Abstracts from the
Coalition for Education in the Outdoors Eighth Biennial Research Symposium

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Held at

BRADFORD WOODS

Indiana University's Outdoor Center
Martinsville, Indiana
January 13-15, 2006

Compiled by

Anderson B. Young, SUNY Cortland
Leo H. McAvoy, University of Minnesota

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Coalition for Education in the Outdoors
State University of New York at Cortland
P.O. Box 2000
Cortland, New York 13045

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 CEOs founders envisioned.

Almost 15 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 large, and it has retained the informal and highly interactive atmosphere that people valued from the start. The purpose has remained the same as well.

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. 8*, which will appear in late 2006 or early 2007.

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 Carol Stone, Elizabeth Powell, and Kyle Compton Ramey, whose work with this event began months before our arrival. Bradford Woods is an extension of the Department of Recreation and Park Administration at Indiana University. We thank that department and its chair, Lynn Jamieson, 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. 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
Eighth Biennial Research Symposium

M. Deborah Bialeschki
American Camp Association

Karla Henderson
North Carolina State University

Leo H. McAvoy
University of Minnesota

Jim Sibthorp
University of Utah

Coalition for Education in the Outdoors Research Committee

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State University of New York at Cortland

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Coalition for Education in the Outdoors

Eighth Biennial Research Symposium at

BRADFORD WOODS

Indiana University's Outdoor Center

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SCHEDULE OF EVENTS

Friday, January 13, 2006

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
	Lynn Jamieson, Indiana University
Logistics	Kyle Ramey & Elizabeth Powell, Bradford Woods
Symposium Overview	Andy Young

5:00   **Getting Acquainted** - Facilitated by Chris Cashel, Oklahoma State University

6:00   **Dinner** - *Baxter Dining Hall*

       7:30   **Research Presentation Session I** – *Carr Center*
              Presider: Denise Mitten, Ferris 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.

       7:35   Wilderness challenge, youth initiative, and the roles of family and non-family adults.
              Sydney Sklar, University of St. Francis, Stephen Anderson, University of Florida; Cari Autry, Arizona State University, West
       7:55   Development and application of a youth outcomes survey for campers.
              Karla Henderson, L. Whitaker Schueler, C. Thurber, North Carolina State University; Marge Scanlin, M. Deborah Bialeschki, American Camp Association
       8:15   The program improvement process: Developing optimal youth development environments through the camp experience.
              M. Deborah Bialeschki, Marge Scanlan, American Camp Association
              Michelle Gambone, Youth Development Strategies, Inc.
       8:35   Predictors of autonomy support at diabetes summer camp: A self-determination theory approach.
              Ron Ramsing, Western Kentucky University; Jim Sibthorp, University of Utah
       8:55   General Discussion

9:15   **Evening Social** – *Baxter Dining Hall*
              Sponsored by Human Kinetics Publishers, Champaign, Illinois

7:30	Breakfast – *Baxter Dining Hall*
8:20	Research Presentation Session II – *Carr Center* Presider: Jeff Jacobs, California Polytechnic State University

8:30	Power plays: Nerdy boys and influential girls "playing" in the outdoors. Katherine Pinch, California State University, Sacramento
8:50	Investigating the long-term impact of adventure education: A retrospective study of Outward Bound Singapore's classic 21-day challenge course. Michael Gassner, University of Minnesota; Abdul Kahlid, Republic Polytechnic, Singapore
9:10	The wilderness solo: The effect of intentional design. Andrew Bobilya, Montreat College; Kenneth Kalisch, Wheaton College
9:30	Predictors of perceived development on courses from the National Outdoor Leadership School. Jim Sibthorp, Karen Paisley, University of Utah; John Gookin, National Outdoor Leadership School
9:50	General Discussion

10:00	Refreshment Break
10:20	Research Presentation Session III – *Carr Center* Presider: Taito Okamura, Nara University of Education, Japan

10:25	Environmental sensitivity and outdoor recreation setting preferences. Tinelle Bustam, Anderson Young, Sharon Todd, SUNY Cortland
10:45	Environmental desirability responding: Addressing the attitude-behavior gap. Alan Ewert, Indiana University; Graeme Galloway, LaTrobe University, Australia
11:05	An inquiry into environmental connection through wilderness experience. Robert Andrejewski, Lynn Anderson, Sharon Todd, SUNY Cortland
11:25	A sense of connectedness in wilderness place experience: Interpretations of sense of place during a NOLS instructor course. Garrett Hutson, Oklahoma State University
11:45	General Discussion

12:00	Lunch and Free Time – *Baxter Dining Hall*
1:55	Research Presentation Session IV – *Carr Center* Presider: Jonathan Norling, University of Utah

2:00	Sustaining school-based outdoor education: A case study of three Ontario public schools. Erin Sharpe, Laura Kittle, Brock University
2:20	Coercion into treatment and outcomes in outdoor behavioral healthcare treatment. Keith Russell, University of Minnesota
2:40	A modified outdoor adventure program serving individuals with cognitive disabilities who present serious accommodation. challenges. Leo McAvoy, John Smith, John Rynders, University of Minnesota; Jeff Jacobs, California Polytechnic State University, San Luis Obispo
3:00	The status of inclusion at residential outdoor environmental education centers. Kendra Liddicoat, Cornell University; Jim Rogers, Bradford Woods, Indiana University; Lynn Anderson, SUNY Cortland
3:20	General Discussion

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

Leadership and L.B. Sharp: Narratives shared of a revered outdoor educator.
Julie Carlson, Minnesota State University, Mankato
Sense of community among summer camp staff members.
Dan McCole, Western State College of Colorado
The effect of wilderness-based programs on environmental beliefs and attitudes: Do they really have an impact?
Aiko Yoshino, Indiana University
An integrated wilderness adventure experience: What outcomes are most helpful in daily life?
Tom Holman, Southeast Missouri State University
The influence of a wilderness experience program on students' attitudes toward wilderness.
Betsy Lindley, Springfield College

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

The relationship of students' leadership style, personality type and outdoor education practicum.
      Beth Bojarski, Anderson Young, Sharon Todd, SUNY Cortland
An investigation of self-efficacy in a freshman wilderness experience program.
      Jennifer Hinton, Danny Twilley, Ohio University
Daily experience and mood states during a thirty-day wilderness education program.
      Aiko Yoshino, Indiana University
      Let safety be your guide: A risk management perspective on challenge course programming and instructor training.
      Jon-Scott Godsey, Monica Godsey, University of Nebraska
Developing sustainable access to bouldering areas.
      Dan Pronsolino, Marni Goldenberg, California Polytechnic State University, San Luis Obispo
The effect of reflection activities in adventure education program on participants' personal development.
      Eri Araki, Nara University of Education
Experience-based model: Using outdoor pedagogy to transform undergraduate education.
      Rudy Dunlap, Joy James, Gwynn Powell, University of Georgia
Empowerment at an all-girls summer camp: "Girl Power" transformed.
      Emily Johnson, Erin Sharpe, Brock University

4:45   Research Presentation Session V – *Carr Center*
      Presider: Kendra Liddicoat, Cornell University

    4:50   The value of a service ethic of employees in an outdoor service organization: A means-end study.
          Marni Goldenberg, Dan Pronsolino, California Polytechnic State University
    5:10   Factors influencing participants' trust in outdoor organizations and outdoor leaders.
          Karen Paisley, Jim Sibthorp, Wynn Shooter University of Utah
    5:30   Leadership development through an outdoor leadership program focusing on emotional intelligence.
          Aya Hayashi, Indiana University
    5:50   Collective meanings of an outdoor leadership program experience: Relationships that matter.
          Andy Ballard, Amy Shellman, Aya Hayashi, Indiana University
    6:10   General Discussion

6:30   Dinner – *Baxter Dining Hall*

8:00   Evening Forum – Baxter Dining Hall
      About *Research in Outdoor Education, Volume 8* – Karen Paisley, Lead Editor
      Symposium Evaluation – Anderson Young & Leo McAvoy, CEO Research Committee
      Breakout Discussions
          American Camp Association research initiative
          Emerging trends in outdoor education research
          Others

9:00   Social – (Location to be announced)
Sponsored by the Indiana University Department of Recreation and Park Administration

Sunday, January 15, 2006

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

Bloomington Shuttle to airport picks up passengers at Bradford Manor

Thank you for being here.
Travel safely.
See you in 2008.

Wilderness Challenge, Youth Initiative, and the Roles of Family and Non-Family Adults
Sydney L. Sklar, University of St. Francis
Stephen C. Anderson, University of Florida
Cari E. Autry, Arizona State University at the West campus

Background

Adolescents who are inadequately equipped with skills to generate self-motivated, meaningful activity are often prone to boredom (Iso-Ahola & Crowley, 1991). Teens who lack skills to independently seek complex, challenging situations in leisure and discretionary time become vulnerable to activities of immediate gratification and peer pressure. In turn, adolescents are often inclined to alleviate boredom through dysfunctional leisure.

Alternatively, adolescents equipped to engage in internally rewarding, complex experiences in their leisure, or flow-like experiences (Csikszentmihalyi & Larson, 1984), are likely to perceive such activities with a sense of freedom and self-determination, and they may be more likely to persevere in such behaviors (Coleman & Iso-Ahola, 1993; McCormick & Dattilo, 1995). Similarly, individuals who feel autonomy, competence, and relatedness in daily activity tend toward self-determined behavior (Ryan & Deci, 2000). The facilitation of internal rewards, producing feelings of flow and self-determination, are considered important components to the adventure education philosophy (Csikszentmihalyi & Csikszentmihalyi, 1999; Freeman, 1993; Haras, 2003; Hill & Sibthorp, 2004; Sklar & Gibson, 2004).

The purpose of this interpretive case study was to describe how a wilderness program for at-risk adolescents was experienced, as understood through the theoretical frameworks of flow and self-determination, and how these experiences carried over into everyday functioning as well as social and familial relationships. Specifically, this study explored program factors and conditions that both facilitated and/or constrained the experience of flow and self-determination. Additionally, the meanings of these experiences to the participants was a primary focus. A final purpose was to assess the generalization and transfer of students' experiences relative to flow and self-determination. A specific wilderness challenge intervention for at-risk youth, the "Adventure Challenge Experience" (ACE) was the setting in which to address these research goals. Seven research questions were stated addressing youth experiences, behaviors, and outcomes as observed by the youth themselves, their parents, and the program staff persons.

Methods

The interpretive paradigm of naturalistic inquiry (Henderson, 1991; Lincoln & Guba, 1985) was selected to guide this research. Within the naturalistic paradigm, a case study method was used to research the specific phenomena of self-determination and flow within the contexts of participants' lives both during and after the challenge program.

This research explored the case of the "Adventure Challenge Experience" (ACE), a therapeutic wilderness program targeting youth considered at-risk of problematic transition from middle school to high school. Using written questionnaires and in-depth, semi-structured interviewing, 40 participants involved with the program were sampled. Initial open-ended youth questionnaires were administered immediately following the wilderness trip. Questionnaire responses were used to inform the subsequent youth interviews. Fifteen youth and 18 parents were individually interviewed, seven staff members participated in a focus group interview, and two staff members were interviewed in follow-up. Interviews were audiotape recorded and transcribed in aggregate. The researcher additionally kept field notes consisting of notes taken while observing behavior and nonverbal cues during the interviews. Additionally, insights and reflections were recorded immediately after interviews and while transcribing tapes. Using *N-6*, a computer assisted qualitative data analysis software package, data were analyzed using the constant comparative approach until saturation was achieved. Member checks were performed throughout data collection, and investigator triangulation was used to enhance the trustworthiness of the research.

Results

Data analysis resulted in saturation of three major themes including challenge, community, and key player relationships. Additionally, as there were strong contrasts between the wilderness trip and post-trip phases, the themes were respectively divided into these two phases. Among the challenge theme, wilderness trip challenges were largely seen as strenuous, mentally and socially taxing, yet rewarding. In contrast, post-trip experiences were a mixture of active and passive activity, boredom and frustration, and often involved emotional stressors.

During the wilderness trip, youth who had previously suffered from problems such as social isolation, depression, and family instability found themselves a part of a supportive, reciprocating community of peers and adult staff members. Youth were particularly rewarded by opportunities to take on leadership roles and help one another. Post-trip experiences of community were, however, haphazard and for some non-existent. While the ACE follow-up group supported community togetherness, activities were largely undemanding and lacked complexity, unlike the activities of the wilderness trip.

Additionally, bonds between students and staff members were strong and supportive of participants' personal development and community building during the trip. However, as parents were out of communication with the youth and did not serve in any trip-related roles, parental supportiveness was largely absent from the wilderness phase.

Post-trip links between the staff and teens were characterized by strong supportive emotional bonds, yet these relational bonds were combined with program procedures disconnected from extending some of the stronger outcomes of the wilderness trip. Additionally, post-trip communications between the program and parents were characterized by an extreme information gap, as displayed by parents' lack of knowledge of what their children had done or accomplished during the wilderness trip. Parent-teen bonds were further characterized by a mixture of supportiveness and emotional distance. Conceptually, the three themes that were constructed from the accounts of the youth participants, staff members, and parents, interrelated with one another as an interdependent system of youth development.

Discussion

In the tradition of grounded theory, previously reviewed literature was revisited and new literature reviewed to inform the researchers' understanding of major topics and proposed relationships. This process led to the construction of social capital, optimism, optimal experience, self-determination, and youth initiative as a grounded theory of positive youth development.

Emergence of the salient theme "community" was substantially informed by social capital theory which proposes that social networks have value, and people fair better when bonded to one another (Putnam, 2000). Whereas social capital was evident during the wilderness experience, it was substantially lacking in the post-trip lives of many of the teen participants. Optimism theory further informed relationships discovered between major themes of challenge, community, and key player relationships. Described as a positive future orientation (Tiger, 1979), signs of optimism were evident in talk about what was learned through wilderness experiences, however similar talk of perseverance in the face of challenge was lacking among post-trip accounts. Finally, the concept of youth initiative is introduced as a unifying thread among the proposed theories. As described by Larson (2000), youth initiative involves intrinsic motivation, concerted engagement in the environment, and a temporal arc of effort directed toward a goal. As such, structured youth programming is presented as an interconnected system of relationships between challenge; flow; self-determination; social capital; optimism; and the youth, parents, and non-family adults. These relationships are proposed as a framework for developing youth initiative and as a means for positive youth development.

Future research should explore the theoretical concepts of social capital and optimism among therapeutic adventure and youth recreation programming in general. Features of youth programs that influence social capital and youth optimism ought to be identified.

Attitudes of both youth and adults should also be explored in relation to youth community involvement and adult support for such activity. Exploring attitudinal factors may help to better understand distinguishing characteristics of families that support youth engagement versus those that do not. Finally, the process of engaging young people and parents in youth development programs ought to be further explored. Additional exploration of this process could further inform the field of contributing factors to positive youth development.

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Development and Application of a Youth Outcomes Survey for Campers

Karla A. Henderson

Christopher Thurber, Exeter Academy
Leslie Schueler Whitaker, Philliber Research Associates
Margery M. Scanlin, American Camp Association
M. Deborah Bialeschki, American Camp Association

Many people know about the value of organized camp experiences for youth, but few instruments have been developed to measure camp experiences relative to positive youth development. The purpose of this paper is to present evidence about the psychometric properties including the internal consistency and validity of scales specifically designed to measure youth development outcomes through camp experiences.

Researchers (e.g., Bialeschki, Younger, Henderson, Ewing, & Casey, 2002; Brannan, Arick, Fullerton, & Harris, 2000; Dworkin, 1999; Marsh, 1999; Sekine, 1994) have examined the value of camp experiences. Over the past century, evaluative studies have used purposive and convenience samples to ascertain the benefits of camp experiences. Most studies have found positive outcomes on a variety of dimensions. These studies, however, have used different criteria and a variety of instruments in their assessments. Some concern has been raised about whether existing psychological scales are appropriate for measuring camp experiences. The upshot has been that no large scale national random sample studies have been conducted that focus specifically on the outcomes of camp for youth.

