study

This study compares outcomes of male and female participants from Outward Bound (OB) and National Outdoor Leadership Schools (NOLS) courses during the summer of 2006. Means-end theory was used to analyze the differences in males versus females from the 510 subjects' responses.

Gutman's (1982) means-end theory has application to outdoor recreation through such studies as understanding the outcomes associated with ropes course programming (Goldenberg, Klenosky, O'Leary, & Templin, 2000; Haras, Bunting, & Witt, 2006) and examining the components of an outdoor experience (Goldenberg, McAvoy, & Klenosky, 2005; McAvoy, Holman, Goldenberg, & Klenosky, 2006). Means-end theory was originally used to understand decision-making of consumers, but has recently demonstrated the ability to serve as a useful tool in the recreation and outdoor fields.

OB and NOLS are two of the largest providers of outdoor education programming and have been in existence since the 1960's. OB and NOLS offer various length programs both internationally and throughout the United States to participants of all ages. This study focused on courses 14 days or longer with students that were 14 years old and older in Colorado and Wyoming.

Methodology

Means-end theory examines the interrelationship between attributes, consequences, and values. This theory links the physical objects or services (the means) with the outcomes and the personal values that the individual obtains (the ends). The attributes are the physical characteristics that can be used to describe a service or the experience, such as rock climbing, peak ascents, or hiking. Consequences are the direct result of attributes whether positive or negative, such as having fun, interacting with others, or overcoming a fear. The values are the desired end states, such as gaining self-confidence, developing warm relationships with others, or obtaining a sense of accomplishment.

A semi-structured interview was used with a convenience sample of OB and NOLS participants after the completion of their course. Subjects were asked to identify meaningful components of their course and to ladder from the various responses through a series of questions. For example, a participant would explain a certain outcomes they obtained from the course. They would then be asked why they thought that was important. Once they responded, they were asked again "…and why is that important," until they eventually stated a value or could not longer answer the question.

Ladders were coded with content codes and were entered into a computer program known as LadderMap (Gengler & Reynolds, 1995). The content codes were analyzed by another researcher to determine intercoder reliability. An implication matrix was then created to assess the frequency that concepts were linked together. From the implication matrix, visual representation of the themes, known as hierarchical value maps (HVMs) were created.

Results

Data were collected from 162 OB students and 348 NOLS students with 337 (66%) males and 173 (34%) females. Despite subtle differences in program structures, participants (females and males) from both organizations cited many of the same program attributes as their most meaningful experiences. The attributes mentioned the most frequently included *group*, *expeditioning*, *climbing*, *peak ascent*, and *wilderness*. Many attributes were mentioned more frequently by females. For example, the attribute of *group* was mentioned by 51% of females compared to 35% of the males. Consequences mentioned were similar between genders, but females identified *interactions* more than males. *Skill development* was identified more frequently by males than females. Values mentioned (*sense of accomplishment*, *life improvement*, and *self confidence*) were similar between genders.

For females there were strong connections between the most mentioned attribute *group* and the most mentioned consequence *interactions*. These had strong connections to consequences of *personal challenge* and *fun*. The attributes of *climbing* and *expeditioning* had strong connections to the consequences of *personal challenge* and *perseverance*. These ultimately lead to the values of *life improvement* and *sense of accomplishment*.

For males, all five most mentioned attributes had links to the consequence of *new experience*. These links eventually lead to the most mentioned consequence of *skill development*. *Skill development* then linked to the value of *fun and enjoyment of life*.

Discussion

Several studies indicate that outcomes from outdoor adventure experiences vary between females and males. Estes and Ewert (1988) stated that males placed less emphasis on group-oriented activities, whereas females placed higher expectations on group development. This study of gender differences in outdoor adventure courses seems to support this claim. Many females who were interviewed mentioned *group* as their most meaningful experience, while fewer males mentioned *group*. When asked what consequences resulted from the attributes remembered, many females stated *interactions*, while males mentioned this consequence less often. This would seem to suggest that with regard to OB and NOLS programs, females place greater importance on the interactions with others than males participants do.

McKenzie (2000) states that while no course components stand out as being more effective for a particular gender, findings suggested that some course components have a greater impact on females. These course components included taking care of others, personal challenges, and rock climbing. The findings from this study on female outcomes support this. Two of the attributes most frequently mentioned, *climbing* and *expeditioning*, had strong links to the consequence of *personal challenge*, which was the referred to by many females.

Implications for this research include support for the use of means-end theory to examine outcomes associated with participation in the outdoor adventure field. It also shows that it is important for practitioners to understand that outcomes obtained by both males and females may vary. If particular outcomes are the goals of the group, then it is important that practitioners program for that group accordingly.

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Factors Related to the Occurrence of Incidents in Adventure Recreation Programs

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Background

Risk management is a dynamic, ongoing process that allows programs to continually evaluate their potential for risk and the best methods to address those risks (van der Smissen, 1990). One part of the risk management process is to exam accident data, which can provide both administrators and field staff valuable information to help make better-informed decisions about actual program risks. Data can justify policy changes, changes in the level of staff training, program location or activity. It can also create an accident database for analysis: to identify trends, evaluate efficacy of safety and management measures, and predict potential future trouble areas (Erickson and Leemon, 2000). Finally, accident data when shared throughout the adventure program community can help identify industry wide or localized trends, add to the collective body of knowledge and shape industry standards. A study conducted by the St. Paul Companies and Outward Bound USA (2001) recommends that the outdoor adventure industry, its consumers, and its evaluators need a clear and consistent way to assess risk and safety management systems. In particular, the industry needs a system in place to track and report accidents and injuries to get a clear picture of the risks inherent in the industry and how to mitigate these risks.

This study examines accident data generated over a five-year period from a outdoor adventure program using a combination of Hale's Accident Model (1983) and Nicolazzo's Site Management Theory (2004), specifically exploring the potential for accidents through stationary or moving sites.

Methods

Data were collected from an outdoor adventure program located in the United States with established criteria for incident reporting and a centralized process for incident data collection and processing. To collect relevant information for this study every incident report (N = 875) from the program was reviewed and coded for years 2001-2006. All variables except type of site were identified on the incident report. Type of site (dependent variable) was determined by the researcher by identifying the type of activity (either stationary, moving, or combination) and reviewing the report narrative. The independent variables included type of incident, activity, injury and individual status (student or staff). Descriptive statistics were used to describe the characteristics of the data for each variable and the distribution of data among categories. The primary research question - Do more outdoor adventure program accidents occur at moving sites or stationary sites? and hypothesis were tested using Chi-square tests, followed by pair-wise comparisons. Chi-square tests were used to test the secondary research questions -Does type of activity affect where accidents occur? Does type of incident affect where accidents occur? Does individual status affect where accidents occur? and Is type of injury affected by where accidents occur? Two contingency tables for the secondary research questions yielded high percentages (between 20-25%) of cells with low counts and therefore Cramer's V tests were computed for these two tables to provide an extra measure of reliability. JMP and SAS software were used to perform the data analysis.

Results

Results indicated that for the type of site variable, most incidents occurred at stationary sites followed closely by moving sites. Categories for most common incidents (from most to least) were: injury, illness, near miss, and vehicle/other. The three most common activities for an incident to occur during were: backpacking and river crossing, base camp and camping activities, and rock climbing and rappelling. The largest category for type of injury was in fact "no injury occurred", due to the high number of near miss and vehicle/other incidents that resulted in no injury. Of the remaining categories, the top three injury types were: (1) sprains, strains, and tendonitis, (2) lacerations, punctures, abrasions, and contusions, and (3) infection and skin problems. Students were more likely to be involved in an incident than staff at a ratio of 9 to 1.

The null hypothesis for the primary research question, "There is no difference in the number of accidents that occur in stationary versus moving sites", was tested using two Chi-square tests. Results were found to be significant suggesting the three sites are significantly different with regard to accident occurrence ($p<.001$). Pair-wise comparisons were then conducted to examine stationary vs. moving, moving vs. both, and both vs. stationary sites. The number of incidents at stationary sites vs. moving sites was not found to be significant ($p>.05$). However, the number of incidents at moving sites vs. both sites and both sites vs. stationary sites were significant ($p<.05$). The same procedures were conducted on two subsets of data with similar findings. Based upon the findings and within the limitations of the study, the Chi-square tests support rejection of the null hypothesis. However, results from the pair-wise comparisons do not support rejection of the null hypothesis.