Background

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 adulthood. Youth development specialists (e.g. Gambone, Klem, & Connell, 2002; Leffert, Benson, Scales, Sharma, Drake, & Blyth, 1998; Pittman, Irby, & Ferber, 2000; Witt, 2002) indicate that in addition to academic competence, youth need to have opportunities to grow toward physical, emotional, civic, and social competence through supports from family, community, and other institutions including organized camp programs.

For youth programs to be successfully implemented and evaluated, theory is needed (Peterson, 2004). Although not necessarily a single theory, a conceptualization of positive youth development provides a theoretical framework for examining the dimensions that result in the potential for human growth. The rationale for positive youth development according to Lerner, Lerner, Almerigi, & Theokas (2005) emanates from contemporary developmental systems theories. These theories suggest that change is a consequence of mutually influential relationships between the developing person and such aspects as biology, psychological characteristics, family, community, culture, and we would add camp experiences.

Developmental theories have guided the measurement of outcomes. One example is the work done by the Search Institute (Leffert et al., 1998). This work has been used extensively by youth organizations that are striving to make camps effective in helping young people strive to be successful adults (*Camping Magazine*, 2001). Roth and Brooks-Gunn (2003) and Lerner et al. (2005) discussed five Cs of positive youth development that should be outcomes of youth programs: competence, confidence, character, connection, and caring. Lerner et al. argued that these five Cs occur because a youth program offers positive and sustained adult-youth relationships, youth skill building activities, and opportunities for youth participation and leadership.

Instrument Development

The American Camp Association (ACA) is a community of camp professionals who are responsible for accrediting all types of camps in the United States. In 2001, the ACA undertook a Youth Development Outcomes of the Camp Experience (YDOCE) study. The first step was to develop instruments that were reliable, valid, and useable in measuring youth development outcomes.

An initial questionnaire draft was developed by examining existing instruments in the field of youth development (e.g., Search Institute, Camp Fire Boys and Girls, YMCA, GSUSA, BSA). Based on this information, four major domains were ascertained that represented the outcomes found in the literature as well as the articulated goals that most camp programs sought to achieve for young people: positive identity, social skills, positive values and spiritual growth, and thinking and physical skills.

The camper questionnaire consisting of 109 items was pilot tested during the spring of 2001. The following steps were employed to develop the instrument: (a) a reliability analysis using SPSS was conducted for each subscale to provide quantitative data regarding item performance; (b) within each subscale, all items related to the constructs were evaluated quantitatively by examining the corrected item-total correlation and the resulting coefficient alpha if the item was deleted; (c) at the same time as step b, items were qualitatively examined in terms of readability, clarity, and relevance to the constructs/domains; (d) based on the results of b and c, items that performed poorly in any way were deleted; and (e) the items that remained were examined for content validity and congruence based on the purpose of the study.

The camper survey items were reduced to a 52 item instrument that used a 4-point Likert scale with 4=strongly agree to 1=strongly disagree. The final questionnaire consisted of ten outcome constructs that represented four major domains of interest to camp professionals. The reliabilities of the domains (in bold) and constructs (italicized) included: **Positive Identity**: *positive identity* (.75), *independence* (.63); **Social Skills**: *leadership* (.76), *making friends* (.69), *social comfort* (.66), *peer relationships*

(.71); **Positive Values and Spiritual Growth**: *positive values* (.76), *spirituality* (.81); and **Thinking and Physical Skills**: *adventure exploration* (.66), and *environmental awareness* (.76).

Questionnaire Application

The instrument was field tested during the summer of 2001. Field testing was directed toward the further development of the camper questionnaire and toward the procedures that would be used for collecting data from campers as well as parents, staff, and directors.

In the summers of 2002 and 2003, a multistage random sampling strategy was used to identify camps for study participation. Camps were selected to represent a variety of characteristics such as day or resident camp status, camp sponsorship categories (i.e., agency, religious, independent nonprofit, and independent for-profit), regions of the country, and gender served (i.e., boys, girls, and coed).

Over the two summers, 92 camps participated with a sample of over 5000 campers. The sample was broadly representative of the population of ACA-accredited camps and the results indicated that positive changes were found from pre to the post test on six of the 10 constructs. The greatest gains were in the areas of adventure/exploration skills followed by making friends, positive identity, independence, leadership, and spirituality. According to the camper data, a small decrease occurred in peer relationships with no change in social comfort, environment attitudes, and positive values.

Discussion

The Youth Development Outcomes of the Camp Experience (YDOCE) survey instrument is an important contribution toward the development of further empirical knowledge about youth development and its relation to camp experiences. The instrument development was focused on determining how outcomes from camp experiences were associated with positive youth development. Future researchers examining the youth development outcomes of the camp experience may want to consider the following research recommendations: 1) developing more sensitive evaluation instruments that allow for a wider range of responses, 2) following campers from immediately before their first camp experiences through multiple years of camp, and 3) continuing to explore additional aspects of the camp experience that contribute to positive youth development.

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The Program Improvement Process:
Developing optimal youth development environments through the camp experience
M. Deborah Bialeschki, Ph.D. American Camp Association
Marge Scanlin, Ed.D. American Camp Assocation
Michelle Gambone, Ph.D. Youth Development Strategies, Inc.

Many camp professionals find themselves continually challenged to document the value of the camp experience for youth. Funders want to hold camps accountable to their goals, boards want to see evidence that camp programs result in benefits in line with the organization's mission, and directors themselves want to know if they achieved the desired outcomes as well the most effective "best practices". The American Camp Association (ACA) teamed with Youth Development Strategies, Inc. (YDSI) in a project to look at how campers assess their camp experiences on outcomes that contribute to positive youth development. The purpose of this study was to establish a baseline of supports and opportunities for youth development offered through the camp experience as defined by the Community Action Framework for Youth Development (Gambone, Klem, & Connell, 2002). The specific research questions were: 1) do camps offer optimal developmental environments for supportive relationships, safety, youth involvement, and skill development? and 2) are there any differences in these environments based on selected camp characteristics (ie., sponsorship, type, length of stay, and clientele).

Theoretical Framework

This positivist study was situated within a positive youth development context that draws heavily on theories of change and intervention. The Community Action Framework for Youth Development (Gambone, Klem, & Connell, 2002) provided the model that served as the basis for the research questions. 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. This study explored how camps might make a difference within Supports and Opportunities by providing campers with multiple supportive relationships with adults and peers; offering challenging and engaging activities; providing meaningful opportunities for involvement and membership; and keeping campers feeling emotionally and physically safe.

Methods

Eighty camps were selected from a pool of volunteers or randomly selected camps to reflect the general characteristics of ACA camps in terms of sponsorship, length of session, gender of campers, and type of camp. These camps agreed to have campers 10 years and older complete a survey at the end of one camp session in 2004. The camp designated 1-2 staff who were instructed on the principles of youth development that underlay this study and were trained to administer the survey. The surveys were collected and analyzed by the YDSI staff. Rather than averages, the results were calculated as percentages of campers reporting an "optimal", "insufficient", or "neither" experience in each dimension studied. These thresholds for the categories have been tested and verified through previous studies. A report was generated that provided each camp with their individual scores as well as the aggregate scores. The key to this process was to learn how and where to modify program, staff training, and camper participation in ways that move campers from the insufficient and the in-between areas into the optimal levels.

The survey consisted of statements related to the four major domains assessed in this study: supportive relationships with adults and peers, challenging and engaging activities and learning experiences, meaningful opportunities for involvement and membership, and physical and emotional safety. Each statement offered a Likert scale response continuum. The survey has gone through extensive validity procedures and reliability checks with sub-scale reliabilities ranging from .8 and higher.

Findings/Discussion

The 80 camps who participated in this study administered the survey to a total of 7672 campers. The results from the 80 camps confirmed some of our beliefs while surprising us on others. Most camp professionals believe the camp community provides an excellent environment in which to build positive relationships between adults and youth as well as among the campers themselves. The data supported that notion. When the perceptions of campers related to questions about guidance, emotional and practical support, and knowledge of youth were calculated, 69% of the campers were in the optimal category while only 9% were in the insufficient group. This finding suggests that camps are doing a good job in meeting supportive relationship needs of their campers, but we still have room to improve.

The second dimension asked how safe campers felt at camp. Surprisingly, just 30% of campers were in the optimal category; however, only 1% was in the insufficient area. This finding showed that campers see safety far differently than directors/staff. The positive point in this finding was that almost none of the campers felt unsafe at camp.

The third dimension analyzed was youth involvement. This area focused on the campers' perceptions around decision-making, leadership, and belonging. The results showed only 5% of all campers in the optimal category and 39% in the insufficient group. This finding was the most surprising. Most camp professionals place high importance on leadership in camp programs. However, the campers did not support these adult perceptions.

The last dimension focused on skill-building and assessed aspects such as opportunities for challenging and interesting activities that had growth and progress options. The findings indicated that 41% of the campers were in the optimal category for this outcome; however, 26% of the campers were in the insufficient area. While camps offer opportunities and supports in skill-building, a significant number of children still do not achieve that optimal level for positive development.

The data were also analyzed for differences based on selected camp characteristics. The initial analyses have found significant differences based on sponsorship of the camp, length of stay, type of camp, and race/ethnicity of campers. For example, independent

non-profit camps had the highest number of youth at optimal levels. Long-term camps (4+ weeks) had stronger scores in all categories as compared to short term programs. A greater percentage of campers in resident camps reported their camp experiences at optimal levels than did day camps. White youth were significantly more likely to be found in optimal categories than were non-white youth.

Several conclusions emerged from this study. First, camps can offer a positive environment in which to address outcomes related to positive youth development. However, the areas of youth involvement and safety were perceived less favorably by the campers than expected. Secondly, differences based on sponsorship, type of camp, length of stay, and race/ethnicity of the campers further complicated the issue of optimal developmental environments. Third, the role of intentionality by the camp to address these various outcomes seems intrinsically linked to practices that move youth out of insufficient areas and into optimal levels. Challenges to the camp professional include training issues related to: cultural competencies in camp programs/leadership, youth involvement in leadership and decision-making, and processing skills needed to help staff understand the experiences from the campers' viewpoints. The findings also raise issues related to the best strategies and practices that result in effective outcome development. Additional insights into the theoretical contributions of this study as well as more in-depth discussions of findings will be presented in the session. This study serves as a first step toward helping camps understand their potential importance in the youth development process and the challenges to be addressed as they begin to consider strategies for program improvement.

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COMMUNITY ACTION FRAMEWORK FOR YOUTH DEVELOPMENT

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Build Community Capacity and Conditions for Change

Building stakeholders' awareness, knowledge, engagement and commitment

Conveying urgency, possibility, equity and inevitability of change

Implement Community Strategies to Enhance Supports and Opportunities for Youth

Strengthen community adults' and families' capacity to support youth

Reform and coordinate public institutions and services to support youth development

Increase number and quality of developmental activities for youth

Create policies and realign resources in public and private sectors to support community strategies

Increase Supports and Opportunities for Youth

Adequate nutrition, health and shelter

Multiple supportive relationships with adults and peers

Meaningful opportunities for involvement and membership

Challenging and engaging activities and learning experiences

Safety

Improve Developmental Outcomes

Learning to be productive
Learning to connect
Learning to navigate

Improve Long-Term Outcomes in Adulthood

Economic self-sufficiency

Healthy family and social relationships

Community involvement

Predictors of Autonomy Support at diabetes summer camp:
A Self-Determination Theory Approach

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Western Kentucky University
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University of Utah

Background – Diabetes is considered to be one of the most psychologically and behaviorally demanding chronic illnesses facing adolescents (Cox & Gonder-Fredrick, 1992). Effective diabetes self-management is the cornerstone of diabetes treatment (Mensing, et al., 2000; Ruggiero, et al., 1997). However, there is considerable evidence suggesting nonadherence to appropriate maintenance and management regimens for diabetes could be as high as 93% (Coates & Boore, 1998). Adolescents who lack the necessary skills for effective diabetes management are at higher risk of suffering both acute and long-term complications. Effective management has been shown to slow the progression and on-set of diabetes related complications such as eye, kidney, and nerve diseases (Brown, 1999; National Institute of Health, 2003).

Summer camp has long been considered an effective modality for youth with medical related issues to learn, grow, and deal with their illnesses (Winfree, Williams, & Powell, 2002). Camps appear to be a promising modality through which to foster self-determined behavior by increasing perceptions of autonomy, competence, and, especially, relatedness in adolescents diagnosed with type 1 diabetes. By using the active camping environment, diabetes camps, specifically, are an "invaluable way for children with diabetes to gain skills in managing their disease …" (ADA, 2004, p. 131). In a study of the impact of a benefits-based camp using Self Determination Theory (SDT) on internalization of adolescents diagnosed with Type-1 diabetes, Hill (2004) found that "autonomy supportive camp environments are important predictors for post-camp self-determination" (p.81). However, little empirical evidence has been able to demonstrate how and why these benefits occur in camp settings.

As a theoretical framework, SDT has been shown to significantly influence individual motivation for diabetes self-management, resulting in increased blood glucose control (Williams, Freedman, & Deci, 1996; 1998, Williams, McGregor, Zeldman, Freedman, & Deci, 2004). SDT has been used to build upon a person's inherent growth tendencies and basic psychological needs of autonomy, competence, and relatedness. The crux of SDT is providing choice in an autonomy supportive environment where integration and assimilation of values and ideas result in a heightened sense of self-determination (Ryan & Deci, 2000).

Although the research on the benefits of camp for adolescents with type 1 diabetes appears promising, there is limited research examining the particular mechanisms or experiences within a camp environment that foster autonomy support for increased autonomy, competence, and relatedness for diabetes self-management. It was hypothesized that mean perceived autonomy support scores would differ by participants. In addition, it was hypothesized that mean scores of perceived autonomy support would differ significantly by camp mechanism (group size, nature of competition, instructional approach, and activity type) and participant characteristics (age, sex, and diabetes duration). Therefore, the purpose of this study was to explore the specific mechanisms that lead to increased perceptions of autonomy support.

Methods – Data were collected from 66 campers participating in a 6-day American Camp Association accredited diabetes summer camp located in the Sawtooth mountains of Idaho during 2004. An experience sampling method (event contingent recording) was utilized to gain insight into the two sets of variables of interest in this study. The first set of variables, experience predictors, were program formats consisting of group size, nature of competition, instructional approach, and activity type while the second set of variables, participant predictors, included the camper's age, sex, and diabetes duration.

Based on theoretical underpinnings of autonomy support (Deci & Ryan, 2004), and validated with empirical research, The Activity Specific Autonomy Support Questionnaire (ASASQ), an eight item self-report questionnaire, was created to provide insight into perceptions of autonomy support through the assessment of choice provision, rationale provision, and perspective taking associated with camp activities. Cronbach alpha was reported at 0.86 for the eight-item instrument in a pilot administration at two day camps.

The data were analyzed using a two level multilevel modeling approach: Hierarchical Linear Modeling. The experience variables were the level 1 predictors in the model while the participant variables were entered as level 2 predictors. An exploratory analysis was conducted to determine possible cross-level interactions between experience and participant predictors.

Results – Matched data sets resulted in 66 usable cases at the participant level (level 2) and 293 cases at the experience level (level 1). The unconstrained model was significant ($p < .05$) with an intraclass correlation coefficient of 0.32 suggesting that approximately 32% of the variability in autonomy support was explained by participant differences. Approximately 7% of the level 2 variance or 2% of the total variance in the model was explained by age; older campers reported higher levels of perceived autonomy support.

Noncompetitive activities and camper-centered approaches to instruction yielded increased perceptions of autonomy support by campers. Activities with an art focus were found produce increased perceptions of autonomy support as compared to sports, games, and athletics. However, the roles that specific activity types have on perceptions of autonomy support are still unclear.

Interaction effects of age and sex on nature of competition were found to be significant ($t=-2.36$, $p<.05$). The findings suggest that female campers perceived less autonomy support in competitive activities, while males were not influenced significantly by the nature of competition in camp activities. Although main effects for sex were not significant ($p<.05$), the interaction between sex and instructional approach were found to be significant ($t = -2.66$, $p<.05$) indicating that females perceived less autonomy support in leader-centered activities.

Discussion – Deci and Ryan's (2002) theory of self-determination provides the foundation from which to examine the influence of summer camps on diabetes self-management specifically, the mechanisms within camps that may foster perceptions of autonomy support. While findings for experience level data are important, such as older campers appear to have increased perceptions of autonomy support, the pragmatic implications are found in the cross-level interactions between experience and participant factors**.**

It appears that participant level factors, such as age and sex, may interact with program design and delivery components. These interactions indicate a need to continue to create and implement programs designed for specific population needs. The findings are important for camps in that they provide a foundation from which to better engineer experiences that meet the particular needs of campers. Specifically, by paying particular attention to the role of competition and instructional approaches while working with male and female campers, camps may be better positioned to increase opportunities for self-determined behavior.

The results of this study illustrate potential programming differences for all male, all female, or coed camps targeting self-management for chronic illness. While competitive activities and more leader centered instructional approaches may be appropriate for all male camps, coed or all female camps may want to focus predominantly on non-competitive activates and camper centered leadership approaches. Furthermore, as this study did not find any detriment to male campers, when in doubt, it appears that non-competitive activities and camper centered leadership styles are more appropriate to camp programming hoping to develop and improve self-management skills. These types of intentional programming strategies are critical to maximizing the potential impact of camps for children with chronic illnesses.

Future camp research should continue to examine the underlying mechanisms that may lead to more developmental camp programming. While SDT provides one viable model, other theories should be examined and research should work to further the understanding of the important participant, experience, and delivery components that work to either support or thwart the attainment of target program outcomes for camp.

Power Plays: Nerdy Boys and Influential Girls "Playing" in the Outdoors

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Introduction: There is very little research conducted in the field of outdoor education that is based on a discussion of gender at a theoretical level. Some researchers (Humberstone, 1990, 2000; Henderson, Winn, & Roberts, 1996; Monsour, 1998; Pohl, Borrie, & Patterson, 2000) have attempted to deconstruct gender by providing contextual analyses of gender and how it impacts the experiences of individuals within our programs. Much of the research in the field, however, is positivistic and tries to quantify complex aspects of human behavior. If we hope to understand the processes within our programs, and not simply to quantify the same old outcomes over and over, we need to think about different ways of conducting research and different paradigms. And, with respect to gender, we need to think more critically about its construction within our programs. How is gender being constructed within and through our programs and who benefits and who loses from these constructions?

Davis (1991) used Giddens' (1984) conception of power to give a practice oriented view of gendered power. She suggested that this could be used as a conceptual base when trying to understand gender and power relations in specific social settings. Power is part of the situated practices of social actors, and is a process of production and reproduction of structured relations that involve domination and subordination. Individuals routinely construct power relations as they monitor their interactions and employ resources in flexible and habitual ways. Understanding this allows the focus to be on the "how" of power, rather than only on the outcome of power.

A major premise of this study is that gender is a system as well as a part of individual actions. Giddens (1999) described systems as "reproduced relations between actors or collectivities, organized as regular social practices" (p. 127). If one does not see gender as a category, but as a process that structures identity, behavior and social norms, Giddens' definition of a system may easily be applied to gender. The study was begun with this understanding and a desire to look inside the gender system as it operated within and through an outdoor adventure program for adolescents, and to explore the relationship between gender and power within this setting.

Methods: This case study, situated within a larger investigation of a specific outdoor adventure program, applied a gender lens to the interactions and behaviors of a group of seventeen adolescent girls and boys as they participated in a five day adventure camp as part of their regular school curriculum. Participants were 15-16 years of age. Since processes of human interaction are difficult to quantify and since the understanding of processes such as power relations must be viewed in context, a qualitative approach was employed. Participant observation was the main method chosen for this study because its unstructured nature allowed for the widest contextual view. Apart from the five days spent with the participants at the camp, I also visited them at their school prior to their camp, and I visited them again at their school five weeks after the camp.

A multi-method approach to data collection was chosen in order to address both reliability and internal validity. The methods used were: (i) direct observation; (ii) open-ended interviewing; and (iii) document review. Open-ended interviews were conducted through informal conversations, through a general interview guide approach, and through group interviews. Interviews were voice recorded and later transcribed verbatim. One-on-one interviews were conducted with each participant near the end of the camp and a group discussion was facilitated five weeks after participating in the outdoor adventure program. Documents that were collected and reviewed included the school applications to attend camp, program plans, program evaluations, and student journals. Information in these documents was used as a cross-check to the information provided through the observations and interviews.

Field research is a non linear process where data collection and data analysis occur concurrently and in an ongoing process. Throughout this process, I followed the advice of Henderson (1991) and examined the data for both emic knowledge (the meanings given by the participants) as well as etic knowledge (the researcher's knowledge that could be applied to the data as meaning was constructed). After several readings of the summaries of field notes, interviews and documents I developed a holistic "feel" for the data. The data were viewed through a gender lens and coded with conceptual descriptors. Concepts were grouped under higher order categories and connections between categories were developed. This process is not linear, although it is somewhat hierarchical. There was constant movement between open coding and axial coding as greater clarification was occurring. In the final phase of data coding I identified core categories under which the higher order categories could be placed. This is referred to by Strauss and Corbin (1998) as selective coding. It provided a conceptual framework for the building of grounded theory based on the data analyzed.

Results: One interesting element of this group was the way that individuals perceived themselves in terms of popularity and influence within their normal school setting. All of the boys were friends at school and were self-proclaimed "nerds". Although their personalities and talents were quite different, they had somehow found each other at school and had developed friendships based on a feeling of being somewhat on the fringe of the school social set. This was also how they were viewed by the girls. The girls in the group fell into two "types". Five of the girls were rather quiet and for the most part were happy to follow rather than lead. They contributed ideas to the group, took part in all activities and were thought of as valuable team players. However, they did not see themselves as influential within the school scene. This view of them was shared by the other group members. The other seven girls were all friends and were thought of, by both themselves and the rest of the group, as influential "players" within the school. Although there were differences in their views and personalities, it was obvious at the beginning of the week that all of these girls felt empowered to speak out and all were willing to take a leading role in discussions and decision making within the group. At the beginning of the week the boys were somewhat wary of the girls. In later conversations they confided that all of the girls gave them very little attention at school, and the "powerful" girls often gave them the feeling that they thought them to be inferior in some way. These girls also had very strong ties to the "powerful" boys in the school.

As the week wore on there was a noticeable shift in the power dynamics within the group. The influential girls continued to take an up-front role in decision making, but their presence within the group was not as strongly felt as it had been at the beginning of the

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week. They gradually acceded some of their prestige and power to the boys. And the boys blossomed! At the end of the week several girls spoke about how "nice" the boys were, how surprised they were that the boys were so caring and helpful, about how different it would have been to work with the boys who were their friends at school (the influential boys). They hypothesized that if the other boys had been in their group the quieter girls would have had very little voice, there would have been a more competitive atmosphere, the physical tasks would have been made harder, and the "nerdy" boys would have been silenced, as they were at school. The boys also recognized their new position and marveled at how the girls had accepted them that week and how often they had felt in control.

And what had caused this change in individual and group perceptions? Even though most of the girls saw themselves as competent and saw that they made valuable contributions to the group, there was a general belief that the boys' strength was needed in order to accomplish many of the outdoor tasks. As the boys were called upon more to help in physical tasks, their confidence grew and they started to assert more control in the decision making of the group. And as the power of the boys increased, the influential girls subtly changed the way in which they exerted influence on the group. At the beginning of the week they had been overtly in control of group tone and many group decisions. By the end of the week they seemed to have "given away" their power. Or at least they had willingly begun to share the power with the boys. The students had fallen into gendered patterns of behavior based on stereotypical beliefs about physical strength and physical competence. The boys were called upon to lead through physical strength and some girls began to employ "feminine" strategies to bolster the boys' belief in their abilities and to use the boys to help them through the activities. Protective, paternalistic actions were demonstrated by the boys and were supported by many girls. The "need" for such protection was demonstrated through the differences in abilities and behaviors between girls and boys that were often highlighted by participants in interviews. "Girl" strengths such as thinking and planning, concern with group process, and caring for people were contrasted to "boy" strengths such as jumping in and doing things, concern with task accomplishment, and being protectors. The influential girls who were proficient at manipulating the boys used gender games to exert some control within the group. This was a different approach than they had employed at the beginning of the week. Girls who were not as proficient at the use of these gender games (or who did not want to employ such games) were often silenced.

Discussion: In this study power was seen as multidimensional. Power was fluid, rather than static, with individuals adjusting their behaviors according to group norms and to changing perceptions about the abilities and needs of themselves and others. Individuals within the system exhibited varying degrees of agency and used different strategies to maintain and assert some degree of personal and group control. At different stages in the program there were competing discourses, giving different types of power to different girls and boys. The system that was constructed, however, was one where some girls sacrificed a degree of power in order to bolster that of the boys. In this case study, power was seen to be integral to social interaction (as suggested by Davis, 1991). The course of social interaction was directed or influenced by the resources that individuals brought to the setting, and how they mobilized these resources in the production and reproduction of gendered interaction. Power was used by individuals to ensure compliance to certain claims of social "reality" based on gendered ideologies. Power was exercised through enforcement, but some individuals were also willingly complicit in producing unequal relationships of power that restricted their freedom, but afforded them some control within their accepted gendered realms. Individuals also resisted sanctions or subtly negotiated gendered boundaries. This reading of power allows for change and resistance, but accounts for the maintenance of normative orders, and explains how social positions are defined. Outdoor adventure programs are often claimed as sites of empowerment for individuals and as arenas for questioning gender stereotypes and gendered roles. Closer inspection of programs, such as in this case study, may point to a need for a more nuanced view of the gendered power relationships that are developed through outdoor adventure activities.

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Investigating the Long-term Impact of Adventure Education: A Retrospective Study of Outward Bound Singapore's Classic 21-Day Challenge Course

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The purpose of this study was to identify and understand the long-term impact that Outward Bound Singapore's Classic 21-day Challenge course has had on the personal and professional life of past participants. A second objective was to determine the meaningfulness of various course components to the personal and professional life of past participants. A third objective was to determine if there is a significant difference in long-term impact levels among the three distinct groups that have participated in the course, the different ethnic groups, and between participants of different genders. A fourth objective was to provide information that may assist the government of Singapore, Outward Bound Singapore, and the People's Association with future program design and marketing. The final objective was to increase awareness and understanding of outdoor adventure education in Southeast Asia, and stimulate further research in the region.

This research project was a collaborative effort between Outward Bound Singapore, its parent Singaporean governmental body The People's Association, and the researcher. It is the first study of this type in an Asian context. The theoretical framework that will guide this study is transformative learning theory. The theory will not be tested but will be used as a theoretical lens through which to view the study. Transformative learning theory seeks to examine and explain how adults learn and make meaning of their experiences. It is a learning theory that asserts that if an experience is significant enough and contains certain elements it can affect the learner by changing their mindset or perspective (Mezirow, 1990).

Methods

The alumni of Outward Bound Singapore's Classic 21-Day Challenge course between 1997 and 2004 were participants in this study. These individuals come from three distinct groups: Singapore Airlines pilot cadets, Singapore Police Academy cadets, and State Scholars offered an Outward Bound course by the Public Service Commission.

This research was done using a dominant less-dominant design (Creswell, 1994). The first phase was 940 questionnaires sent to alumni to be completed either on paper or via the internet and sent back to the researcher. Perceived long-term impacts on individuals' personal and professional life were obtained through administration of the questionnaire. The survey questionnaire was adapted from surveys used by Kellert (1989), Daniel (2003), and Bobilya (2004) and incorporated the format for survey research as outlined in Dillman (2000). Data from the questionnaire was analyzed with SPSS (Statistical Package for the Social Sciences).

The second phase was 25 *one-to-one personal* interviews with alumni identified through the questionnaire. The purpose of the interviews was to validate and illuminate information obtained on the questionnaire, specifically to explore more deeply how the outdoor adventure education experience has influenced the personal and professional life of past participants and if they still draw upon the experience. Data from the interviews will be thematically analyzed.

Data collection was completed locally in Singapore between June and August 2005 by the researcher. All research was conducted in English since it is one of the official languages of Singapore and all participants are conversant in English.

Results and Discussion

Of the 940 questionnaires sent out, 88 were returned due to bad addresses, four were returned incomplete and were not used, and two were returned by current OBS instructors and were taken out of the survey. This resulted in an actual study group of 846. Of the 846 in the study group, 319 questionnaires were returned (209 via mail & 110 via the internet). This resulted in an overall 37.70% response rate.

The data have not yet been fully analyzed; however, certain commonalities have started to emerge, especially regarding the past participants interviewed. Preliminary results from the questionnaire and one-to-one interviews indicate there is some long-term impact on past participants' personal and professional life, even if they participated in the course as far back as 1997. Individuals still draw upon their Outward Bound experience many years after the course. Participants in this study are able to distinguish whether the influence was on their personal or professional life. In many instances the course has not influenced a participant's personal and professional life to the same degree. Some individuals were certain that the course influenced one aspect of their lives more than others. In some instances participants said there was influence on one aspect of their life and no influence on the other aspect.

Participants have readily been able to indicate what component of a course was responsible for certain influences on their personal or professional life. The 2 or 3 day solo and the final expedition (which is usually an extended sea kayak trip) are the course components that appear to have had the most influence on individuals, either personally and/or professionally.

Many participants interviewed said they have become a more reflective person with regards to self and others as a result of the course. Individuals said the reflective time given to them during their course helped them realize the importance of taking time out to reflect on what they have done, what they plan to do, and also to reflect on various aspects of their own personality. Answers on the questionnaire also indicate the same.

Outward Bound Singapore still is still perceived to be very relevant in the context of Singapore. The majority of questionnaire respondents and the individuals interviewed believe Outward Bound Singapore has an important role to play in the lives of Singaporeans. What exactly that role is perceived to be should emerge with more analysis of the data.

Many participants indicated that because of the course they have developed an increased awareness of other people's needs and abilities. They also believe they have developed an increased awareness of self in relation to other people. This awareness appears to influence both personal and professional aspects of their lives. Lastly one interesting aspect of the study that is emerging is that some influences of the course may in fact, increase over time instead of diminish.

Final results and analysis will be ready to present at the Coalition for Education in the Outdoors (CEO) Conference in Indiana in January 2005.

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The Wilderness Solo: The Effect of Intentional Design

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The Solo experience within wilderness programs has long had an anecdotal reputation for enhancing the quality of each participant's experience. For this reason, regardless of its specific purpose, the Solo has been a popular and consistently chosen component of most wilderness experience programs (Knapp & Smith, 2005). Only in recent years have researchers confirmed this perception by showing the Solo to be one of the most influential program components related to participant learning and growth (Daniel, 2003; McFee, 1993; Price, 1999; Sibthorp, 2000). But, due to the physical separation of participants and staff for typically 24-72 hours, it has been difficult to assess what aspects of this experience are educationally significant. For this reason, a recent study was conducted to investigate the influence of the (a) participant, (b) environment and (c) instructor on the participant's perception of their Solo experience (Bobilya, 2004; Bobilya, Kalisch, McAvoy, & Jacobs, 2005; Bobilya, McAvoy & Kalisch, in press). While the findings of previous Solo studies were informative and instructive, they pointed to the need for a wider scope of research focusing on the intentional programmatic decisions of the instructors. The adventure education literature clearly indicates the importance of the role of the instructor in wilderness programming (Cammack, 1996; Kalisch, 1999; McIntosh, 1989; McKenzie, 2000, 2003; Morrison, 1986) and calls for an increased effort to "ascertain the effects of the instructor" (Hattie, March, Neill & Richards, 1997, p. 72). Further, intentional program design in recreation programming (Allen, Stevens, Hurtes & Harwell, 1998) and in wilderness education (Sibthorp, Paisley & Hill, 2003) has caught the attention of a growing number of program instructors, managers and directors.