The secondary null hypotheses are as follows:

H0: There is no difference comparing type of activity and where accidents occur.
H0: There is no difference comparing type of incident and where accidents occur.
H0: There is no difference comparing staff/student status and where accidents occur.
H0: There is no difference comparing type of injury and where accidents occur.

Chi-square tests were performed and found to be significant for each secondary hypothesis ($p<.002$ or less), indicating a high interaction factor between the two variables being tested. Based upon the findings and within the limitations of this study, there is evidence to support the rejection of all of the null hypotheses for the secondary research questions. Cramer's V tests for two contingency tables showed strong associations between type of site and type of activity, and type of site and type of injury.

Discussion

Findings for the primary research question were inconclusive. While statistical analysis supported the idea that all three sites were significantly different with regard to accident occurrence, the analysis also showed that the comparison between stationary and moving sites was not significant. Findings suggest an accident is more likely to occur at either a stationary or moving site rather than at both site. The both site is unique in that an incident has to cross sites in order to be considered in this category. Because of this, it is not surprising that more incidents occur at a single site (moving site or stationary site) rather than a both site.

It has been a long-standing assumption in the adventure recreation industry that moving sites are more dangerous than stationary sites due to non-established boundaries and unknown hazards. However, findings from this study do not support this assumption with regard to frequency of accidents. In order to test this assumption further, the severity of accidents must

also be analyzed to see if perhaps the number of accidents is the same at moving and stationary sites but severity is higher at moving sites.

The findings of this study are important for practitioners. Since there is no significant difference between moving and stationary sites with respect to frequency of accidents, it raises the question why? Perhaps stationary sites despite boundaries and established safe zones are not really "safer", or instructors are less structured with supervision at a stationary site, since it may be viewed as "safer". Students may also have more unsupervised time creating more opportunity for incidents. If moving sites are more dangerous, this fact is masked by lower staff to student ratios or higher level of training for staff working in activities traditionally programmed at moving sites. Administrators who can answer this question have the ability to modify procedure and protocol to address potential safety concerns. Field staff can modify supervision practices. This information could be useful for insurers who may incorrectly have more concern for moving sites.

The rejection of all secondary questions' null hypotheses suggest relationships between type of site and the "other" accident variables. This information can help administrators allocate staff and resources, and provide appropriate staff training. Field staff can adequately prepare students for programs and more effectively evaluate accident potential. These findings suggest support for Nicolazzo's Site Management Theory; concluding that type of site is an environmental factor of importance when examining why accidents occur. The significance of type of site has implications for theoretical models like Meyer and Williamson's Potential Causes of Accidents in Outdoor Pursuits. It could be appropriate to add site as a category for environmental factors for the model.

Adventure Education and Csikszentmihalyi's Flow Theory: A Critical Analysis of Stress and Optimal Experience as Learning Tools

Lara Fenton, University of Alberta

Background

Adventure educators are benevolent individuals who want the best for their participants. It is therefore important that our industry keep abreast of current learning models in order to best serve our clients.

Current brain research indicates that the most optimal learning environment is one where stress is lowered and students are able to experience relaxed alertness, flow, or comfort zones (Caine, R., Caine, G., McClintic, C., & Klimek, K., 2005; Zull, 2002). In a learning environment where instructors focus on lowering stress it is possible that participants will experience flow. Csikszentmihalyi (1990) describes flow as an experience of deep concentration - where we lose a sense of ourselves, become absorbed in the moment and lose all track of time. As a result of the flow experience, participants and students are able to increase intrinsic motivation, happiness and build self esteem (Voelkl and Ellis, 1998; Hektner and Csikszentmihalyi, 1996; Iso-Ahola and LaVerde, 1988; Csikszentmihalyi, 1975).

In contrast, much adventure education literature is based on instructors raising stress levels so that participants leave comfort zones and experience anxiety in order to learn (Horwood,1999 ; Kimbell and Bacon, 1993; and Linney, 2004), yet promote the same outcomes as flow; raised self esteem (Raiola and O'Keefe, 1999).

This discrepancy led to my research question: What benefits do adventure educators want their participants to gain, and what learning tools (stress or flow) do they use to accomplish this?

Methods

Because of the theory generation model of my research, I used grounded theory that was informed by a qualitative methodology. Fifty Outward Bound Canada instructors were surveyed to find out a) if they experience flow in their daily lives b) if they use flow or stress as a learning tool in their own programming c) What outcomes they program for d) What means they use to reach those outcomes and e) Where do their assumptions and beliefs about learning and adventure programming come from?

I used a non-randomized convenience sample to gather participants for the survey, emailing all Outward Bound Canada (OBC) instructors. I received fifty responses out of a possible one hundred and seventy – five, a twenty nine percent response rate. To summarize the survey data, I converted all data to individualized z scores in order to account for individual response bias (Jones et al., 2003) and looked for relationships of significance using Pearson's Chi Square (1999) cross tabulation tests. From the data generated in the surveys, I developed interview questions for further inquiry.

To gather interviewees, I used purposeful and voluntary sampling. I chose only those individuals from the survey participants who had indicated they wished to be interviewed and then looked for certain characteristics and experiences. For example, I chose individuals who had at least one year of experience in adventure programming with OBC. I also wanted individuals with varying perspectives around the loosely generated themes of the survey. Four instructors were interviewed in order to more deeply explain the survey themes. I transcribed the interview data onto Microsoft word and then used the data analysis program N*dist to analyze for themes.

Results

Some concluding statements can be made from the surveys and interviews about what the OBC instructors I researched believe. In general, the research participants believe that the following beneficial experiences occur:

1. That in emotionally safe environments, within positive and empathetic relationships, they themselves learn and have fun.
2. That flow occurs within the context of this type of supportive community.
3. That they experience flow in their own lives and that they seek out flow experiences and derive positive benefits from it, such as, increased positive relationships with others, self and the environment.
4. That they transfer what they learn in flow to other areas of their lives.
5. That they experience challenge in flow, but the type of challenge that has positive connotations.
6. In their programming, instructors want to create these same types of connections (to self, others and the environment) that they themselves experience in flow and they want participants to transfer this knowledge to other areas of their lives.

The research participants believe that participants learn these types of connections and benefits through some contradictory means. From a stress perspective:

1. Challenge, which they define on a spectrum of experience from hardship to comfortable.
2. Outside comfort zones through challenges that are provided by the instructor. Most instructors agree that within this type of learning space participants experience stress and their gut/instinct level.
3. Through stress as long as the stressful experience is debriefed or reflected upon later on.
4. That if there is too much challenge or too much stress or too much stress for too long then the instructor needs to bring participants back to their comfort zone.
5. That participants learn more outside of comfort zones than inside comfort zones.

And from a flow perspective:

1. Through instructor influence. Participants learn by the instructor's own example and ability to interact with participants in an appropriate and positive way that takes into consideration professional boundaries.
2. Through interactions with the environment, the group and instructors who model behavior, team building, and the tripping experience itself.

Discussion

In summary, OBC instructors who participated in my study wish to see participants gain beneficial skills and attitudes in order to better equip them for life at home. These instructors have, however, been well versed in the use of stress as a learning tool, as cultural and historic OB influences indicate. Although many instructors I researched use stress as a learning tool, they also believe that participants garner self esteem on wilderness trips. Perhaps the instructor influence and the relationship that participants develop toward self, others and the environment outweigh the negative stressful learning experiences.

The time has come for the adventure industry to promote positive learning paradigms through, for example, flow, in a broad range of activities, from meditative to physically rigorous, in order to increase self-awareness and self esteem.

Untangling the Web: The Impact of Social Support Networks on Adventure Education Program Outcomes

Jeff Turner, Georgia College & State University

Background

While many different types of adventure education programs exist, all are based at least in part on the traditional Outward Bound model. Walsh and Golins (1976) developed the Outward Bound Process model in an attempt to describe how adventure education programs lead to interpersonal and intrapersonal growth. They suggest that an adventure program's efficacy lies in placing the learner in a combination of novel physical, task, and social environments. This combination of setting characteristics creates a state of dissonance for the learner who slowly gains a sense of achievement that can then be transferred to the real world for long-term behavioral change.

An expanding literature has developed to support the overall effectiveness of adventure education and therapy programs (see for reviews Hattie, Marsh, Neill, & Richards, 1997; Neill, 2003). However, the model has been critiqued as atheoretical by some due to a lack of reflections on assumptions in the model (McKenzie, 2000, 2003). Recent work has attempted to provide both a theoretical development of, as well as empirical backing for the model (Goldenberg, McAvoy & Klenosky, 2005; McKenzie, 2003; Sibthorp, 2003). Still, Ewert's insistence over two decades ago that "we have discovered an educational black box, we know something works but we don't know why or how" (1983, p. 27) is relevant today.