Previous Solo research included an investigation of the participants' perceptions of the influence of their instructor on their Solo experience (Bobilya, 2004). This purpose of this exploratory study was to investigate the influence of intentional design by the instructor regarding the Solo's (a) purpose and framing, (b) instructor visit and (c) individual and group debriefing on participants' perceptions of their experience and their transfer of learning. This study extends the previous Solo research by hypothesizing that the purposeful planning, framing, visits and debriefing by the wilderness instructor play a significant role in determining the quality of Solo experience for participants. The study was supported by two major theoretical frames – the Hendee & Brown Model (1988) and Kolb's (1984) Experiential Learning Cycle. The purpose of this study was not to test either model; both models served as a lens through which to better understand the influence of intentional design on the participant's solo experience.

Methods

This study used primarily qualitative methods for exploring the influence of intentional program design on participant's Solo experience. Demographic and other background data were collected and analyzed through quantitative-based survey methods. Participants included both first-year students who voluntarily enrolled in the High Road wilderness program through Wheaton College in August 2005 and who agreed to participate in the study and the High Road field instructors. There were 91 total program participants of which 85 agreed to participate in the study and 21 field instructors who all agreed to participate. The participants were selected based on simple criterion sampling (Patton, 2002). Specifically, participants had to be first-year students entering Wheaton College in August, 2005 who registered for and completed the High Road program. In addition, instructors who participated were contracted for the August, 2005 High Road for Freshmen and Transfer program. High Road is a wilderness program offered for first-year Wheaton College students and is modeled after a classic Outward Bound wilderness course. The 2005 High Road program was an 18-day program with 12 days traveling in the wilderness. High Road uses small group expeditions through the wilderness setting to assist students in their preparation for college. Each expedition group participated in a 24-48 hour Solo experience as a component of the program.

The study involved three phases of data collection: (a) Phase 1: Instructor Pre-Solo Worksheet, (b) Phase 2: Participant Solo Questionnaire, and (c) Phase 3: Instructor Post-Solo Questionnaire. The first phase of the study provided instructors with a worksheet designed to assist in their intentional programming of the Solo. This worksheet was completed prior to the beginning of the High Road program. Phase 2 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 2 included: Please provide specific advice for instructors regarding preparation for the Solo, visit during the Solo, and debriefing after the Solo. The third phase of the study focused on the actual implementation of the Solo from the instructor's perspective. Phase 3 questions included: (a) What was the purpose of your solo? (b) How did you facilitate students sharing expectations and goals for their solo? (c) Please describe what you would change in preparing your students for their solo. All phases of data collection were completed on August 18, 2005. 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.

Results and Discussion

Preliminary results of the qualitative data analysis indicate that the following aspects combined to enhance the student's Solo experience: (a) Intentional communication of the rationale for the Solo, (b) Individual students sharing their Solo expectations and goals, and (c) Intentional Solo readings and activities. In addition, the results indicate that the frequency and length of the instructor visit during Solo impacted the participant's experience.

High Road is one of countless programs using the Solo for personal growth, both nationally and internationally. Given the Solo's high ranking in its contribution toward participant learning and growth, it is important that it be intentionally designed for maximum effectiveness. These findings may provide wilderness instructors, program managers and educators with specific methods for the intentional use of wilderness solitude (Solo) and a point of departure for further research on Solo's instructional design.

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Predictors of Perceived Development on Courses from the National Outdoor Leadership School

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How do adventure education programs foster participant development? This question has been the focus of discussion for years (Ewert, 1989; Hanna, 1992; Hattie, Marsh, Neill, & Richards, 1997; Henderson & Fox, 1994; Kelley, Coursey, & Selby, 1997; Klint, 1999; Scherl 1990; Warner, 1999). There have been a number of calls for more complex model building and testing in adventure education programs (e.g., Baldwin, Pershing, & Magnuson, 2004) and an emerging interest in using hierarchical models to better explain the complexities of development in adventure education (e.g., Russell & Sibthorp, 2004). Without developed and tested etiological models, explanations of how adventure education programs foster growth and development will remain elusive. Therefore, the purpose of this study was to utilize hierarchical linear modeling procedures to examine some of the potential mechanistic variables related to participant growth and development on courses at the National Outdoor Leadership School (NOLS).

Methods During the summer and fall of 2004, participant self-reports were collected from 66 NOLS courses. The 29-item NOLS Outcome Instrument (NOI) was created to measure perceived gains in six universal course outcomes targeted by NOLS courses. Questions were scored on a ten point Likert-type scale ranging from 0 (not like me) to 9 (like me) and addressed the following six subscales: Communication skills (4 items, Cronbach's alpha = .76); Leadership (5 items, Cronbach's alpha = .82); Expedition Behavior (5 items, Cronbach's alpha = .79); Judgment in the Outdoors (4 items, Cronbach's alpha = .85); Outdoor Skills (5 items, Cronbach's alpha = .86); and Environmental Awareness (4 items, Cronbach's alpha = .76). A "lie scale" was also imbedded in the questionnaire to detect artificially elevated change scores.

A number of additional variables were also collected as potential predictors of participant development. These can be divided into two categories: participant level predictors and course level predictors. The participant level predictors were age, sex, previous expedition experience, and sense of personal empowerment. The course level predictors included were length of course in days, the group's perception of the level of challenge presented by the course terrain, the group's perception of group's level of functioning, and the group's perception of the instructors' rapport with the group.

The final version of the NOI was printed onto optical scanner forms and formatted into a retrospective pretest posttest format to address the issues of response shift bias commonly evident in training programs targeting leadership, such as courses offered by NOLS (e.g., Howard, 1980; Rohs, 1999; Toupence & Townsend, 2000). Upon course completion and as part of the standard course debrief, the study participants were asked to complete the questionnaire containing the six NOI subscales (as both a retrospective pretest and a posttest) and the predictor variables. All responses were anonymous, were collected at the branches, and were mailed back to NOLS headquarters. Data were analyzed using Hierarchical Linear Modeling (HLM 6.0) where models were tested for each of the six targeted course outcomes including all potential predictor variables.

Results Six hundred and sixty three participants from 66 NOLS courses completed the questionnaires. The sample was 63% male, and ages ranged form 14 to 62 years, with an average age of 20.6 years. There were 22 different types of courses, ranging from youth-oriented "adventure" courses to whitewater rafting courses to outdoor educator courses for mountaineering. These courses were run out of three NOLS branches and ranged in length from 14-94 days, with most courses being 30 days in length. All courses, regardless of activity base, branch, or length, targeted the NOLS outcomes of Leadership, Communication, Expedition Behavior, Judgment in the Outdoors, Outdoor Skills, and Environmental Awareness.

Before the initial models were tested, some basic data cleaning and screening were necessary. Inspection of missing data revealed no discernable pattern. If only the score for a single item was missing from a composite variable (3-5 items), the missing value was replaced with the mean of the other items designed to measure the variable in question. Inspection of the responses to the embedded lie scale necessitated the removal of 53 participants from the sample. In addition, 14 participants were removed because they appeared to have followed the directions incorrectly, as indicated by a consistent loss of skills across five of the six targeted program outcomes. This left a viable sample size of 596 for subsequent analyses. However, actual sample sizes for the analyses were often slightly smaller as missing data was handled on an analysis by analysis basis.

Perceived gains in Communication significantly varied by course ($\tau = .133$, $\sigma^2 = .656$, $\chi^2 = 184.2$, df = 65, p < .001, ICC = .169), which accounted for ~ 16.9% of the variance. Of the potential course level predictors, both length of course (t = 3.63, p < .001) and average rapport with instructor (t = 2.02, p < .05) explained a significant amount of the variance. Significant participant level predictors of Communication included previous experience, sense of empowerment, and age. Higher gains were reported by participants without previous expedition experience (t = 2.18, p < .05), those who experienced greater empowerment on course (t = 2.98, p < .01), and younger participants (t = -4.27, p < .001).

Perceived gains in Leadership significantly varied by course ($\tau = .219$, $\sigma^2 = .806$, $\chi^2 = 213.5$, df = 65, p < .001, ICC = .214), which accounted for ~ 21.4% of the variance. Of the potential course level predictors, only length of course explained a significant amount of the variance (t = 3.54, p < .001). Significant participant level predictors of Leadership included sex, previous experience, sense of empowerment, and age. Higher gains were reported by males (t = 2.35, p < .05), participants without previous expedition experience (t = 2.67, p < .01), those who experienced greater empowerment on course (t = 2.64, p < .01), and younger participants (t = -3.78, p < .001).

Perceived gains in Expedition Behavior significantly varied by course ($\tau = .142$, $\sigma^2 = .763$, $\chi^2 = 170.4$, df = 65, p < .001, ICC = .157), which accounted for ~ 15.7% of the variance. Of the potential course level predictors, only length of course (t = 2.68, p < .01) explained a significant amount of the variance. Significant participant level predictors of expedition behavior included sex, previous experience, sense of empowerment, and age. Higher gains were reported by males (t = 2.23, p < .05), participants without previous expedition experience (t = 2.34, p < .05), those who experienced greater empowerment on course (t = 2.92, p < .01), and younger participants (t = -2.41, p < .01).

Perceived gains in Judgment in the Outdoor significantly varied by course ($\tau = .176$, $\sigma^2 = 1.53$, $\chi^2 = 131.9$, df = 65, p < .001, ICC = .103), which accounted for ~ 10.3% of the variance. Of the potential course level predictors, only perceived level of group functioning (t = 2.74, p < .01) explained a significant amount of the variance. Significant participant level predictors of Judgment in the Outdoors included previous experience and sense of empowerment. Higher gains were reported by participants without previous expedition experience (t = 4.31, p < .001) and by those who experienced greater empowerment on course (t = 2.97, p < .01).

Perceived gains in Outdoor Skills significantly varied by course ($\tau = .347$, $\sigma^2 = 2.14$, $\chi^2 = 157.2$, df = 65, p < .001, ICC = .140), which accounted for ~ 14.0% of the variance. Of the potential course level predictors, only perceived level of group functioning (t = 2.79, p < .01) explained a significant amount of the variance. Significant participant level predictors of Outdoor Skills included previous experience and sense of

empowerment. Higher gains were reported by participants without previous expedition experience (t = 5.84, p < .001) and by those who experienced greater empowerment on course (t = 2.25, p < .05).

Perceived gains in Environmental Awareness significantly varied by course (τ = .383, σ^2 = 3.05, χ^2 = 143.4, df = 65, p < .001, ICC = .126), which accounted for ~ 12.6% of the variance. Of the potential course level predictors, only course length (t = 2.06, p < .05) explained a significant amount of the variance. Significant participant level predictors of environmental awareness included previous experience and sense of empowerment. Higher gains were reported by participants without previous expedition experience (t = 2.53, p < .05) and by those who experienced greater empowerment on course (t = 2.74, p < .01).

Discussion Previous expedition experience and sense of personal empowerment on the course were universally related to perceived gains in the NOLS course objectives. The differences in previous experience may largely be explained by lower initial levels on the learning objectives allowing more potential for more learning to occur on course. The importance of on-course empowerment of participants has been previously related to gains in self-efficacy and life effectiveness (e.g., Sibthorp & Arthur-banning, 2004). Thus, it appears that this variable is an important and potentially malleable factor that can be incorporated into adventure program design and implementation. Two of the remaining participant level variables (age and sex) were important predictors in two or more of the targeted outcomes. The difference in age can largely be explained by the younger students having lower initial scores on outcomes related to communication, leadership, and expedition behavior. As these variables were measured, they are generally perceptions that can and should evolve over life experience (such as an extended small group living environment). Thus, the lower pre-course scores for younger participants and larger on-course gains are not unexpected. The sex differences were largely the results of lower reports by males on pre-course levels of expedition behavior and leadership, which is contrary to previous research and warrants additional study (cf., Russell, 2004).

Of the course level variables, course length was a significant predictor for gains in five of the six targeted outcomes. This is consistent with pervious studies that examined course length (e.g., Hattie, Marsh, Neill, & Richards, 1997; Russell, 2004). The average level of group functioning was a significant predictor for gains in two of the outcome variables, with higher levels of group functioning being more related to program gains. Rapport with the instructors was a significant predictor for gains in communication, but was unrelated to the other outcome variables. The group's perception of the challenge level of the terrain was not a significant predictor in any of the tested models.

This study has several key limitations. The use of the retrospective pretest, while supported by prior research for this population (Sibthorp, Paisley, Gookin, & Ward, 2005), remains potentially problematic. Also, some of the predictor variables were single item indictors and may have been unable to adequately capture the subtleties of somewhat complicated variables. Perhaps most notable, all the measures in this study were self-perceptions, and should not be confused with actual gains in skill or ability.

So, based on this study, what should be instructors be doing to make these programs developmental? Instructors should be empowering students to make decision and take responsibility. They should be attending to the group and any fractious group issues. They should be working to establish personal relationships and strong connections with their students. These factors should help to make adventure-based programs better and more worthwhile for participants. Efforts focused on building, testing, and revising program specific models will allow researchers to better understand *how* development occurs through adventure-based recreation programs, and should allow researchers to better inform programming practice. This study represents first steps toward achieving this goal.

Environmental Sensitivity and Outdoor Recreation Setting Preferences

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Background

Over the last 30 years, researchers have attempted to understand what underlies "environmental sensitivity" or what factors cause people to care or be concerned about the environment. Such research emerges from the notion that environmental sensitivity is the first step in a developmental process that leads persons toward environmental literacy or what Chawla (1998) calls a sense of "ownership" and "empowerment" (p. 11) regarding protection of the environment. Research in this area has usually followed one of two approaches. One group of researchers focused on the "significant life experiences" that individuals, usually environmental leaders, reported as formative influences on their environmental sensitivity (e.g., Corcoran, 1999; Sward, 1999; Peterson, 1982; Tanner, 1980). The second approach attempted to find correlates of environmental concern among more varied samples of general populations (Dunlap & Heffernan, 1975; Geisler, Martinson, & Wilkening, 1977; Theodori, Luloff, & Willits, 1998; Van Liere & Noe, 1981). Results from both approaches have often suggested a relationship between outdoor experiences and environmental sensitivity, but not consistently or strongly. Recognizing that "outdoor recreation" can be or mean many things, researchers recently have attempted to discern the character of the outdoor experiences that form the frame of reference. Bright and Porter (2001) found type of wildlife recreation (hunting or fishing methods, nature viewing) to explain elements of environmental concern or participation. Comparing groups with different levels of environmental sensitivity (ES), Bustam, Young, & Todd (2003) found groups did not differ in their inclination to claim outdoor recreation (OR) as a basis for their ES level nor in their involvement in OR as adults, but they did differ in the OR engagement as youths.   In a related study, Bustam, Young, & Todd (2005) also found higher ES groups favored outdoor recreation experiences that feature "environmental connection" and "challenge and learning." Continuing this research on the characteristics of outdoor recreation that are the differentiae of higher and lower ES levels, the present study sought to determine if people with different levels of environmental sensitivity prefer different kinds of outdoor recreation settings.

Objectives

The purpose of this causal-comparative study was to determine if persons with differing levels of environmental sensitivity have different setting preferences when participating in outdoor recreation activities. It was hypothesized that groups with higher ES would be more likely to prefer settings characterized by a greater *degree of naturalness* and lesser *evidence of other users*, *contact with other people*, and *nearness to roads.*

Methods

The sample consisted of 83 upperclass and graduate students majoring in recreation and leisure at a northeastern university. Three comparison groups were formed based on subjects' self-rated level of ES: low-moderate ES (n=21); high ES (n=36); very high ES (n=26).

The instrument included 4 items, first used by Virden and Knopf (1989), that operationalized setting characteristics according the USDA Forest Service ROS [Recreation Opportunity Spectrum] User's Guide (1983). The four setting characteristics were *degree of naturalness, evidence of other users*, *contact with other people*, and *nearness to roads.* For each characteristic, participants selected one of six verbal descriptors that depicted the six segments of the ROS ranging from "primitive" (1) to "urban" (6).

Results

Regarding recreation settings, respondents' preferences covered the full spectrum, but tended to center in the semi-primitive range. Comparing the setting preferences of different ES groups using one-way ANOVA and Tukey's HSD test, significant differences were found for three of the four setting characteristics. For each setting characteristic, the very high ES group had a greater preference for "primitive" settings than any other environmental sensitivity group. Regarding *degree of naturalness*, the low-moderate environmental sensitivity group ($\overline{x}$ = 3.16 or semi-primitive-motorized) significantly differed from the high and very high environmental sensitivity groups, which preferred "semi-primitive-non-motorized" ($\overline{x}$ = 2.29) and "primitive" ($\overline{x}$ = 1.54) settings, respectively (F = 9.954, p = .000).

Regarding *evidence of other users,* significant differences were found between the very high ES group's preference for primitive settings ($\overline{x}$ = 1.71:) and the high ES ($\overline{x}$ = 2.45) and low-moderate ES ($\overline{x}$ = 2.74) groups' preferences for semi-primitive-non-motorized settings (F = 6.244, p = .003).

Regarding *nearness to roads,* the very high and the low-moderate environmental sensitivity groups differed (F = 4.266, p = .018). The very high group maintained a "primitive" to "semi-primitive-non-motorized" preference ($\overline{x}$ = 1.92), while the low-moderate group preferred a "semi-primitive motorized" setting ($\overline{x}$ = 3.05). ES groups did not differ about how much *contact with other users* they preferred in outdoor recreation settings (F = 2.982, p = .057).

Discussion

This causal comparative study found that groups with high levels of environmental sensitivity have a stronger preference for more primitive outdoor recreation settings. Compared with lower ES groups, they favor settings that have greater degrees of naturalness, less evidence of other users, and greater distance from roads. Though limited by sampling techniques, these findings add some weight to the suggestion that further research on ES and outdoor recreation should focus less on quantity of participation and activity type and more on the character of the experience (e.g., experience preferences, setting preferences, etc.) Should findings such as these be replicated, they might be combined with findings about the relationship of ES with recreation experience preferences and youthful outdoor recreation participation (Bustam, Young, and Todd, 2003 & 2005) and be suggestive about the design of outdoor recreation programs for youth that aim to foster environmental sensitivity.

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Environmental Desirability Responding:
Addressing the Attitude-Behavior Gap

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Background

For many programs using outdoor settings, an underlying goal is to properly sequence the introduction of knowledge and experiences in order to develop informed and pro-environment attitudes and behaviors. That is, by using a proper sequence of introduction of knowledge and experiencing natural environments, a student's attitude toward that environment can be modified toward more pro-environmental beliefs. In turn, these attitudes can lead to behavior changes that possibly lead to more pro-environment actions, such as recycling, reduced consumption patterns or even advocacy. One of the more vexing problems associated with this sequence, has been the consistent lack of congruency between expressed attitudes regarding the environment and subsequent behaviors. Numerous authors have linked this incongruity to a variety of causes including lack of personal involvement in the natural environments, differing early life experiences, social determinants, and various demographic variables such as gender or age (Poortinga, Steg, & Vlek, 2004; Samdahl & Robertson, 1989; Schahn & Holzer, 1990; Stern, 2000).

In this study, we posit another possible explanation of the environmental attitude-behavior gap, namely, environmental desirability responding (EDR). EDR is similar to the more commonly known Social Desirability (Crowne & Marlowe, 1960; Paulhus, 1991), where individuals respond to questionnaires in a manner they deem more "desirable" or acceptable, regardless of their true feelings about the issue (Ewert & Galloway, 2004). In the case of EDR, however, we suggest that individuals may be responding to questions and other research instruments designed to measure environmental attitudes in a way that reflects a perception of correctness or the "right answer" as opposed to genuine perceptions and beliefs. If EDR is a correctly identified construct, its presence would throw into doubt much of the research previously done on environment attitudes, since there would be questions as to how many of the expressed attitudes are due to actual beliefs and how many are a manifestation of systematic and biased responding. At the very least, EDR would need to be considered in any conclusions reached regarding the attitudes and beliefs expressed through self-report instruments.

Methods

The purpose of this current study was to design and test a measurement instrument useful in understanding the phenomenon of EDR. Based on previous work (Ewert & Galloway, 2004, 2005), this current version of the Environmentally Desirable Response Scale (EDRS) is structured along three primary dimensions: (a) Image Management, (b) Self-Deception, and (c) Informed Concern. In this case, Image Management is defined as responses that an individual makes that represent behaviors that are desirable but uncommon, or not to do undesirable but common behaviors. Self-Deception is characterized by the extent to which people report overconfidence in their personal judgment or rationality. Informed Concern is operationalized by reference to stated concerns, socio-cultural perspectives, and reactions to other people's views regarding the environment. Both the Image Management and Self-Deception scales are, in part, adopted and modified from the Social Desirability Scales (Crowne & Marlowe, 1960) and Balanced Inventory of Desirable Responding Scale (Paulhus, 1991), while the Informed Concern Scale generally refers to more specific environmental themes. The EDRS is comprised of 24 items rated on a four-point Likert scale anchored by 1 = *does not describe me at all* and 4 = *describes me very well*. There is also a "No Opinion" response option. Ten items on the EDRS are reverse scored. In addition, respondents rate their knowledge about environmental issues, involvement in environmental issues, personal outdoor skills, and outdoor experience.

Results

To ascertain the construct validation of the EDRS, an exploratory factor analysis was undertaken. While not complete, this abstract reports on the findings of that procedure to date. The EDRS has been distributed to participants in Japan (n=449), the USA (n=72), and Australia (n=185). The sample size target is 400 participants from each country plus the addition of Canada. To date, 251 males and 235 females have been queried and provided usable data in the sample (mean age = 19.1, S.D. = .984). All the respondents completed the EDRS anonymously and are university students.

A principal components analysis was conducted on the 24 scale items. Some theoretical grounds therefore exist in principle for analysis of the structure of responses to the scale items using principal factors analysis (PFA). However, principal components analysis (PCA) was judged to be more appropriate to examine that structure given the preliminary nature of this research. Specifically, the 24 items chosen for inclusion in the scale have not previously been examined empirically. It is not yet clear how well each item indexes the aspect of EDR it was chosen to reflect. A related point concerns the fact that the EDR scale represents one of the first attempts to examine response bias with respect to environmental issues. There are no theoretical grounds at present to suggest that such bias will reflect each of the three subscales suggested in the present version of the EDR. In fact, evidence for the latter was

obtained, the eight components to be described providing useful grounds for future research on this topic. Thus, as indicated by Tabachnick & Fidell (2001, p. 612), PCA is useful as an initial step in PFA as it can reveal a great deal about maximum number and nature of factors.

As none of the correlations between the various components was above .3, a varimax rotation was used on the data. Using a cutoff factor loading and communalities criterion of .40 or greater, eight Factors were generated from the data. In addition, a number of significant correlations were generated between the eight Factors and the demographic variables previously mentioned.

Discussion and Future Directions

It is anticipated that data collection will continue throughout the fall of 2005. At the conclusion of the data collection, a final factor analytic procedure will be done on the data along with other psychometric properties of the EDRS. Once completed and normalized, the EDRS development will move to the next stage of developing a protocol for allowing researchers to identify when EDR is present and to what extent. Knowing the extent of EDR, will allow researchers in outdoor education and environmental education to better ascertain the validity of any findings related to self-reported attitudinal scales and instruments. This study will also provide insight into the "image" that people may have regarding their use and appreciation of the natural environment. Finally, this study has found a number of significant correlations between demographic variables such as prior knowledge or outdoor skills and EDRS Factors. These findings suggest that EDR may moderate or mediate relationships between variables such as personality, environmental beliefs, and behavior.

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An Inquiry into Nature Connection
Through Wilderness Experience

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The development of a personal relationship with nature is a logical precursor to an extension of care for the earth (Borrie & Roggenbuck, 1996; Leopold, 1966; Martin, 1999; Sessions, 1983). As facilitators of direct wilderness experience, outdoor and environmental educators, resource managers, and wilderness leaders are in a prime position to foster a bond with nature, as well as to educate for environmental concern and sustainability (Bowers, 1996; Haluza-Delay, 1999; Martin, 1999; Simpson, 1996). Though the correlation between outdoor recreation participation and environmental attitudes needs further study (Ewert, 2004; Haluza-Delay, 1999; Hanna, 1995; Thapa & Graefe, 2003), research has shown that wilderness experience can alter one's relationship with nature (Borrie & Roggenbuck, 1996; Frederickson & Anderson, 1999; Hanna, 1995).

The purpose of this study was to explore whether or not direct wilderness experience brought about a change in one's views of nature, and if so, how that change affected individual participant's feelings of connection with the natural world. The study involved 30 college students enrolled in a six-day backcountry canoe outing as part of a mandatory outdoor education course.

Qualitative methods of data collection, including participant observation, review of personal trip journals, and in-depth, post-trip interviews, allowed the researcher to use participant experience as the basis of the study (Henderson & Bialeschki, 2002). After collecting the initial set of data, the researcher began analyzing journals and participant observation notes of on-site behavior. A constant comparison approach was used to determine prevalent experiences related to the participants' relationships with nature. Questions formulated from common themes then shaped in-depth, post-trip interviews. These interviews were conducted approximately seven months after participants returned from the trip to further probe individual participant experience regarding his or her relationship with nature.

The wilderness trip was an overwhelmingly positive experience for nearly all of the participants. Though individual experiences of nature were unique, common themes developed in the data. The most prevalent among them was the "influence of nature," which describes the effects of the natural world on participants. The natural world emerged as more than a setting in which experiences unfold. It was a major player in the events, both positive and negative, that marked highlights in the trip. Incidences at waterfalls, on mountain peaks, and with wildlife consistently produced significant experiences for participants. Time constraints, framing nature as an adversary when accomplishing tasks, and a lack of transference to the home environment were seen as obstacles to connecting with nature.

In addition to the influence of nature, three other interrelated themes emerged from the analysis. "Group interactions," "personal reflection," and "challenge and accomplishment" each played a role in the participants' overall experience. Support and camaraderie were essential to participants having a positive experience, and the opportunity to make friends was consistently reported as one of the most important aspects of the trip. The opportunity to reflect and process through journaling was regarded by many as an integral part of the overall experience. Finally, the role of challenge led to profound experiences for many. The interplay of the four major themes led to the most frequent reports of change in attitude and perspective as a result of the trip.

As a result of direct wilderness experience, trip participants reported changes in perspective and attitude toward nature. Realizations of a connection with nature, feeling like a part of nature, connecting with something greater than oneself, losing sense of time, recognizing a change in wilderness values, expressing a need for fewer material commodities, and general feelings of growth and goodwill were outcomes of the experience. Significant experiences such these are integral to setting the stage for the creation of an ethic of care for the earth (Hendee & Brown, 1987).

The findings indicate that wilderness experience is capable of changing a person's view of nature and influencing feelings of connectedness. Themes and commonalities in the data revealed ways in which this connection is more likely. Making sure trip leaders meet basic group and individual needs is vital. Connection with nature is a higher order experience that will likely go unmet if the trip leader does not attend to lower order needs. In addition, providing a means of reflecting on the experience is fundamental to realizing the connection between self and nature. Journaling, debriefing, and time alone provided ways for participants to explore their relationship with the natural world.

While many participants described a newfound personal connection with nature, for most it remained outside the realm of everyday experience. Participants frequently referred to their experiences on the trip as "out there" and their home lives as "the real world." This recognition of a nature-civilization divide is a common barrier to deeper nature connection (Haluza-Delay, 1999). Outdoor leaders seeking environmentally positive outcomes must utilize the connections established in the wilderness environment to foster the burgeoning connection with nature in the home environment. It is important that the direct wilderness experience is seen not only as a visit to the outside, but also as an opportunity to connect with what is inside.

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A sense of connectedness in wilderness place experience:
Interpretations of sense of place during a NOLS instructor course.

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Background

This study explored the concept of sense of place during a 30-day National Outdoor Leadership School (NOLS) extended wilderness experience in a mountain range in the western United States. The term, sense of place, cannot be easily defined. Sense of place is not a fixed concept, but may be best understood as a moving force that touches people's emotions on a variety of levels through the bonds they form with places (Tuan, 1974). The concept has been utilized in such fields as geography and architecture since the early 1970's (Williams & Stewart, 1998). This concept is increasingly being utilized by scholars of leisure, recreation and outdoor education because it holistically captures the value people place on "resources, lands, landscapes and ecosystems" (p.20).

Using the senses to examine place may help individuals to attach meaning to experience (Rossman, 1989). The senses involve in-depth human interaction with place that does not remain static but evolves. "The senses are not passive mechanisms receiving data. They are active, exploratory systems attuned to dynamic meanings or patterns already present in the environment" (Roberts, 1996, p. 65). The senses allow exploration, interpretation, and understanding of place.

Elizabeth Roberts (1996) describes place as a "spatial part of the environment that one is related to through one's experiences, imagination or feelings" (p. 61). Places encompass both natural and man-made environments. Places impact inhabitants in a variety of ways that tend to shape attitudes, identities and qualities of life. Humans are inherently part of a larger ecological framework (Capra, 1996), providing experiences with places that humans did not construct (Roberts, 1996).

Nature as place beyond the realm of human influence has often been described as *wilderness* (emphasis added). The wilderness concept is as multi-faceted as the concept of sense of place (Shostak, 1999). The U.S. Wilderness Act of 1964 defines wilderness as an area where "the earth and the community of life are untrammeled by man, where man himself is a visitor who does not remain" (as cited in Fortieth Anniversary, 2004, p. 1). With that definition in mind, this study focused on individuals' relationships with wilderness over a 30-day backcountry experience.

Methods

The purpose of the study was to describe individuals' sense of place within a wilderness experience. One primary research question guided this study: How do NOLS course participants (students and instructors) define their sense of place throughout an extended wilderness experience? The research question was addressed using a phenomenological framework. This method was utilized in order to illuminate the various meanings that person-place engagement held for the participants.

Phenomenology is the way individuals describe their experiences with phenomena and then piece those descriptions together to make sense of the world (Nodurft, 1997). Phenomena may be classified as "anything that appears or presents itself to someone (and so does not involve any sense of the strange or spectacular)" (Hammond, Howarth & Keat, 1991, p.1). Experiencing phenomena involves the use of senses such as hearing, smelling, seeing and tasting. It also involves such phenomena as believing, feeling, wishing and imagining (Hammond et al., 1991). This framework describes the intersection of the experience and the "meaning when one's intentions and/or actions are also taken into account" (Roberts, 1996, p.64). It was the intent of the study to describe the holistic experiences of place from many individual perspectives.

The study included informal, in-depth, individual, semi-structured personal interviews with 14 NOLS course participants (students and instructors) over a single 30-day NOLS instructor course in a mountain range in the western United States. Interviews were conducted throughout the 30-day experience and ranged in length from five minutes to one hour. Each participant was interviewed twice as time permitted throughout the course. Varied procedures were utilized while questioning the participants. Interviews were held in both private and group settings. Occasionally, participants recorded their thoughts away from the group. All interviews were audio recorded and transcribed by the researcher who was a student on the course. Transcripts were read repeatedly to discern patterns and analyzed using a coding frame that emerged from the study of the narratives.

Results

The study revealed two core themes: (1) the meaning of the phenomena was recognized as participants' awareness of their relationships with the place. This awareness acted as an avenue through which the second core theme developed in which; (2) the deeper meaning of the phenomena was recognized as a sense of connectedness. Connectedness was articulated as feeling at home, experiencing oneness, sensing a strengthened spirituality and undergoing transformation. Participants' sense of connectedness was the bond between humans and the natural world (Nodurft, 1997). Participants in the study described feelings of connectedness in a variety of ways, some connoting the power of nurturing energy from the experience, others more the inspirational impact. Other common descriptions of connectedness were a sense of awe, a sense of feeling part of something greater than themselves, a sense of belonging, a sense of caring for the environment and a sense of wonderment.