In order to begin to unravel the mystery of the "black box," this study seeks to better understand the impact of the social environment on the adventure education experience by examining the relationship between social support networks and program outcomes. Ewert and McAvoy (2000) write that "the group dynamics, group interaction and group development that happen during group experiences tend to influence most of the potential and documented benefits" (p. 22) of adventure programs. Thus, an understanding of how social support leads to different levels of outcomes is critical for providing adventure experiences that maximize participant growth. This research seeks to determine if participant's social support networks impact adventure program outcomes and, if they do, what type of social support most impacts program efficacy for individual participants?

Methods

The sample for the current study was drawn from five adventure therapy program groups from May through November 2007 participating in a 21-day program for youth with minor behavioral problems. Program groups consisted of up to six adolescents and young adults (aged 14-28) who were together for the entire 21-day adventure therapy program. Three separate instruments were used. First, a brief questionnaire was used to collect basic demographic variables about the participant at the beginning of the program. The initial demographic instrument provided information on participant characteristics that are thought to affect program outcomes (Russell, 2001; Sibthorp, 2003). Specifically, the instrument assessed participants' age, race/ethnicity, and previous experience with adventure recreation activities. Second, the Youth Outcome

Questionnaire Self-Report (Y-OQ) was used to determine both a baseline measure and outcome data for the therapeutic growth experienced through participation in the adventure program. The YOQ was specifically designed to detect and track changes in functioning levels over time as a result of participation in a therapeutic intervention (Wells, Burlingame, Lambert, Hoag, & Hope, 1996) and has been used previously to assess adventure therapy program outcomes (Clark et al, 2004; Russell, 2001, 2002). Third, program participants reported social network connections between themselves and other participants for each of four types of social support (emotional support, informational support, instrumental support, and social companionship (Cohen & Wills, 1985)) providing a snapshot of the social support networks established by the participant over the course of the program.

Results and Discussion

The current research seeks to determine if participant's social support networks impact adventure program outcomes and, if they do, what type of social support most impacts program efficacy for individual participants? Each of the proposed models will be separately tested for changes over the program for the Y-OQ Self Report global scales and for each of the 6 subscales. First, the three demographic/background variables and the total number of social support connections will be regressed on the change in Y-OQ scores from pre-test to post-test. Second, the three demographic/background variables and the number of connections for each of the four types social support will be regressed on the change in Y-OQ scores from pre-test to post-test to explore how the specific types of social support impact program outcomes.

These findings will provide a more nuanced understanding of the impact of the social environment on adventure program efficacy. If a connection is determined to exist, supporting the theoretical work of Walsh and Golins (1976), then additional work is necessary to investigate the types (not just amounts) of social connections between group members necessary to maximize participant growth. Such research would then have the ability to directly impact adventure educators' decisions about how they seek to design group experiences to impact the development of social support across the program to ultimately impact program effectiveness.

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Urban Middle School Teachers' Efficacy Change Resulting from Project Adventure's Year-long RESPECT Curricular Intervention: A Quasi-experimental Design with Corroborating Data

Brook Moran, Western State College

Background

Over 30 years of research highlight the effect teachers' beliefs about their teaching abilities (i.e., teacher efficacy) have on their professional actions (i.e., teachers' effectiveness). Ross' (1994) analysis of 88 studies revealed teachers with high teacher efficacy (TE) were associated with the following examples of actions:

- Providing powerful yet challenging instructional techniques
- Implementing new curriculum
- Working with students with special needs
- Involving parents in the educational process
- Promoting student autonomy
- Confronting student management problems
- Keeping students on task
- Cultivating students' high cognition
- Enhancing student motivation, self-esteem, and attitudes toward school

Teachers were more likely to do these things than their peers with lower TE. As a result, the field of teacher education has realized that addressing TE is a crucial factor in helping teachers to be effective. While some research has allowed insight into how to raise TE (e.g., long-term interventions (e.g., Roberts, Henson, Tharp, & Moreno, 2000; Stein & Wang, 1988) and coaching and collaboration (e.g., Ross, 1992; Shachar & Shmuelevitz, 1997)), further inquiry is needed to better understand the intricacies of the phenomenon.

One area that may hold promise is adventure education, which has a 200-year history in the United States school system (e.g., Bennett, 1972; Eells, 1986; Hammermann, 1980). Documented training of teachers through a AE pedagogy started in the early 1790s when Dartmouth College, Colorado State College, the University of Massachusetts, and Mankato State College offered graduate credit to teachers who participated in an Outward Bound course (Schulze, 1971). In addition to Outward Bound, teacher education courses are currently offered through the National Outdoor Leadership School, Project Adventure, and the University of New Hampshire's Live, Learn and Teach Program; courses range in length from a few days to one month. While positive anecdotal evidence has allowed such courses to operate annually, research is scant. In particular, there is no research on AE and TE change. As such, the purpose of this study was to examine the effectiveness of Project Adventure's RESPECT [1]Program in raising middle school teachers' efficacy in four northeastern American urban public schools.

[1] RESPECT is an acronym that stands for Responsibility, Engagement, Safety, Principles, Empathy, Challenge, Trust.

Methods

This pretest-posttest quasi-experimental study tracked 68 teachers' efficacy change over the course of one school year. Teacher Efficacy (TE) change was measured using the Teachers' Sense of Efficacy Scale's (TSES) following subscales: Student Engagement; Classroom Management; and Instructional Practices. Teachers completed the TSES prior to their first introduction to the program and at the end of their first year implementing the RESPECT curriculum. It was hypothesized that the RESPECT Program would be more effective at raising TE during the second year (i.e., implementation year). Two different study samples participated for two different (but consecutive) years (n = 34 for each sample). Informing/corroborating data was gathered via interviews and a teacher questionnaire.

Results

The difference between the first year (i.e., pilot) and second year (i.e., implementation) teachers' mean SE subscale difference scores was significant ($F(1, 66) = 8.08$, $p = .006$). However, the significance derived from the decrease in implementation teachers' (-.542) and increase in pilot teachers' (.099) mean SE difference scores (i.e., difference between posttest and pretest scores). Corroborating interview data suggested a lack of modeling by RESPECT consultants was a major contributor to the implementation teachers' decreased SE scores.

Variables in the Retention of Camp Counselors: A Qualitative Study

James R. Farmer, Indiana University

INTRODUCTION

In 2005, the American Camp Association reported that between the 12,000 day and resident camps found within the United States, 1,200,000 seasonal staff members were hired to fill the camp rosters. Consequently, the 2005 ACA Benchmark survey also noted that residential camps had experienced a 51% staff turnover rate throughout the year of 2003, which was similar to years past. Variables associated with staff retention at residential summer camps are important considerations for many camp administrators (ACA, 2005). And as McKinney, Bartlett, and Mulvaney (2007) suggest, "Park and recreation agencies are being forced to adapt to," changes in a more mobile and fluctuating workforce, thus prompting the need for a deeper comprehension and understanding of staff turnover (p. 51). By understanding and attempting to direct variables that may enhance staff retention, camp administrators may promote the continuation of camp tradition, heighten staff training experiences, decrease the amount of energy and resources directed at staff recruitment, as well as build on the camp community/culture from years past.

Previously, studies have noted phenomenon such as community development, an increase in self-confidence, the development of leadership skills, and the enhancement of friendships as outcomes from the camping experience for camp counselors (Henderson & Bialeschki, 1991; Bolden, 2005). Though a moderate amount of historical research exists that has been focused upon the phenomenon of staff tenure, a paucity in the current research and body of knowledge persists (McCole, 2005). Therefore, the current inquiry attempted to explore those variables that influence one's decision to return to the same camp for multiple summers of employment.

METHODS

This study consisted of 24 participants who had previously worked as seasonal camp counselors at one of three resident summer camps. Participants were purposively selected based upon a multiple year commitment to one summer camp and were drawn from the staff alumni rosters from one of three camps located in south and south central Indiana.

To explore the variables associated with one's rationale for returning to a summer camp for multiple summers of employment, the researcher utilized informal, in-depth interviews followed by a phenomenological analysis on the qualitative data (Moustakas, 1994). Following the transcription of the interview data by a research assistant, the researcher analyzed the data through an open coding exercise (Moustakas, 1994). Second, the researcher axially coded the data into clusters of words and phrases that eventually prompted the emergence of themes (Strauss & Corbin, 1990, p. 97). Finally, themes were evaluated by multiple researchers who crosschecked the phrases, categories, and themes, examining the delineated relationships among the themes (Creswell, 1998).