Discussion

        The findings from this study may help outdoor educators to further understand the role that sense of place has within wilderness experiences. It is hoped that these findings may encourage outdoor educators to make time to explore the various ways sense of place emerges. Developing a sense of place appears to support the emergence of a more authentic type of environmental awareness. This awareness seems to promote compassionate and caring stewardship of the environment. It is also hoped that such research will illuminate individual and collective deep wilderness place experiences. Outdoor educators may act as "translators" (McAvoy, 2002, p. 394) of sense of place, teaching themselves to articulate the experience of place in an intentional way. Outdoor educators will then be able to better facilitate meaningful and sustainable outdoor experiences for all of those who work, visit, live and recreate in some of our world's most sacred places.

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Sustaining school-based outdoor education: A case study of three Ontario public schools
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Public secondary schools offer an important vehicle to introduce students to the outdoors, however in the 1990s, Ontario public schools faced a number of challenges that threatened the viability of outdoor education within the public school setting. These included major financial cutbacks, a deprioritizing of environmental studies in the curriculum, and a reduction in the amount of extracurricular time available to teachers. Although these changes overwhelmed some outdoor education programs, others continued to exist and, in some cases, to flourish (Russell & Burton, 2001). Clearly, these outdoor educators had devised strategies for sustaining their programs within the current educational environment. The purpose of this multi-site case study was to examine the factors contributing to the sustainability of three outdoor education programs. Specifically, what were the key threats to these programs? What strategies were used to ensure that they remained sustainable?

Three outdoor education programs were investigated as part of this study. Each of these programs followed an "integrated curriculum" model, meaning that students enrolled for a "bank" of courses and spent their entire semester as a class cohort with the one or two teachers who were assigned to the program (Horwood, 1994; Russell & Burton, 2000). Although each program had its own unique focus within outdoor education (e.g., environmental citizenship, leadership development, and field ecology), all three had been in existence for more than ten years, had numerous field excursions, involved community service, and existed within the public school system. Data were collected following a case study format, in which observations were collected at the three sites for the duration of one week, in the winter and spring of 2005. At each site, interviews and focus groups were held with the key stakeholders (teachers, administrators, students), and were analyzed following a constant comparative approach (Patton, 2004).

Challenges to Sustainability

The main challenges faced by each of these programs can be organized according to each of the three stakeholder groups: students, administrators, and teachers.

Challenges for Students: Although students were intrigued by the idea of doing something different as part of their secondary school education, many were deterred from enrolling by the ambiguity that surrounded the program. Because the programs tended to be removed from the standard school structure, many students had little idea of what went on in these programs. Further, students were further discouraged by the "tree hugger" stereotypes that accompanied some of these programs. Even adventurous students who may have been unfazed by these challenges were wary about the way the outdoor education program impacted their future educational goals.

Challenges for Administrators: All three of these outdoor education programs sat "outside of the box" in terms of course structure. As one teacher described, his program "doesn't exist in the way that education is lined up to be." The image of these programs as something different and the rigidity of the education system created apprehension on the part of the administrative staff. As another teacher noted, "it is difficult for the administration to support something that appears to be a teacher and his students "just running in the woods." It also created more logistical hurdles regarding distributing financial or human resources, and the issue of equity and treating teachers fairly (with distributing resources and assigning additional school service responsibilities) was a central concern of administrators.

Challenges for Teachers: Although the teachers immensely enjoyed the pedagogical experience of the outdoor education program, each teacher struggled to manage the additional time, emotional commitment, isolation, and responsibilities that accompanied their "outside the box" programs. The additional time that went toward planning and leading field trips and promoting the program was significant, and all teachers talked of how their personal lives and particularly their family lives were impacted by the additional responsibilities associated with the outdoor education aspects of the program. Further, teachers felt isolated at times, as the unique format of the program reduced the opportunities for interaction with school colleagues.

Strategies for Sustainability

Although each of the outdoor education programs in this study faced significant challenges, each program had developed a set of strategies to negotiate these challenges.

Strategies to Draw in Students: Find a Target Demographic
Part of what made each of the outdoor education programs work was that they offered a set of courses that related to the teacher's strengths and interests. However, each program was also targeted to a "niche" market of students within the school setting and attempted to address the needs of these students within the course bank and outdoor offerings. For example, one program targeted tenth grade students and incorporated compulsory civics and English credits into the program. Another program targeted graduating students on the verge of making the transition from high school to college or university.

Strategies to Generate Administrative Support: Strive for Independence and Maintain Visibility
Independence, particularly in the form of financial independence, helped each of these programs ride the waves of fluctuating support from school administrators and within the broader education system. Each of these programs took an entrepreneurial approach and had incorporated some kind of fee-based service into their semester that was led by the students in the class. One program, for example, offered a teamwork and leadership program to fifth grade students in the area. Although independent, all teachers made a specific attempt to maintain school connections and keep up the profile of the program within the school. Visibility within the school was essential for fostering allies and generating support for the program.

Strategies for Teachers: Cultivate Relationships and Bridge the Personal and Professional
Some of the key ways that teachers managed the risk of emotional or physical burnout that came with teaching their program was through cultivating relationships and bridging the personal with the professional. Although these teachers were isolated from their fellow teachers in the school, they interacted on a regular basis with other individuals (e.g., bus drivers, custodial staff, educational assistants) and formed meaningful relationships with these individuals. Also, all teachers had found a way to bridge their professional responsibilities with their personal lives in a way that minimized conflict between them. One teacher, for example, brought his young children along on class expeditions. Another transformed his house into a "home base" for his program, with a classroom built into his basement.

Discussion

Although this study focuses on secondary schools, it surely applies to any educational context in which teachers attempt to introduce alternative pedagogical approaches within a highly institutional setting. As Henderson (2003) noted, outdoor education involves teaching "outside the box" not only physically, but also psychologically and morally (different rules and values). However, the strategies employed by these teachers and programs also reflect "outside the box" thinking as they illustrate some creative ways to work within and through the procedures and norms of the institution. Indeed, the key to sustainability is in finding ways to connect both sides of the box so that they work in concert rather than in conflict.

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Coercion into Treatment and Outcome in Outdoor Behavioral Healthcare Treatment

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Outdoor behavioral healthcare (OBH) treatment seeks to integrate clinical treatment with dynamics inherent in group living in outdoor environments for adolescents with a variety of presenting issues. Clients are typically adolescents, ages 14 -17, with a history of problem behavior, clinical diagnoses, substance use histories, and failure in academic settings. OBH treatment includes client assessment, development of an individual treatment plan, the use of established psychotherapeutic practice, and the development of aftercare plans (Russell, 2003). Most adolescent clients in OBH treatment, as well as other clinical designations, are coerced into participating in treatment by external influences (e.g. parents, mental health professionals, school officials), which many researchers suggest has a significant impact on their likelihood of success (Pompi, 1994; Pompi & Resnick, 1987).

Researchers have suggested that less internal motivation to enter clinical treatment is due to adolescents having experienced fewer of the negative consequences of their behavior (e.g. drug and alcohol use) (Melnick *et al.*, 1997) (De Leon *et al.*, 1997). There are, however, no empirical studies that provide reliable estimates of the extent, type, and effects of coercion (Winters, 1999), though it has been suggested that coercive influences can take several forms, such as exclusion from the decision making process about seeking treatment, the use of force or therapeutic deception to impose treatment on the individual, and measures used to retain the person in treatment (Russell, 2005). This is an important consideration because research has shown that coercion into treatment and low motivation to change provides a significant barrier to change, the ultimate goal, of behavioral healthcare treatment (Prochaska & DiClemente, 1992).

Method

This study assessed the circumstances surrounding the adolescent entering treatment using the University of Rhode Island Change Assessment Scale (URICA). The URICA (Prochaska & DiClemente, 1992) is a 32-item instrument designed to assess readiness to implement major lifestyle changes. That is, it assesses level of motivation to modify behaviors such as alcohol and drug consumption. Items are scored on a scale of 1 to 5 from "strongly disagree" to "strongly agree." The URICA is based on the transtheoretical model of change set forth by Prochaska and others at the University of Rhode Island (McConnaughy & Prochaska, 1983). The model has been extensively reviewed in the literature and widely accepted as one of the most useful conceptualization of the process of change. Moreover, both clinical and research applications of the transtheoretical model are abundant. The URICA allows for categorization into one of four stages: precontemplative, contemplative, action, and maintenance. Studies assessing the factor structure of the measure show strong support for this four-factor model (Belding & Iguchi, 1996; Pantalon & Nich, 2002).

The circumstances surrounding the client's admittance into treatment were analyzed in the context of treatment outcome as assessed by the Personal Experience Inventory (PEI) (Winters & Henley, 1989). The PEI consists of two parts: a) the Chemical Involvement Problem Severity Problem Severity Section and b) the Psychosocial Section. These two sections of the scale allow the identification of past substance use history, as well as psychosocial factors associated with substance use histories.

Data were collected between June 2003 and June 2004 for all adolescents who actively sought treatment in one of seven participating OBH programs in the study. Once admitted to an OBH program, each was asked if they would like to participate in the study. Parents and clients were asked to complete a consent form. Exclusion criteria in the study was similar to the admissions protocol at each program that excludes clients from entering into treatment at either facility, and which closely parallel those exclusion criteria found in other studies with similar samples (Winters *et al.*, 1996; Winters *et al.*, 2000). Upon agreeing to participate in the study, an intake battery was administered to each adolescent study participant that included the PEI and URICA. The URICA scales were completed within 24 hours of arrival at the program. Participants completed the PEI at the midpoint of the program because the scales take longer to complete and would significantly disrupt intake procedures at each program. The URICA was again administered immediately after discharge. At the six-month follow-up period, the URICA and PEI were again administered. All data was sent directly to the principal investigator of the study.

Outcome analyses utilizing a one way between subject factorial design with treatment (OBH) and URICA level as between subject factors examined treatment effects on outcome dimensions associated with substance use problem severity. The number of psychiatric disorders for which participants meet DSM-IV diagnostic criteria and treatment intensity were also included in analyses as covariates. Separate continuous variables on the problem severity of individual psychiatric disorders were entered if the summary variable achieved significance.

Results

Final 6-month follow-up data is still being entered and scored into the database. The full report will be available by January 2006 for distribution at the symposium.

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A Modified Outdoor Adventure Program
Serving Individuals with Cognitive Disabilities Who Present Serious Accommodation Challenges

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Background: Inclusive outdoor education opportunities have greatly expanded since passage of the American's with Disabilities Act in the 1990's. In spite of impressive progress, however, when inclusive programming is to be offered in an outdoor adventure context, and attempts are made to welcome individuals who present disability issues that make accommodation unusually challenging, the obstacles to program success can begin to look insurmountable. For example, emotional and behavioral problems, such as an individual with a cognitive disability using abusive language or physical aggression on an outdoor trip, can quickly shut down any semblance of team interaction, a basic underpinning of a successful group outdoor adventure. Clearly, there is a social acceptance component in these accommodative challenges. As Devine concludes in a recent study (2004), program providers do not yet have a complete understanding of how the leisure context can best be used to foster social acceptance of persons with disabilities. Research indicates there are a number of benefits realized through participation in inclusive outdoor adventure programs (Robb and Ewert, 1987; McAvoy et.al., 1987; Anderson et.al., 1997; McAvoy, 2001). There has been a paucity of research focused on persons with Developmental Disabilities/Mental Retardation (DD/MR) in outdoor programs that typically go on camping excursions into wilderness or wilderness-like natural areas rather than staying in a developed camp facility. The limited research available does show that benefits can be realized through outdoor adventure programs that include persons with DD/MR (Robinson, 1991; Herbert, 1998; Newman, 2004). Recognizing the need for further study in this area, the primary purpose of this research was to assess participant growth in social/socialization and leisure skill functioning of persons with developmental disabilities relative to participation in a modified inclusive outdoor adventure program. Additional objectives of this study included: assessing participants' level of satisfaction with key components of an inclusive outdoor adventure trip; and, developing programmatic recommendations for inclusive outdoor adventure programming that would include persons with developmental disabilities who present serious accommodation challenges. The study used the Peterson and Stumbo (2000) Leisure Ability Model as a theoretical foundation for assessing programmatic outcomes. Methods: The study focused on 3-5 day wilderness trips offered by Wilderness Inquiry, a non-profit and inclusive outdoor adventure organization located in Minneapolis, MN. These specific trips are designed to provide an outdoor adventure opportunity for persons with cognitive disabilities who present serious accommodation challenges due to behaviors that can be disruptive to an outdoor program group. This study included 23 individuals with cognitive disabilities, most of whom were group home residents. Eighteen were male and five were female, with the average age being 38.5 years (range 21-62). Diminished cognitive ability was present in all but one participant, and that person is classified as mentally ill. Most had a cognitive disability that qualified them for the classification of Mental Retardation. Participants exhibited one or a combination of the following functional impairments: frequent bouts of aggression, a lack of judgment to the extent that they posed a serious danger to themselves or others, a history of making highly inappropriate sexual advances, obsession with food and food hoarding, a history of suicide attempts, a habit of persistently teasing others, a habit of extreme over-attachment to anyone in a leadership position, and being extremely fearful of unfamiliar surroundings. Participant growth in social/socialization and leisure skill functioning were assessed prior to, during and after their adventure trips through questionnaires that were completed by participants with assistance from research staff. Support persons from participants' group homes and other living sites provided additional evaluations of participant skills and satisfaction levels. Qualitative data were gathered through semi-structured interviews 7-14 days following the trip, including both participants with disabilities and those who went on a trip as a support person to a participant with disabilities. Data were analyzed using descriptive statistics and accepted qualitative data analysis methods.

Results and Discussion: The limited cognitive ability of the study participants presented challenges to collecting quantitative data on the questionnaires in that the range of responses to questions had to be quite limited. This makes quantitative data analysis difficult, and levels of significance difficult to achieve. This is not unusual in studies of persons with cognitive disabilities. Quantitative data analysis is ongoing, and will be completed in time for presentation at the CEO Symposium. Preliminary quantitative data analysis indicates that the 23 participants, as a group, on a pre-post basis, rated themselves as having increased their skill levels in nine out of ten outdoor camping and canoeing skills (their mean scores on the skills questionnaires increased pre to post for nine out of ten skills). Similarly, the 23 support staff partners reported, as a group, that they saw participants having greater skills in nine of the ten areas post-trip as opposed to pre-trip. The participants rated themselves as having increased their interest in two of the five camping and canoeing areas (tenting and eating outdoors), and having less interest in hiking, swimming and canoeing. Increased interests on the part of participants as judged by support staff was indicated by higher ratings on all five of the camping and canoeing areas. On the last day of each trip, all participants with disabilities were asked to respond to a satisfaction questionnaire where they expressed their level of satisfaction about key aspects of the trip. Levels of satisfaction were highly positive. This was especially so in areas reflective of friendship, safety, and new learning (e.g., canoeing, camping). In a roughly parallel manner, when asked on the satisfaction questionnaire about their favorite part of the trip, a majority of participants named specific outdoor recreation activities (e.g., canoeing, swimming) and social aspects of the trip (e.g., playing games, meeting new friends). When asked to name a least favorite part of their trip, most cited an element of the natural environment (rain, bugs), rather than any particular aspect of the program. The post-trip interviews with both participants and support staff demonstrated a number of strong themes. These themes were: most participants truly enjoyed their wilderness trip and most participants discussed the outdoor recreation activities of canoeing and camping as highlights of their trip; both participants and support staff indicated participants learned skills both in the areas of camping and canoeing (as most often mentioned by the participants themselves), and in the area of using appropriate social skills and working

as the member of a team (as most often noted by support staff). Two additional themes that ran through the qualitative data provide an explanation of how the trip experience facilitated enjoyment and skill development for many participants. These themes revolved around expressions of great satisfaction that both participants and support staff had with the group culture that developed during the trips, a culture that encouraged group rather than individual challenges; and, the trust and feelings of safety fostered by the trip leaders during the trips. Summing up, the findings reveal that both social/socialization abilities and outdoor adventure skills generally grew across the length of these trips. And, both participants who present serious accommodation challenges and their support personnel partners indicated high levels of satisfaction with the trip components and the culture generated on the trip experience. A set of issues and strategies were developed to support the inclusion of persons with cognitive disabilities who present serious accommodation challenges in the context of an outdoor adventure program. These will be presented at the CEO Symposium.

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The Status of Inclusion at Residential Outdoor Environmental Education Centers

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As inclusion of students with disabilities in regular education classes becomes the norm, outdoor education centers must be prepared to provide universally designed programs to their clients.   Offering programs that meet the needs of all their students recognizes that people with and without disabilities appreciate opportunities to explore the natural world (Brown, Kaplan, & Quaderer, 1999; McCormick, n.d.; Moore, Dattilo, & Devine, 1996) and can successfully learn about the environment in integrated settings (Jakupcak, Rushton, Jakupcak, & Lundt, 1996; McAvoy & Schleien, 2001; Schleien, Hornfeldt, & McAvoy, 1994). Published resources exist for center directors wishing to make their programs more inclusive (i.e., Almeras, 2001), and national guidelines provide direction on making outdoor facilities accessible (Regulatory, 1999). However, there are limited data on which inclusion practices residential outdoor environmental education (ROEE) centers are actually using. This study set out to collect such baseline data.

In July 2004, surveys with primarily close-ended questions were mailed to 350 ROEE centers around the U.S. with a response rate of 30%. Non-respondents received reminder postcards and second copies of the survey as recommended by Salant and Dillman (1994). The survey was developed based on best practices for inclusion in educational and recreational settings (Anderson & Kress, 2003; Brannan, Fullerton, Arick, Robb, & Bender 2003; Bullock & Mahon, 1997; Jorgensen, 1998; McAvoy & Schleien, 2001) and was reviewed for face validity.

Beginning with student recruitment, the data showed that few programs use the universal symbol of accessibility or pictures of people with visible disabilities in their brochures and websites. Many more centers (66% of them) do have a statement indicating that accommodations will be made. Because ROEE centers generally recruit schools rather then individual students, discussions between teachers and center directors may determine who is included on the trip. Interestingly, 29% of the survey respondents could not estimate how many schools bring all of their students, and 36% stated that they do not specifically encourage schools to do so.

Once the schools arrive for their ROEE experience, how included students feel is likely influenced by both staff skill and program/facility accessibility. In terms of hiring qualified staff, data showed that 28% of centers always employ someone skilled in making accommodations, and 36% of centers routinely ask about experience with persons with disabilities in their interviews. During the subsequent staff training, the most commonly covered inclusion topics—those reported by at least 50% of the respondents—were how to adapt activities for students with physical or learning disabilities, how to encourage communication between all students, and information on the accessibility of various sites on the property. A series of questions demonstrated that 92% of the facilities and 98% of the programs are "considered" somewhat or fully accessible. Accessibility ratings for specific buildings/outdoor spaces and program areas were lower but showed the same trend. Summed scores (out of 100) were significantly different with a mean of 75 for facility and 80 for program (t= -3.652, p = .000). Responses to other questions suggested that these specific estimates are more accurate than the general ones.

Expecting that the field of environmental education would like to increase inclusion through targeted action, it is useful to examine which center characteristics are highly correlated with perceived program accessibility.   This dependent variable closely reflects progress toward the ultimate goal: offering inclusive ROEE *programs* that meet the needs of all participants. Demographics such as ROEE center age (r=.11, p=.36), months of operation (r=.19, p=.10), size (x^2=59.67, p=.10), and location (x^2=137.6, p=.57) were not found to be significantly related to program accessibility. In contrast, hiring practices (t=2.88, p=.005), facility accessibility (r=.57, p=.00), centrality of inclusion to the mission (r=.51, p=.00), and priority placed on inclusion (r=.40, p=.00) were correlated with program accessibility. Data on the latter two measures, centrality and priority, were gathered on a five- point scale from low to high using two value-based questions. Each resulted in an average score of 3.6. In order to improve inclusion at their centers, directors then indicated that they would find guidelines for increasing program accessibility, written materials/suggestions for staff training, and curriculum materials designed for students of all abilities especially useful.

With the goal of increasing inclusion in mind, it is encouraging that those center characteristics which are most strongly related to program accessibility are characteristics which directors can influence. They can change personnel, alter their facilities, rewrite their mission statements, and place a higher priority on increasing inclusion. Location or size or age need not be constraining, nor should they be an excuse. Changes in attitude and perception have long been cited as key to increased access and inclusion. This study reinforces their importance.

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Background of the Research

Outdoor education is a term that is generally familiar in the public arena. Multitudes of schools, not-for-profit organizations, churches, nature centers, and therapeutic organizations have incorporated components of outdoor education into their programs and services for decades. Although a precise definition of outdoor education may not be voiceable by all who have used it, many people can accurately describe outdoor education as learning that takes place in or pertaining to the out-of-doors.

Although the concept of outdoor education is commonplace, relatively little is known of the person who coined the term and led an endeavor so strong during the decades between 1920 and 1960 that it came to be referred to as the "outdoor education movement" (Life Camps, Inc., 1942, p. 5). That person was Dr. L. B. Sharp—school teacher, school administrator, outdoor educator, trainer of trainers, professor, scholar, facility master designer, and executive director of a national organization. In various documents, Sharp has been referred to often as the Father of Outdoor Education (Beckett, 1963; Rillo, 1980; Wiener, 1965).

Sharp's career began through his graduate studies at Teachers College- Columbia University where he first became acquainted with the progressive "New Educators" there, including John Dewey, William H. Kilpatrick, E. L. Thorndike, and E. K. Fretwell (Hammerman, Hammerman, & Hammerman, 1994). When Sharp was hired by New York City welfare agency representatives to restructure *Life Magazine's* Fresh Air Farms (later renamed Camps), he soon transferred the educational philosophies of these educators into a new decentralized, small group approach to outdoor learning experiences. As Sharp expanded his programs beyond the summer months into the academic school year, he began to view and promote outdoor education as a needed interdisciplinary extension of the school curriculum. His thesis of outdoor education, based upon a Deweyan pragmatic philosophy, became,

> That which can best be learned inside the classroom should be learned there. That which can best be learned in the out-of-doors through direct experience, dealing with native materials and life situations, should there be learned. (Sharp, 1943, pp. 363-364)

A significant accomplishment beyond Sharp's career endeavors was his profound influence on his students, employees, and other associates. So many of Sharp's "students", meaning both registered college students and those who studied under him through working at Life Camps or National Camp, went on to become renowned outdoor leaders, educators, scholars, and experts in their own right. His influence on others was so broadly evident that questions arise as to who L. B. was as a person. What was his leadership style? Why did people listen to him, and want to follow him? Why did they try to copy what he was doing? How was it that this one person was able to foster such an admirable cadre of other influential leaders in vast genres of education?

Purpose Statement

This particular research is a section of a larger study that entailed a constructed history of the career of Sharp. The purpose of this specific presentation is to identify Sharp's leadership and inspirational capabilities. Specifically, this research answers, What aspects of L. B. Sharp's approach to leadership most strongly influenced the perpetuation of outdoor education through others?

Method & Results

Purposive sampling was used to arrange participants for this study. Twelve people who were associates of Sharp during his career were contacted. Of those, nine people subsequently became narrator participants for this research. The nine narrators were all people who felt that L. B. Sharp had made a positive and identifiable impact on their own practice and careers in outdoor education-related fields. Through semi-structured interviews, the narrators described their actual lived experiences with Sharp during his career and the ways that his leadership most profoundly affected them. Their narrative contributions were tape-recorded, transcribed, and member-checked. To ensure authenticity and trustworthiness of the data, the narratives were triangulated with archival data, primarily collected from a special collection held at the Morris Library, Southern Illinois University in Carbondale.

In analyzing the data, Polkinghorne's (1995) two-step framework for "analysis of narratives and narrative analysis" (p. 12) was utilized. Polkinghorne differentiated these two steps as separating data into its constituent parts followed by synthesizing the data

back together into an emplotted theme. In this study, those steps first entailed analyzing data through traditional qualitative means of line-by-line open coding and axial coding of arranging chunked data into categorical related patterns and themes (Strauss & Corbin, 1998). Second, the patterns and themes were integrated into a "coherent developmental account" (Polkinghorne, p. 15) or retrospective explanation that "link[s] past events together to account for how a final outcome might have come about" (p. 16) in reference to Sharp's approach to leadership and his influence on others.

Discussion

Patterns that emerged in Sharp's leadership were: articulation of a sound philosophy, commitment to vision, widespread dissemination of philosophy and vision, living a principled life, exhibiting highly developed interpersonal skills, and facilitating meaningful experiences and traditions. These emergent patterns are confirmed in currently touted leadership practices, especially when pertaining to transformational leadership (Northouse, 2003) and authentic leadership (Evans, 2000). Seminal literature on leadership lauds the importance of shared mission and vision, ethics, interpersonal communication abilities, and fostering healthy work cultures and climates (Deal & Peterson, 1999; Fullan, 2001; Senge, 1999; Wheatley, 2001). Throughout his career, Sharp demonstrated these leadership ideals admirably, resulting in a strong following of dedicated educators and leaders.

The narrative segments provided by associates of Sharp that are indicative of his approach to leadership can lend insight and meaning to those working on their own personal leadership development. By hearing how identified aspects of Sharp's leadership played out in actual words and deeds, one can begin to understand how transformational leadership develops and sustains itself.

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Sense of Community Among Summer Camp Staff Members

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Summer camp leaders understand that a high year-to-year retention rate of camp staff is an important element to a camp's success. Generally speaking, camps able to recruit more qualified staff to return for another summer can dedicate more resources (e.g., time and money) to camp programs. Moreover, experienced staff members are often easier to train and manage than new staff, and there is evidence that campers respond better to returning staff members (Magnuson, 1992).

Few studies have investigated year-to-year retention of seasonal summer camp employees. Most studies that examined camp retention viewed the issue from the perspective of job satisfaction (i.e., Becker, 1983; DeGraaf, 1992; Magnuson, 1992). These studies suggested a link between job satisfaction and staff members' desire to return to camp. However, they also suggest the strongest contributing factors to job satisfaction are related more to camp community than to the job itself. This study examined whether individuals who returned to their summer camp experience a greater sense of community toward their camps than those who did not return. Additionally, the study examined whether there was a relationship between sense of community and history with the referent camp.

A total of 46 summer camps participated in this study. The camps are located in 26 different states and represent several organizational affiliations and sizes. Each camp provided email addresses for its seasonal staff members from the 2003 summer. These staff members were then contacted via email and invited to fill out an internet-based survey, which was completed by 916 staff members (51% of those contacted). In addition to demographic data and information about camp experience, the survey also used McMillan and Chavis' (1986) Sense of Community Index (SCI) to generate a sense of community score for each participant. After completing the required closed-ended survey questions, participants were asked to provide written answers to six open-ended questions. Although these questions were optional, each of the six was answered by at least 500 respondents; one question elicited a response from over 600 participants. Of the 916 respondents, 428 returned to their camps for the 2004 summer while 488 did not return. Because anecdotal reports indicated that external factors (e.g., summer classes, internships, graduation, financial need) often keep willing camp staff members from returning to work at camp, those who did not return to their camps were asked whether or not they wanted to return

The SCI produced scores from which means for the various groups were calculated. For variables with 2 groups (e.g., returnees and non-returnees), *t-tests* were used to compare the SCI mean scores, while an Analysis of Variance (ANOVA) was used for variables with multiple groups (e.g., years of camp experience).

Where the ANOVA indicated statistically significant differences among multiple means, the Ryan post hoc test was used to identify specific groups within the variable whose mean SCI scores differed statistically. A significance level of $p \leq .05$ was used for all tests, and Cohen's d was used to calculate effect size. For this version of the Sense of Community Index, the reliability coefficient (using Cronbach's alpha) was calculated as .77.

Several survey items were designed to help analyze the hypothesis that higher sense of community levels are associated with improved retention of summer camp staff. Analysis of these survey items provided support for the hypothesis. First, the basic comparison of the mean SCI scores for returnees and non-returnees showed that returnees have significantly higher SCI scores than non-returnees despite the fact that 66% of non-returnees indicated they wanted to return. A comparison of the non-returnees who did not want to return, with those who did want to return further supports the hypothesis with an even greater difference in mean SCI scores and an even stronger effect size. Even when comparing the non-returnees who wanted to return with the staff members who actually did return, a statistical difference between the means was identified. This result seems to suggest that there might be a level of sense of community at which many of the staff members who want to return (but are facing potential obstacles that are keeping them from returning) will find a way to return to camp anyway.

Another research hypothesis supported by analysis was that experience with the camp (as either a past camper or staff member) would have a positive relationship with sense of community. Staff members with more experience at a specific camp had significantly higher scores than those with less time at the same camp. Although this did not come as a surprise, it was interesting that first year staff members, who had previous experience at other camps, had significantly lower SCI scores than first-year staff members with no previous camp experience. Similar results were found with regard to experience as a camper. Sense of community scores for staff members who had been campers when they were children were slightly (but significantly) higher than staff members who had never attended resident camp. However, of the respondents who had attended resident camp, those who had attended different camps than where they were working, had significantly lower sense of community scores than those who had attended the same camp at which they were working. In fact, their scores were even significantly lower than those who had never attended camp. In other words, although those who had previously either attended or worked at the referent camp had the highest sense of community scores, it seems that those with no experience with any camp tended to have higher sense of community scores than those with experience at different camps.

The results of this study offer guidance to summer camp leaders interested in addressing staff retention. Although camp leaders could take a shotgun approach to their retention initiatives, this study can provide focus and help in implementing changes to policies and practices. Several specific initiatives can be recommended to camp leaders to help boost sense of community among staff members. Moreover, specific groups of staff members (e.g., those who have previous experience at other camps) can be identified as needing special attention in developing community. Finally, these results can help camps make better long-term decisions regarding retention. For instance, putting more resources toward "counselor in training" programs might produce future staff members with higher senses of community and therefore better retention rates. An experienced staff member perhaps sums up the results of the study best when she writes:

> Our camp community is more than a group of people working together, it has become a source of inspiration, support, and fond memories. Working at [camp] is unique because no one fits into a mold or is expected to fill a specific role, each of us brings something very different to camp, we are a diverse group and for me this diversity makes us more than a community, and rather an extended family. This is what keeps me coming back.

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The Effects of Wilderness Education Programs on Environmental Attitudes Associated with Individual Backgrounds

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Background

An advancement of pro-environmental attitudes and stewardship is often included in educational goals for outdoor and wilderness education programs. However, studies examining program outcomes showed mixed-findings on the development in environmental attitudes (Gillet, Thomas, Skok, & McLaughlin, 1991; Haluza-Dulay, 1999; Hanna, 1995; Prudue & Warder, 1981; Yoshino, 2005). One approach to understanding these inconsistent results is to explore the influence of the participants' individual backgrounds on their learning. For examples, do participants with little experience in the outdoors learn more through a wilderness education program than participants with extensive experience? Do participants' demographics and/or past education related to environmental studies matter for their learning? These differences in individual backgrounds have been examined as prepositions of pro-environmentalists but have not been analyzed as predictor variables for their learning outcomes through wilderness education program. Thus, the purpose of this study is to explore the predicting factors in individual background variables that shape learning in environmental attitudes as a result of wilderness education program.