FINDINGS

Four distinct themes have emerged as potential variables that influenced the former camp counselors to return as seasonal staff for multiple summers.

Sense of Affiliation with Fellow Counselors

Throughout the interviews, participants frequently shared examples of staff relationship and a sense of affiliation/belonging to a community of staff members. All 24 participants discussed in great detail their interactions and a sense of affiliation with fellow counselors. General responses such as, *it was the people. Like the people who I grew to love and who grew to love me, who made me feel very comfortable as who I was and my place,* were found throughout the majority of interviews. One such participant commented that he wanted to return because, *It was fun and my friends were going as staff.* Others mentioned that the, *People were so welcoming,* that her time at the camp *was a great bonding experience with the staff,* and that *to work with a group of individuals who were very committed to the children and the family type environment where I felt like those people were my family and I enjoyed working with them* was a rewarding experience. Still others emphasized that the, *friendships made there were probably a main reason for returning.*

The Personal Commitment Flowing from the Individual's Experience

Twenty-one of the twenty-four staff members shared personal intense counseling experiences that contributed to their retention. One phenomenon within this category, self exploration, was discussed in a sense that it allowed individuals to develop their interests, personality, and reflect on who they were as a person. Working at the camp allowed these individuals an opportunity to explore their inner being. One participant stated, *I got to know myself better, realizing through the struggles and things that I went through at camp, who I was and what I could handle and what I wanted to become basically. So it built me up as a person.*

A Sense of Ownership and Empowerment

A sense of ownership and empowerment in the respected camps and the specific roles of staff was discussed thoroughly by 15 of the counselors interviewed. Staff members discussed a general sense of ownership felt at their camp, both in the years they were on staff and following. One staff member described leaving one's mark at the camp through *painting your name on a building, like up in the rafters. And you can kind of leave your mark there. And I thought that was kind of a cool way that everyone could kind of put their stamp on that place. Like I've been here.* Another participant still visits the camp in order to be a part of the spring clean up, *I go down, I can't tell you how many 500 races I remember listening to as I painted the swimming pool at camp. That's what I always did on Memorial Day weekend. We'd go down and do anything workwise so that we could go down. I still do that. I still go down and plant flowers at camp.*

A Sense of Affiliation with Administrators

A strong sense of affiliation and a powerful relationship between an individual and the camp administrators was a continuous variable in one's commitment to the camping program. Fourteen study participants discussed the importance of their relationship to the camp administrators. One participant detailed the impact of the director and how when, *I was there, there was a director that I was very, very fond of, and who I had grown up with. But his departure was a pretty significant hit, at least for my generation at the camp, because it seemed like it kinda lost direction a little bit. He was a very good leader for the camp.*

DISCUSSION & CONCLUSION

With staff turnover in the camping industry reaching percentages greater than 51% of the workforce, the illumination and comprehension of the variables promoting or hindering staff retention is vital. DeGraff and Glover (2003) cite a 1995 American Camp Association survey in which 40% of camp administrators noted staff recruitment and retention as their greatest concern. They further note that in better understanding the staff experience "camp directors may be able to create a better working environment that should enhance job satisfaction for the staff (p. 2)." In turn, this may perpetuate a better camping experience for the campers attending the camp programs. The current study adds support and understanding for the previously discovered variables that influence staff retention, as well as provide a basis for new variables to be elucidated.

The findings of this study parallel those of previous camp research (Bialeschki, Henderson, & Dahowski, 1998). Sense of affiliation with fellow counselors, the personal commitment flowing from the individual's experience, a sense empowerment and ownership, and a sense of affiliation with administrators appear as variables in which camp administrators may have the ability to foster and adapt to meet the needs of their staff members and program (Slater, 1984). Though not of a generalizable nature, the findings of this study appear to suggest distinguishable elements that have fostered staff retention for the participants. For if community amongst the staff and administrators, sense of ownership and empowerment, and opportunity for increased responsibility are at the highest levels possible, the likelihood of retaining staff from one summer to the next may in fact increase.

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Healthy Camps: Initial Findings from an Illness and Injury Surveillance Study

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Background

Over 11 million children attend more than 12,000 summer camps each year. The challenges to keeping children and the staff healthy and safe can be daunting for administrators who are continually faced with situations where that protection is demanded. The majority of previously published research related to summer camp health issues focused on outbreak investigations or investigations of the specific needs of ill children attending specialty camps such as asthma camp, burn camp, cancer camp, and diabetes camp. To better understand the types of illnesses and injuries common to the camp environment, the American Camp Association (ACA) has undertaken a five year study—funded by the Markel Insurance Company—to document these occurrences. The purpose of this study is to monitor illness and injury rates among campers and staff at U.S. summer camps and identify risk and protective factors associated with such adverse events. The research questions addressed in this presentation are: 1) What were the benchmarks for accident and illness rates for campers and staff at summer camp in Year 1? 2) Were any differences based on camp demographics?

Methods

All US summer camps were eligible to participate in the Healthy Camp Study. Information about the study was distributed throughout the camping community through formal and/or informal presentations at camp conferences, newsletter articles, targeted mailings to non-ACA camps, postings on the ACA website, and word of mouth. Summer camps expressing interest in participation were asked to complete a camp demographics survey and designate a reporter, preferably one with health-care experience. In return for participating, enrolled camps received a summary report along with an individualized report that they can use to compare patterns of adverse events at their camp to patterns occurring nationally. Each reporter was asked to complete 10 weekly exposure reports during summer 2006. Reports collected exposure information (number of camper and staff camp-days) and the number of adverse events sustained by campers and staff that met the study definition. Additionally, for each adverse event reported, reporters completed an illness or injury report form that detailed information about the affected individual (age, gender, location/housing, etc.), the illness (signs, symptoms, severity, etc.) or the injury (site, type, severity, etc.), and the circumstances associated with the illness or injury (date and time of onset, involvement of vectors, use of protective equipment, etc.). Data were collected through the Camp RIO™ (Reporting Information Online) and analyzed with descriptive and inferential statistics for this initial year.

Results

Of the 186 US camps enrolled in the study, 140 of them provided data from the summer of 2006. Thirty-seven percent of the camps were day camps and 63% were resident camps. Overall accident and illness rates were low with an average of .75 adverse event rates (illnesses and injuries/1000 exposures) in day camps and 1.49 for resident camps. These rates can be compared to other youth activities such as boys' football (4.36), boys' soccer (2.43), girls' soccer (2.36), and girls' volleyball (1.64). When analyzed by type of camp (day/resident) and participant (campers/staff), we found statistical differences. The analysis showed that campers and staff were more likely to be ill at camp than to be injured. Day camps reported the highest percentage of illnesses and injuries occurring during scheduled activities. During free time injuries were more likely to occur than illnesses. Injuries at resident camps were more likely to occur during scheduled activities when compared with occurrences during free time or evening programs. Illnesses were more likely to be reported during free time followed by overnight and camp activities.

Injuries were most likely to occur on the second day of camp for both day and resident campers. Staff were more likely to report injuries at the end of the week. Other results included:

- Communicable diseases accounted for 32 percent of day camp illnesses among campers (33 percent of illnesses among day camp staff) and 40 percent of resident camp illness among campers (51 percent for staff).
- Head injuries explained 41 percent of the injuries to day campers and 21 percent of injuries to resident campers.
- In day camps, for events in which wearing protective equipment was applicable, it was not being worn in 56 percent of reported situations.
- In resident camps, failure to wear protective equipment was reported in 29 percent of incidents.
- Trips and falls were the most common causes of injury in all groups: campers and staff, day and resident.

Discussion

One of the goals for this study is to use the data to make the camp experience healthier and safer. The good news is that camp is a very safe activity when compared to other activities in which children participate. For example, the risk of a child missing a day of their sport due to an injury in a practice or game was more than five times higher than the risk of a child or staff member missing four hours of camp participation (CDC, 2005-2006). However, much can be learned from the data that will improve practices and behaviors at camp. For example:

- Nearly 25% of the adverse events happened in unsupervised time while almost half of the injuries happened in supervised and scheduled activities. An analysis of when and where incidents occurred in camp could be helpful to a camp as they implement new ways of addressing these concerns.
- Since a significant number of injuries for both campers and staff were related to a trip/fall, a camp may want to review its guidelines regarding footwear (close-toes shoes are always safest) and watch for injury patterns related to physical activities and where they are done.
- Head injuries can often be prevented by following some tips such as using well-fitting and activity-specific helmets, have at least 12 inches of safety materials around play equipment, use bunk bed rails, and use equipment appropriate for the age and developmental level of the person.
- Illness management in our camp communities needs to center on maintaining resilience (rest, hydration, nutrition, etc.) and implementing practices that minimize illnesses (appropriate hand washing and/or use of hand sanitizers, etc.)

The most powerful benefit of the Healthy Camps study will be the ability to track illness and injury trends over time. Not only will the individual camps who participate in this study learn valuable information to help them make their camps safer, but the trends data will provide opportunities to develop recommended practices for all camps to consider as we continue to offer quality programs built on solid information.

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At Home, At Camp: Exploring the Meaning of a Camp for Adults with Disabilities

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Introduction

Recent evaluations of summer camp programs for youth have effectively demonstrated that these relatively short, fun-filled experiences can positively influence the participants' social skills and personal identity as well as promote youth development through strong supportive relationships (American Camp Association, 2005, , 2006; Bialeschki, Henderson, & James, 2007; Brannan, Fullerton, Arick, Robb, & Bender, 2003). However, documenting the full meaning and impact of camp may require looking beyond the youth audience and beyond single camp sessions. For the adults in our program, as for many returning campers, going to camp is an annual experience with a familiar group of people in a familiar setting with familiar traditions. Bradford Woods, our research site, has been hosting camps for individuals with disabilities since 1955, and many of the campers who began coming as children in the 1960's, 1970's, and 1980's continue to attend adult programs today. They and their families offer us a unique perspective on the meaning of a camp community and on the impact camp can have on individuals of all ages and abilities. Theories related to sense of community or communitas have been used to explain the benefits of other leisure experiences, such as sports and wilderness canoeing (Lyons & Dionigi, 2007; Sharpe, 2005); our study explored their application to organized camping. Following McMillan and Chavis's (1986) criteria—*membership, influence, integration and fulfillment of needs,* and *shared emotional connection*—we investigated the extent to which the sense of community experienced by campers represents the meaning and value of camp to them.

Methods

During August 2007, we conducted semi-structured interviews and focus groups with 27 (45%) of the 60 adult campers attending the week-long United Cerebral Palsy (UCP) camp at Bradford Woods. The study sample included individuals ages 19 to 76 and represented a range of experience with attending camp at Bradford Woods (5 to 42 years). Interviewees had a variety of physical and cognitive abilities, and answered our questions verbally or using communication boards. Parents were also asked to participate in the study by completing a written questionnaire focusing on changes at camp and programmatic impacts on campers and families. We had a low response rate among parents (15%), but all respondents reported a long-standing relationship with camp (15-40 years).

Camper interviews and focus groups were transcribed verbatim, read repeatedly, and coded for relevant themes. Open-ended responses from the parent questionnaires were similarly analyzed. Results were interpreted by the researchers drawing on their own experiences as campers and staff.

Results

Interviews began with campers sharing memories of events that have occurred over their tenure at camp. Many memories were of funny experiences such as jokes played or unintended mishaps. Campers also spoke of unique, challenging opportunities like going canoe camping and completing the ropes course. Fun times with past staff were described fondly as well.

The meaning or value of camp was highlighted through responses to a variety of questions. Campers described their favorite parts of camp as seeing friends, meeting people, and, to a lesser extent, going to the pool and doing various camp activities. When asked why they return to camp, they stated that they come to see their friends, to meet new people, and to get away from home for a vacation where they can do what they like. They also described camp as a family, as their second home, as a place they have grown up, and as a rare opportunity to be treated as "normal" people by a community that loves and respects them. In terms of impact, campers explained that the experience gives them something to do, something to remember, and something to look forward to. Through camp they also gain friends that they keep in touch with and a level of new comfort in other social situations. For some, camp has encouraged greater independence and provided an opportunity for personal discovery as well.

The parent questionnaires revealed similar results indicating that campers enjoy the experience and come back to see friends. Parents appreciated the quality care provided, felt that camp enhanced independence and social skills, and named various activities that the campers do not get to do at home. Respite from providing care was the primary benefit for families.

Discussion

The impacts of camp as described by the campers and their parents closely match the outcomes measured for youth campers: increased social skills and development of a more positive identity (American Camp Association, 2005). The strong points of our camp also correspond with a national trend in what camps do well: participants recognized the supportive personal relationships fostered by camp (American Camp Association, 2006). Taking a longer-term perspective, our research suggests that the *sense of community* (McMillan & Chavis, 1986) among campers and staff is central to the meaning and value of camp. The community is clearly defined and the sense of belonging and identifying with the group is strong. Camp also fills a need not met elsewhere in society for both campers and families, and the value of one's status as a member of the group is reinforced by the positive experience. Although not especially apparent through the interviews, the comments by campers combined with our own observations confirm that there is a shared emotional connection between campers based on years of camaraderie and trust. The only criteria for sense of community not fully met at camp is the opportunity to influence the norms and actions of the group. Although the staff make an effort to respect camper opinions and wishes, there is an inherent power differential, and we are still looking for ways for campers to contribute to camp. Overall, though, understanding the meaning of a camp for adults with disabilities in terms of sense of community provides us with a new perspective on outdoor recreation in this setting.

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Camping at the Presidio: Exploring the Effects of an Urban Camping Experience for Underserved Youth

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Background

The Presidio Trust, the Golden Gate National Parks Conservancy and the Bay Area Wilderness Training (BAWT), in collaboration with the National Park Service (NPS), have created an overnight, urban camping program for urban/underserved youth in the Bay Area. The Presidio, part of the Golden Gate National Recreation Area, is formerly an army post and encompasses nearly 1500 acres along the San Francisco Bay. A National Historic Landmark, the Presidio has 870 structures (of which 1/2 are classified as *historic structures*), and consists of 300 acres of historic forest to be maintained as part of a cultural landscape. "World and local events, from military campaigns to the rise of aviation, from World Fairs to earthquakes, left their mark. Come enjoy the history and beauty of the Presidio. Explore centuries of architecture. Reflect in a national cemetery. Walk through an historic airfield, forests, or to beaches, and admire spectacular vistas" (Source: http://www.nps.gov/prsf)

The Camping at the Presidio program (CAP) has been launched for the first time, this year, in 2007 and is designed for community organizations and schools serving the areas most disadvantaged youth. The CAP experience is educating an important new audience and providing a greater sense of comfort and familiarity in the natural world as well as facilitating a connection to our national parks and public open space. CAP will make a significant contribution towards increasing the diversity of people who regularly enjoy outdoor experiences. CAP is reaching urban children, youth, and families from low-income San Francisco (and other Bay Area) communities through collaboration with schools as well as youth-focused and community-based organizations.

The primary goal of the Camping at the Presidio program is to introduce inner-city and low income youth to camping, in general, providing both a recreational and educational experience. This one-of-a-kind opportunity has begun exposing young people to a whole new outdoor experience, close to home thereby staying within their relative "comfort zone." A social science-based evaluation will serve multiple purposes including a longer-term goal of finding ways to create more opportunities (over time), for outdoor access to those kids who are not as fortunate as others to enjoy the beauty of our national parks.

This first project period (2007-08) is targeted towards San Francisco schools and youth groups. Because of the strong interest and available slots, organizations in Oakland and Hayward have also been participating in Year 1 (i.e., East Bay communities). As the expanded vision includes outreach to other urban areas such as the East Bay and Peninsula communities (e.g., Richmond and East Palo Alto), instituting a structured/formal evaluation starting with this year one has already proven to be a judicious strategy.

Methods

The CAP program is multi-layered and multi-faceted. Evaluation is occurring at each level entering more sophistication over time as more data is collected. While the baseline study for Year One (2007) is focusing on the campers, basic data from the first leader training in March–of this past spring–will be reviewed and analyzed to assist with this important program facet as well. Core objectives for the overall study include the following:

- Examine basic demographics of the youth involved.
- Determine how the participants view the park in terms of what they think about it and whether they "connected" with the park (e.g., sense of place).
- Investigate what the youth anticipated prior to arrival; how did they feel before their camping experience?
- Learn how they felt after their camping experience? (Including "likes and dislikes").
- Discover the most meaningful aspects of their camping experience (e.g., education aspects, comprehend affect).
- Examine the leader effectiveness of the camping experience as perceived by the youth themselves.
- Determine desire for camping at another location/visiting a different national park in the future.

Given the nature and scope of this project, a mixed-method procedure is being employed. That is, adult leaders complete a written questionnaire following the weekend training at Rob Hill Campground (on-site) and a brief mail back survey will be designed to obtain leader data post-program. Youth participants receive a separate written evaluation at the completion of their actual group camping experience (on-site). These are both convenience samples whereby all individuals who partake are asked to complete the respective survey. Second, individual interviews will be completed during the project period with Crissy Field Center and BAWT program managers, selected adult leaders from participating groups/schools, and a series of focus groups will be organized with youth who completed the experience.

Results and Discussion of the Study

Data analyses and organizing the results will occur Oct-Dec 2007 to be completed by the end of the fall semester. The first season of CAP will end in October. Therefore, the final surveys will be collected then and the analyses will be completed after that time. Furthermore, interviews will be conducted between September-November with transcriptions and analysis to follow as each segment is completed. The results will be ready for presentation and discussion in time for the CEO Symposium, but are not included in this abstract for the reasons indicated above. The final report to the program partners will be prepared during the same timeframe as the *Research in Outdoor Education* publication is being compiled so, if accepted, a manuscript will be prepared as well. Thus far, this 2007 season, the CAP program has served over 250 participants and trained over 30 Leaders. In the first year, the CAP program is expected to provide over 300 youth with a positive connection to the outdoors that, for many, will be unprecedented and life changing.

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Creating Outcomes through Experiential Education: The Challenge of Confounding Variables

Alan Ewert, Indiana University & Jim Sibthorp, University of Utah

The minimizing of errors in interpreting research outcomes remains a critically important goal in most social and behavioral research efforts (Borrelli et al., 2005). Sometimes known as "treatment fidelity," this minimization of errors is a salient factor in providing convincing evidence as to the efficacy of a particular treatment or intervention (Spillane, et al., 2007). Likewise, there is an increasing interest within the outdoor education field in developing evidence-based models for practice based on high quality and rigorous research efforts (cf., Gass, 2005; Henderson, 2004). While designing programs based on proven methods and predictable outcomes is important goal of much of the research done in outdoor education, it remains a challenging task given the diversity of programs, participants, desired outcomes, program designs, and individual experiences. While effective research designs can account for many of the variables associated with the diversity listed above, a substantial number of other variables remain largely uncontrollable but influential. These variables can confound the findings and conclusions drawn from research and evaluation efforts and can ultimately influence what participants learn or take away from a program and are the focus of this presentation. More specifically, this presentation describes some of the more common confounding variables in outdoor education and offers suggestions for addressing these variables to researchers and evaluators.

Confounding Variables

Vogt (1993) defines confounding variables as variables that obscure the effects of another variable**.** For the most part, confounding variables are confounding because they serve to confuse and obfuscate the findings from the data. That is, did the treatment cause the effect or did the presence of this confounding variable actually impact the outcome? For a variable to be confounding it must be (a) associated with the first variable, and (b) be an independent variable directly associated with the dependent variable.

Not surprisingly, confounding variables are particularly important threats to the internal validity of a study and traditionally include a wide range of issues including selection bias, maturation, intervening effects, changes in measurement and mortality (i.e., drop-outs from the study) (Trochim & Donnelly, 2007). Moreover, confounding variables tend to be difficult to control or account for in many outdoor education settings.

While often difficult to control for, many confounding variables exert their influence within a temporal framework and, as such, can be somewhat pre-determined. Accordingly, we categorize a selected group of confounding variables that are often present in outdoor education research into *precursors, concomitant, and post-course* variables. *Precursor confounding variables* typically exert their influence prior to when an outdoor education program begins. *Concomitant variables* usually arise during the program and influence the outcomes during or immediately after the course. *Post-course confounding variables* are evident following an outdoor education course. As much of the data collection and interviewing of participants occurs immediately after a course or program, post-course variables can be particularly problematic in influencing the outcome or results of a research effort.

Controlling for Confounding Variables

One of the main challenges regarding confounding (or potentially confounding) variables is that they must be identified and addressed during the design and before the data collection for the study. If not addressed through design and data collection, there is virtually no way to address the confounding variable during data analysis. There are four main ways one might choose to address confounding variables commonly found in experiential education research: (a) sampling, (b) assignment, (c), statistics, and/or (d) timing. Each approach has its own attendant positives and negatives. Moreover, some of these efforts to control for confounding variables can, themselves, lead to additional problems. For example, while a researcher might decide to have participants complete a pre-test before arriving at the start of the experiential education courses to address pre-course anxiety, this might reduce the response rate, which reduces both the statistical power and representativeness of the sample. Thus, such trade-off should be carefully considered when choosing a solution a researcher may simply be replacing one threat to validly with others.

It should also be noted that in addition to confounding variables, other variables can also interfere with straightforward interpretations and relationships. For example, mediating and moderating variables can influence how and when an independent variable is related to or influences an outcome variable.

Finally, one of the major challenges researchers often must deal with is trying to account for multiple confounding variables while at the same time being logistically limited in how they might control for these influences. For example random assignment is frequency impossible during field-based outdoor education research and statistical controls are only viable when measures are available. While it would be valuable to design and conduct a study with ideal assignment, selection, statistical controls, and timing, field-based researchers are often forced to make choices between what is ideal and what is feasible given the resources available to conduct the study.

In conclusion, the purpose of this presentation is to describe some of the more salient confounding variables often intruding upon a research study done in outdoor education. Accompanying this description is a discussion on some possible remedies or ways to ameliorate the effects of these confounding variables. Understanding both the presence and importance of these and similar types of variables that serve to confound or obscure the conclusions drawn from a particular study is of paramount importance as the outdoor education field continues to draw on evidence-based research as a source of program design and enabling positive participant outcomes.

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Outdoor Recreation Self-Efficacy: Scale Development and Reliability

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Background

Self-Efficacy theory is salient to a variety of recreation and leisure domains and findings show that outdoor recreation programs help to improve the self-efficacy of persons with disabilities (Lin, 2003; Sutherland, 2001), and persons with mental illnesses (Davis-Berman & Berman, 1989; Ferguson & Jones, 2001; Kelly, Coursey, & Selby, 1997; Richardson, 2003). Self-efficacy has served as the theoretical basis for investigating leisure socialization (Hoff & Ellis,1992), college orientation and retention (Bell, 2005; Gass, Garvey & Sugerman, 2003), and adventure education (Ewert, 1989; Sibthorp, 2003; Walsh & Golins, 1976). Paxton and McAvoy (1998) studied the impact of Outward Bound, documenting an immediate and sustained increase in self-efficacy. Likewise, Propst and Koesler (1998) found that outdoor leadership programs had short-term and long-term effects on self-efficacy. A freshman orientation wilderness program also had a positive impact; rich anecdotal evidence identified many improvements in perceived self-efficacy (Hinton, Twilley & Mittelstaedt, 2007; Jones & Hinton, 2007).

Bandura's theory of self-efficacy holds much promise for better understanding the value of participation in outdoor recreation endeavors. He defines perceived self-efficacy as, "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (1997, p. 3) or to "execute given types of performances" (1997, p. 21). In fact, self-efficacy influences "the choice of activities and the motivational level, [and]…make an important contribution to the acquisition of the knowledge structures on which skills are founded" (1997, p. 35). "Beliefs of personal efficacy also regulate motivation by shaping aspirations and the outcomes expected for one's efforts" (1997, p. 35). "Perceived self-efficacy is concerned not with the number of skills you have, but with what you believe you can do with what you have under a variety of circumstances" (1997, p. 37). A key source of information upon which an individual derives his or her expectations of personal efficacy is performance accomplishments -- notably germaine to this study as "this source of efficacy information is especially influential because it is based on personal mastery experiences" (Bandura, 1977, p. 195). When a person succeeds in an activity, such as an outdoor recreation activity, mastery expectations are likely to increase. Hence, a program that teaches women skills in a variety of outdoor recreation activities has the potential of helping women to become more efficacious and to believe in their capabilities. The researchers were engaged in a study to explore if a program entitled, "Becoming an Outdoors Woman" (BOW) had an impact on the personal self-efficacy of women who participated in one or more weekend workshops. This study provided the challenge and opportunity to attempt to develop an instrument that would provide a reliable measure of self-efficacy as it relates to participation in outdoor recreation activities. The aims of the present research were to develop a scale to measure Outdoor Recreation Self-Efficacy (ORSE), to test the reliability of the scale, and to provide initial evidence for any sub-scales, based on factor analysis, and reliability of those sub-scales.

Methods

Items for consideration in the ORSE scale were created and then reviewed for face and content validity, based on concepts and theories central to the notion of self-efficacy. More

importantly, these items were developed with the outdoor recreation context in mind, and are thought to be salient to outdoor recreation activities. The instrument consisted of 19 items using 11 intervals ranging from 0-10 where 0 ="not at all true" and 10 = "very true." A 5-page BOW survey, which included the 19-item ORSE scale, was pilot-tested and minor changes were then made. The BOW office in Columbus, Ohio mailed the survey to 2,500 women; 546 were returned (a 21.84% response rate). Thirty-eight surveys were not usable, so 508 surveys were analyzed. Of these 508 surveys, 271, (53.1%) were completed by women who had attended a BOW workshop and 238 (46.9%) were completed by women who had not participated, as of 2006. Since about 600 women had attended a BOW-Ohio workshop in the years 2000-2005, the response rate for attendees was 45.1% (271 out of 600).

Results and Discussion

A Principal Components factor analysis was conducted using Varimax rotation and Kaiser Normalization, resulting in a two-factor solution. Missing data was treated pairwise. Kaiser-Meyer-Olkin (KMO) and Bartlett's tests were conducted to check for normality and sampling adequacy, and to determine if the ORSE items were adequate for a factor analysis (George & Mallery, 2006). Bartlett's test indicated these items were more than adequate [X^2 = 9069.03 (df=171), p = .000], and KMO test results (.95) indicated these data were "marvelous" for conducting a factor analysis (> .6 = mediocre, > .7 = middling, > .8 = meritorious, and > .9 = marvelous) (George & Mallery, 2006, p. 252.). Factor analysis results indicate the ORSE is comprised of two sub-scales. A 10-item Enjoyment-Accomplishment subscale accounted for 57.19% of the explained variance and a 9-item Skills-Competence subscale accounted for 11.75% of the variance. Overall, these two subscales explained 68.94% of the total variance in outdoor recreation self-efficacy.

Preliminary results are very promising. The overall reliability for the 19-item scale is quite high (= .952) and for each of the subscales, as well (Enjoyment / Accomplishment = .950; Skill / Competence = .918). The ORSE scale appears to be a reliable instrument for measuring self-efficacy within an outdoor recreation context. This study was limited to women who were mostly middle-aged and Caucasian. The researchers are continuing their efforts to develop a meaningful and valuable research tool. Future efforts will focus on: (a) continuing development and refinement of items in the ORSE scale; (b) administering the scale to additional age groups, settings and populations, and to more diverse individuals with regard to ethnicity; (c) providing evidence for its validity by examining the relationship between the ORSE and other related theoretical constructs and scales; and (d) establishing the test-retest reliability of the scale. The researchers believe that the ORSE scale could be used to measure self-efficacy for one specific outdoor recreation activity at a time, such as rock-climbing, back-packing, kayaking, and the like. The more focused and specific the activity and context, the more accurate and valid the measurement of self-efficacy might be.

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Motivations for Participating in Conservation Easement Programs for Land Conservation

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INTRODUCTION

Conservation easements (CE) are a land protection tool in which, "The landowner in essence gives up development rights in perpetuity, but retains ownership and gains some tax benefits as well as the knowledge that his or her conservation goals are legally ensured" (Elfring, 1989, p. 73). The development rights are then held by a participating organization (in this case, land trusts) to ensure that the easement is followed by the user and future property owners.

Within land trusts, the goals of protecting and preserving property are as varied as the number of organizations. As noted by Elfring (1989), land trusts target various properties depending upon their focal area. The focus of the current study is to explore private land protection and the individuals who participate through the use of CEs in order to protect their property. More specifically, the researchers' main objective is to comprehend what motivates individuals to place an easement upon their private property beyond simply wanting to preserve it for posterity. The comprehension of understanding "landholder motivations for participation in such programmes[sic]" is paramount in assisting land trusts in acquiring CEs (Kabii & Horwitz, 2006, p. 11; Merenlender et al. 2004). Consequently, a paucity exists in the research base that considers the motivations and variables associated with placing CEs upon personal property, with the majority of publications centered within the traditional agricultural sector.

Two recent models (Kabii & Horwitz, 2006; Lynch & Lovell, 2003) have emerged that attempt to develop an understanding for CE motivations and usage behavior. Kabii and Horwitz's (2006) review of literature and development of a theoretical model considers CE motivations within five distinct themes: 1) landholder demographics, 2) time and nature of the ownership of the land, 3) knowledge and awareness of the conservation easement programs, 4) financial circumstances, and 5) risks associated with placing property into a CE. A second model for understanding CE use is found in Lynch and Lovell (2003). The researchers utilized spatial characteristics and survey data in the Econometric Model to predict what types of individuals would participate with land trusts in protecting agricultural land by use of a CE. Lynch and Lovell's method utilized a variety of data including the geographic location, type of farmland, quality of farmland, and potential agricultural production in order to determine who was most likely to protect their land. The findings from the work posit that land trusts are better able to understand "Which factors affect a landowner's decision to participate in an agricultural land preservation program" when using a discrete choice model that considers "both landowner and parcel characteristics" (Lynch & Lovell, 2003, p. 273).

The major limitation presented Lynch and Lovell's (2003) model rests in the foundation upon CEs of agricultural property, as well as the reliance on only spatial and economic attributes to predict CE behavior. Kabii and Horwitz (2006) expand beyond this, but only in the development of a theoretical model that has yet to be tested. To truly understand what motivates and facilitates one to participate in CE programs for non-agricultural property, as well as to comprehend the similarities and differences between agriculture and non-agricultural land preservation, researchers must attempt to view the world as articulated by the participants, thus, the current study attempts to consider those who protect forests and agricultural land

respectively; not attempting to generalize data from the agricultural easement sector onto non-agricultural land owners. Few, if any models are available that consider the variables associated with individuals who place CEs upon private property conserved for ecological reasons and within forested landscapes.

METHODS

Participants were selected from the various land trust organizations within the state of Indiana. After garnering potential participant names and contact information from land trusts, individuals were contacted and self selected to participate in the study. Interviews were conducted over the telephone, in which conversation were tape recorded in order to allow for a verbatim transcription and analysis of the data. Interviews were discontinued when no new topics emerged and saturation in findings had occurred.

In an attempt to learn as much as possible related to the variables associated with why individuals place conservation easements upon their property, we utilized, informal, in depth interviews followed by a phenomenological analysis of the data. The phenomenological data analysis included three primary phases (Moustakas, 1994). Phase one consisted of coding initial concepts, terms, and phrases of the participants' interviews into distinct categories. In phase two, the researchers organized the clusters of data from the subsequent categories and analyzed each for emergent themes that existed between the different participant interviews. Phase three included the researchers evaluating the phrases, categories, and themes, examining each for internal consistency and crosschecking the interpretation of the findings amongst the group (Creswell, 1998). Discrepancies within the coding were discussed and re-evaluated for internal reliability and consensus among the researchers was obtained regarding the data codes and delineated themes.

FINDINGS and CONCLUSION

Twenty interviews were completed with individuals from five various land trust organizations. The findings suggest that three general themes exist: 1) motivations for protecting land from future development, 2) early life influences on conservation behavior, and 3) methods for learning about CEs. Motivations for protecting land from future development included three subthemes; general protection motives, protecting land for ecological considerations, and protecting agricultural land for personal and public reasons. The theme of early life influences contained two subthemes, interaction with adult(s) and experiences in nature. Finally, the theme, learning about CEs was all-inclusive.

The findings from the study suggest four salient ideas. First, that three overarching motivations exist amongst the population under study: desire to limit development (Smith & Krannich, 2000), desire to conserve land for ecological reasons (Erickson, Ryan, & DeYoung, 2003), and the desire to protect agricultural land based on personal and cultural motivations (Furuseth, 1987). The second notion of the research is presented in the dichotomy between agricultural and non-agricultural land owner types. This difference was earlier noted by Robinson (2004), who suggested that various land owners present a heterogeneous set of motivations in regard to land conservation, which are dependent upon one's tenure with the specific parcel, as well as the occupational relationship (Robinson, 2004). The third major point of the study suggests agreement with Tanner (1980) in the notion of early life experiences in nature and with adult influences on one's conservation behavior. Finally, the diversity presented in methods for learning about CEs is in accordance with life cycle of organization (van de Ven &

Poole, 1995), noting that the majority of land trusts within the study have only been in existence for approximately eight to 10 years and thus have not expanded the organizational approach to educate a broader audience on their organization and services.

Though small in scope, the significance of this study's findings suggest that CE user rationale supports the "general" conservation behavior research, that variations exist between agricultural and non-agricultural land owners, that early childhood experiences may impact participation in conservation programs later in life, and that a variety of methods currently exist for learning about conservation easements with no one method dominating the marketing strategies. In the future, research that explicitly can test association between the multitude of variables and considerations for landowners is paramount in attempt to develop a comprehensive understanding for this emerging conservation behavior.

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Long-term Impacts Attributed to Participation in Wilderness Education: Preliminary Findings from NOLS

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One of the main remaining issues in the field of outdoor education is the lasting value of wilderness education experiences after a program ends and participants return to life at home (cf., Leberman & Martin, 2004; Wolfe & Samdahl, 2005). While anecdotal reports/testimonials regarding life-changing and transformative experiences through wilderness program participation are common, very few studies have examined the impacts of wilderness education programs months or years after completion. One of the main challenges of documenting and studying learning transfer in adventure education, is that most of the transfer content and contexts would be termed "far transfer," which means that the content (what is transferred) and context (when and where the transfer occurs) of acquisition are distal from the content and context of application (cf. Barnett & Ceci, 2002).

Much of the research on transfer in outdoor education has examined the retention of targeted program outcomes after program completion. For example, Hammitt and Freimund (1996) examined responsible environmental behavior after program participation, and Paxton and McAvoy (1998) looked at self-efficacy development and retention six months post program. Very few studies have examined impacts years after program completion, and those that do examine this topic commonly use interviews with small samples. One such study examined the impact of a 35-day wilderness expedition three years later and reported that, while some lessons from the program did not easily apply, others did, including self-awareness, respect for different others, and ability to make changes and confront challenges (Miller, 2001). Therefore, the purpose of this study was to systematically examine the potential impacts of participation in a course offered by the National Outdoor Leadership School (NOLS) one to ten years after program completion through a multi-method approach.

Methods: To best address the study purpose, this project was divided into two distinct phases. The first phase involved a series of 41 semi-structured interviews with course alumni who completed NOLS wilderness courses 1, 5, and 10 years previously. This phase sought to inductively generate a list of what was learned from NOLS and what was still regularly used or valued by alumni. Thematic reduction was used to identify the primary areas of learning reported by the students. This list was then used as the basis of the survey instrument in phase 2, which was developed to see if the list generated in phase 1 could be empirically supported through a broader sample of alumni, and to determine the relative importance of their NOLS courses in each of the areas of learning. Qualitative data regarding the most valuable lessons from course completion and sources of this learning were also collected, and the possibility of negative transfer (learning detrimental to post-course life) was also explored.

To complete phase 2, a stratified random sample from the NOLS alumni database was selected to receive an invitation to participate in the study during the summer of 2007. This sampling strategy was employed to provide a representative picture of NOLS alumni from 1997-2006. Alumni were stratified by year (1997-2006 alumni) and by course type (semester courses, courses for outdoor professionals, "classic" (wilderness backpacking) courses, adventure (youth) courses, and courses for participants 23 or more years of age). Sixty alumni from each of the five course types and each of the ten years were randomly selected from the alumni database, and these 3,000 alumni were mailed an invitation to complete an on-line questionnaire. The

instrument consisted of four main sections: (1) a ten-point rating scale assessing the importance of the learning areas (see below) in everyday life; (2) a ten-point rating scale assessing the importance of NOLS in developing these learning areas; (3) a section where participants selected the primary setting responsible for development in each learning area; and (4) a series of open-ended questions. In September of 2007, a follow-up (reminder) letter was sent to the non-respondents. This second mailing also included a hard-copy of the questionnaire and a postage-paid envelope so that participants who were unable or unwilling to complete the questionnaire online could still return their data.

Much of the data analysis involved descriptive statistics which examined the relative importance and the relative role NOLS played in the 17 learning areas listed below. Inferential statistics were computed to determine if study participants differed by cohort (length of time since course completion) and to determine if the type of course taken from NOLS impacted the participants' perceptions. Analysis of variance (ANOVA) procedures, including a Bonferroni adjustment for post-hoc comparisons, were used to inform these last two questions.

Results from Phase 1: The qualitative interview data were transcribed and independently coded by two of the authors of this study. This coding process resulted in the following 17 areas being identified as learned during a NOLS course and still being relevant and useful years after the course: (1) Appreciation of nature; (2) Desire to be in the outdoors; (3) Outdoor skills; (4) Cooking skills; (5) Ability to take care of myself and my needs; (6) Ability to communicate effectively; (7) Ability to work as a team member; (8) Ability to manage conflicts with others; (9) Ability to make informed and thoughtful decisions; (10) Ability to serve in a leadership role; (11) Patience; (12) Ability to plan and organize; (13) Personal perspective on how life can be simpler; (14) Ability to function effectively under difficult circumstances; (15) Ability to get along with different types of people; (16) Ability to identify my strengths and weaknesses; and (17) Self-confidence.

Preliminary Results from Phase 2: As of early September, we had 318 returned and usable questionnaires. The follow-up/reminder letter with a postage-paid envelope was mailed in early October. The following results are based on the current sample of 318.

The preliminary results largely supported the qualitative findings. All of the 17 areas were considered important to the respondents in their daily lives. The area with the lowest reported importance was cooking skills, with an average rating of 6.8 out of 10. The importance of outdoor skills averaged 7.4 out of 10. All other ratings were over 8.5 on a ten-point scale.

In response to the second section of the questionnaire, participation in NOLS courses seemed to play some role in development in all of the areas. However, most notably, NOLS was considered highly critical in developing outdoor skills, the ability to get along with different types of people, the ability to serve in a leadership role, and a personal perspective on how life can be simpler. These areas were rated at 7.9 out of 10 or higher.

In a related question, participants were asked where they primarily learned about the 17 areas given the following choices: NOLS, Home, Work, Sports, and Other. NOLS received the highest percentage of responses for the same four areas as above: outdoor skills, ability to get along with different types of people, ability to serve in a leadership role, and personal perspective on how life can be simpler. Seven of the 17 areas were primarily attributed to learning that occurred in the home. Work was the most frequently reported learning setting for five of the 17 areas.

When the data are compared by the stratification variables, there is no real difference by cohort (e.g., 1 year vs. 10 years post-course). This is consistent with the qualitative data that was

not markedly different between the 1 year, 5 year, or 10 year post-course samples. However, when the data are compared by type of course, it does seem that the NOLS course experience had a potentially greater impact on classic and adventure course participants ($p < .05$). These participants were also markedly younger than the other groups, and this may be the primary reason they attribute more learning to NOLS. Average age at time of course completion follows: Adventure courses, 15.2 years; Classic courses, 18 years; Semester, 20.8 years; Professional courses, 28.8 years; and 23+ courses, 36.7 years.

The preliminary qualitative themes are in response to two of open-ended questions at the end of the questionnaire. The most valuable things learned through their NOLS courses largely verified the interview and quantitative data. Self-awareness and changes in life perspective were two additional themes. Another question asked about negative transfer or learning. Seventy five percent of participants reported no negative learning. Longing for the outdoors, cognitive dissonance regarding environmental and cultural problems, and some reflection about an unpleasant aspect of the course were the only other substantive themes.

Discussion: It does seem that certain types of lessons are more commonly learned, retained, and applied post-course than others. It seems that wilderness and expeditionary courses are well-suited to teach outdoor skills, interpersonal skills, leadership skills, self-awareness, and changes in life perspectives. These findings are generally consistent with other studies of transfer in outdoor and adventure contexts, where lessons about interpersonal skills (Miller, 2001; Sibthorp, 2003); leadership (Sibthorp, 2003); self-awareness (Daniel, 2007; Holman & McAvoy, 2005; Miller, 2001; Sibthorp, 2003); and changing perspectives (Daniel, 2007) seem to be commonly learned and then later applied. Outdoor and technical skills remain a critical lesson from these courses, but are less commonly applied (cf. Sibthorp, 2003). As with previous studies (e.g., Daniel, 2007), we did not see notable differences in reports of the utility of the learning areas based on cohort (time since course completion). While lessons learned and applied did vary by course type, this could be a function of the participants and their backgrounds more than inherent differences in the courses (c.f., Sibthorp, Paisley, & Gookin, 2007). From the current data, there is not much evidence to support the idea of "negative transfer" from wilderness courses (c.f., Wolfe & Samdahl, 2005). However, this topic warrants future study, as some possible themes did emerge for a minority of participants. This study should provide a useful baseline for future studies looking at the challenge of documenting the long-term benefits of wilderness programs.

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