Method

The predictor variables that are associated with individual backgrounds consisted of six factors: age, gender, size of community that one grew up, education level (i.e., number of courses taken associated with environmental studies), level of wilderness experience and level of early-life outdoor experience. These six variables were chosen based on the literature demonstrating significant relationship with environmental attitudes (Chawla, 1999; Ewert & Baker, 2001; Gifford, Hay, & Boros, 1982; Mittelstaedt, Sanker, & VanderVeer, 1999; Palmer, 1993; Place, 2000; Tanner, 1980). The explained variables were program outcomes in environmental attitudes. To ascertain program outcomes, a sample of college students (N=85) participating in 21-day wilderness education programs were selected. Participant's environmental attitudes were measured before and immediately after the program, using the following three self-reporting questionnaires: the Environmental Awareness Questionnaire (Szagun & Pavlov, 1995), Wilderness Issues Questionnaire (Hanna, 1988), and the Revised New Environmental Paradigm (NEP) Scale (Dunlap, Van Liere, Mertig, & Jones, 2000).

Result

Of the six, three predictor variables were found to be weak but significantly correlated with the pro-environmentally sounded changes in their attitudes ($p < .05$); these variables were age, past wilderness experience, and size of community that one grew up. Unexpectedly, other three variables—gender, early-life outdoor experience, and number of previously-taken-courses associated with environmental studies—did not appear to predict the program outcomes. Furthermore, stepwise regression analyses indicated that the older participants who have more experience in wilderness and grew up in smaller communities such as a farm or rural area likely showed more changes toward pro-environmental attitudes as a result of wilderness education program in comparison to the counter parts ($.10 \leqq p \leqq .20$). However, these predictor variables (i.e., individual background differences) explain only 2% of the variance.

Discussion

Empirical studies suggest that direct experience with nature stimulates environmentally responsible action and helps to predict high level of environmental attitude (Chawla, 1999; Palmer et al., 1999; Tanner 1980). However, this study suggested that one's early-life outdoor experience did not account for the changes in his/her pro-environmental attitudes through the wilderness education program. The experience found to contribute for the program outcomes was not the experience simply with the outdoors but with wild lands. If the results reflect some sense of reality, the following explanations for these phenomena can be considered. The participants with many experiences in wild lands may be ready to observe and learn about the natural environment due to the familiarity with the new environment that they are in, whereas the participants with less experience in wild lands may have difficulties to adjust in the unfamiliar environment. The stimuli that less-experienced participants receive are too discrepant from their expectations; in fact, they may feel more anxiety or fear rather than pleasure or motivation to obtain new information. The findings suggested that individual backgrounds account for only small portion of their learning outcomes in environmental attitudes. Yet, this study recommended that other factors, such as participants' motivation and psychological condition during a program, are important to predict program outcomes. These factors include. In practical settings, this study suggested that instructors should take individuals' past wilderness experience into consideration for designing and implementing wilderness education programs.

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An Integrated Wilderness Adventure Experience: What outcomes are most useful in Daily Life?

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Background: Because of the use of standardized test instruments in early research of wilderness group programs many of the benefits and outcomes seemed to be of little significance and had no real lasting effect in the participants' daily lives. These programs were therefore criticized as being "feel good" experiences or "simply nice camping vacations, but had little lasting value for personal or group development" (Ewert & McAvoy, 2000, p. 23). However, there are recent studies that show the benefits are long lasting and can be transferred into participants' daily lives. Hattie et al. (1997) explain that these programs and experiences can have positive life changing effects on program participants. Other more recent studies show that the benefits gained from these programs can be transferred into participants' work, school and personal lives (Ewert & McAvoy, 2000). Paxton & McAvoy (2000) examined how a wilderness adventure program influenced participants and how they reflect on their wilderness experience for guidance and perseverance in their lives back home. Past studies involving integrated wilderness programs have called for further investigation into how these outcomes can be transferred into the everyday life of participants, including those with disabilities (Anderson, Schleien, McAvoy, Lais, & Seligman, 1997). The purpose for this study was to gain insight into how integrated wilderness program participants are able to transfer the outcomes and benefits gained into their daily lives. It specifically examined the outcomes that participants received from their wilderness adventure and how they were able to incorporate these outcomes into their daily lives. This research also investigates participant's outlook on life and how they view others as a result of participating in an integrated wilderness adventure program.

Methods: This study focuses on qualitative data that was gathered from interviews that were conducted over the telephone. Participants were selected based on their response on a self-administered questionnaire that they were willing to be contacted by phone to further discuss their integrated wilderness adventure. The data was collected from participants with and without disabilities that had participated in a 4 day or longer wilderness adventure trip. The types of activities that were done on the wilderness adventure trips involved canoeing, kayaking, rafting, and horse packing.   The phone interview consisted of questions related to how participants were able to transfer outcomes received from their trip into their daily lives as well as their outlook on life and how they viewed others. Twenty-nine telephone interviews were conducted with participants 6 months after they gone back to their daily lives. A stratified random sampling technique was used to select participants in order to have equal numbers of persons with and without disabilities. All interviews were tape recorded and transcribed for analysis. An adaptation of the Constant Comparative Method (Glasser & Strauss, 1967) and Naturalistic Inquiry (Lincoln & Guba, 1985) was used to analyze the interview transcripts. The analysis of the data consisted of reading through all of the interview transcripts to develop themes. The data were further broken down into units from each text. These units were then sorted into categories by the researcher. A distinct theme represented each category. As the categories were further separated the researcher identified criteria that distinguished each category apart from another. Various comments from participants were selected as direct quotations to serve as examples in support of each theme.

Results and Discussion: The results of this study show that individuals had positive outcomes as a result of participating in an integrated wilderness adventure trip. These outcomes included: having interactions with others with and without disabilities, having a sense of accomplishment, having new opportunities/experiences, interactions with family, gaining new/improved outdoor skills, and having an appreciation for the wilderness/wildlife. Results also showed that participants were able to transfer outcomes from their wilderness trip experience to their work, to developing and improving outdoor recreation skills, to their family lives, and to other activities. Participants also indicated having positive reflections/memories of the trip as well as increased coping/transitioning skills. Many participants noted higher levels of motivation and increased self-confidence in their abilities, which they directly attributed to the wilderness trip experience. Participants expressed having a better understanding of people with disabilities/differences and being more respectful and trusting of others, as a result of having participated in the inclusive wilderness adventure experience. Program directors and managers often evaluate the impact of their organization based on what participants gain from their experience on their trip. It is imperative that people are able to apply what they have discovered about themselves and others back to their daily lives otherwise they will have only had a "nice camping vacation". This study shows that many of the participants were able to transfer outcomes to their daily lives at home, work and school. These results can be used in program planning and development to enhance the process of transference of outcomes received by participation in an integrated wilderness adventure program.

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The Influence of a Wilderness Experience Program on Students'
Attitudes Toward Wilderness

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As federal land managers are facing decreasing budgets and increasing visitation, the need for wilderness education continues to increase. Land managers use their funds and personnel in the most efficient ways, which often means there are fewer rangers in the backcountry to enforce regulation or participate in direct education. Other entities, such as Wilderness Experience Programs (WEP), are logical alternatives for visitor education. Wilderness Experience Programs are programs that are involved in educating wilderness users. They are businesses that take paying customers into wildlands to develop their human potential through personal growth, therapy, leadership, and/or organizational development (Friese, Hendee, & Kinzinger, 1998). One method to alter visitor beliefs, attitudes, and behaviors is the use of interpretive and educational programs. For many wilderness managers this method is the most desirable and may prove to be the most effective (Gunderson, Barns, Hendricks, & McAvoy, 2000; Roggenbuck & Manfredo, 1990). Managers, scholars, and users of wilderness recognize the importance of wilderness education as a management tool (Gunderson et al., 2000; Passineau, 1990; Roggenbuck & Manfredo, 1990). Ewert and McAvoy (2000) state "participation in activities based in wilderness and wilderness-like settings can have profound effects on both groups and individuals" (p. 13). Hanna (1995) suggests that WEPs not only teach minimum impact and outdoor living skills, but also engage their students in classes and discussions related to history and philosophy of wilderness and local environmental issues. The purpose of the study was to examine how a WEP influenced students' attitudes towards wilderness and to understand what part of the experience students perceived led to changes in their attitudes toward wilderness protection and preservation. Developing a better understanding of how education influences environmental beliefs, attitudes, and behaviors is important in the wilderness education and resource management fields as they seek the best methods to preserve wildland resources.

The participants in this study completed a month long backpacking Wilderness Experience Program (WEP) in the summer of 2004. In November 2004 students were sent a short questionnaire in the mail asking about their experience the previous summer. Eighty-three students were mailed the questionnaire; 44 (53%) returned the final questionnaire. Students were asked three open ended questions to discern if their views of wilderness changed as a result of their experience and, if so, what aspect of their experience they perceived led in that change

The qualitative data from the questionnaires was analyzed for content. The content analysis searched the text for recurring words, themes, and patterns (Patton, 2002). The first step of analysis was to create a coding scheme or system of classification. This was done by reading through the answers to the open ended questions and separating them into topics. The data was analyzed by reading and rereading the data to search for themes and categories of responses. Codes were then created that reflected these themes and categories. The data was then examined again and coded. This study used inter-coder reliability and inclusive themes to test for completeness of categories. The second coder was provided all of the qualitative data and chose 20% of the data at random to code. The codes provided were those that the researcher used to code the data and the second coder either used the existing codes or, if he didn't find the existing codes adequate, proposed a new code or codes. Inter-coder reliability was 95%.

Students indicated that their views of wilderness did change as a result of their WEP. Student comments fell into the following categories: an increase in desire to protect and preserve wilderness, connection and appreciation for wilderness, recognition of human impacts on wilderness, and deepened and enhanced views of wilderness. Regarding their appreciation for wilderness, students made comments including, "I feel better connected with the wilderness in many different aspects, and my personal connection is from a deeply rooted sense of wonder and respect." Another student stated "I have realized how important it is to me for there to be places that have not been influenced or touched by civilization. I now view the wilderness as something that needs to be preserved so that future generations can learn and benefit from it the way that I have been able to."

The elements of the course that lead to these changes in student views of wilderness include: knowledge and practice of LNT, extended experience in the wilderness, beauty and simplicity of living in the wilderness, and classes taught about the wilderness. Writing about what impacted the change in his view toward wilderness, one student concluded, "Just being there. I always thought it should be preserved but you don't fully understand until you've seen it . . . until you climb to the top of a mountain and see truly wild animals and 'naturalness' as far as you can see, beautiful settings and bathed in ice cold rivers, until you've lived in it and with it." Another student writes, "My personal experience was the biggest influence. Each day I could spend time just taking in everything around me—sight, smell, taste, sounds. Life is so unfiltered in the wild and connecting with that was huge." Also, "The entire experience; but it wasn't until I took a retrospective look at my experience that I began to appreciate how important the wilderness is."

The statements from the students in this study show that WEPs can have a positive impact on students' attitudes regarding wilderness. This positive impact is a combination of the experience of an extended wilderness trip, a focus on environmental and wilderness issues

and good instructors. The challenge for WEPs is to prioritize what is important to them as an institution and to impress that priority on instructors headed into the field. Instructors in the field must keep a big picture view of what they want their students to gain from the course and prioritize those classes.

Programmatic implications for wilderness education programs include being intentional about teaching about wilderness preservation and the environment. Effective wilderness education as a component of a WEP should begin early in the course and continue for the duration of the course. It should include not only facts about wilderness and the environment, but discussions about human impact on the land and what actions students can engage in their everyday lives that can have a positive impact on and for wilderness and the environment. If a goal of WEPs is to influence students to be involved in the protection and preservation of wilderness, instructors need to emphasize this throughout each and every course and recognize that the environmental curriculum is equally important as all other aspects of the course. The knowledge students gain from the environmental studies segment of the curriculum could be the longest lasting and have the most long term impact of any element on the course.

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The Relationship of College Students' Leadership Style, Personality Type and Outdoor Education Practicum Evaluation

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Background

There is abundant literature and research regarding leadership style preferences and personality type among the broad population (especially within the business realm), but little research has been conducted to determine if there are themes in leadership style preferences or personality type of outdoor education students or professionals – a field more and more focused on providing leadership experiences for others (i.e., NOLS, summer camp programs, professional teambuilding, etc.). Researchers have shown that outdoor leadership requires the development of skill sets ranging from *technical* or *hard* skills such as knot-tying and safety issues on a challenge course to *meta* skills such as those that aid an individual in making sound judgments or establishing a personal code of ethics (Priest & Gass, 1999); however, this theory does not account for an individual's particular strengths or personality type (Koesler, 1995). Some research has been done connecting one's personality type to recreation (Robertson, 1993; Provost, 1990; Gunn, 1972), but it tends more toward recreation preferences rather than the outdoor professional's personality type. Because outdoor educators teach, broader research has indicated that most teachers make decisions by *feeling* (Center for the Application of Psychological Type as cited in Kroeger & Thuesen, 1988; Sears, Kennedy and Kye, 1997). This is somewhat transferable, but outdoor education encompasses more than traditional teaching because of the unique setting, regular change in groups or students from program to program, attention paid to safety that would not ordinarily be necessary in a classroom, and the extended time constraints on leaders – especially on wilderness outings that last multiple days.

Because of the variety of activities involved with outdoor recreation – from advanced rock or ice climbing to day hiking or paddling remote waters alone or with a friend – it attracts a wide assortment of individuals. But it is not known if this same assortment is well suited to teach in the outdoor education field. By considering a sample of outdoor education students from two disciplines (recreation and physical education), the researcher hoped to determine if there is a pattern in personality type and leadership style preference of successful outdoor educators and if that pattern is rewarded or recognized in their course evaluation.

Methods

To determine if there is a relationship between students' personality type, preferred leadership style and outdoor education practicum evaluation, the researcher administered 154 outdoor education practicum students from an Upstate New York university Hersey and Blanchard's *Leadership Effectiveness & Adaptability Description* (*LEAD Self*) (2004), the Myers-Briggs Type Indicator® (Briggs & Myers Briggs, 1998) and a demographic survey. The sample consisted of physical education and recreation students attending their mandatory two-week outdoor education practicum during the summer of 2005; the cluster convenience sample included three of five physical education sections (n=113) and one of one recreation section (n=41). Using Chi-Square tests Cramér's V, these results are being compared to each other and to the grade the students earned in their outdoor education practicum.

Findings

Descriptive findings indicate that the respondents represent the full spectrum of sixteen Myers-Briggs® personality types; however, nearly 41% are ENFP or ENFJ – *extroverted* individuals who gather information *intuitively* and make decisions based on *feeling*. It is their orientation to the outer world (J/P) that varies. A majority (n=121) of the students prefer high relationship behavior when leading groups and 64% (n=96) have a *moderate degree of adaptability* in their leadership style. Thirty-three percent (n=49), though, according to the *LEAD Self*, are *in need of self development* in order to better understand group readiness and appropriate leadership style behavior. The entire population's course grades follow a normal curve, but when separated by session it is evident that there is a difference between recreation and physical education sessions.

Regarding the relationships between variables, students with SP and NF temperaments appeared more likely to follow the leadership style preference pattern of the total population than those with NT and SJ temperaments; 81% of NTs claimed selling as their primary leadership style and more SJs than any other temperament (14%) felt telling (low relationship, high task behavior) was their primary style. However, chi-square test showed no significant relationship among the variables. Regarding respondents' personality type and course evaluation, the relationship was significant ($\chi^2 = 30.626, p = .000, V = .268$). NF; *intuitive-feelers* scored an average of one and one half grades higher than SP temperament students.

Finally, this study investigated the relationship of major and the primary variables of personality type, leadership style, and grade in course. There was a moderate relationship between major and personality type $(\chi^2 = 14.607, p - .002, V - .314)$. Seventy-three percent of recreation majors are NFs compared to only 43% of physical education students. No relationship was found between major and leadership style. Using a t-test, significant difference were found between majors and their grade in course (t= -6.522, p <.001).

Discussion

This study's application spans two distinct areas. First, the descriptive statistics provide insight into college students enrolled in an outdoor education practicum: their personality types, leadership style preferences and outdoor adventure recreation experiences, to name a few. It adds to current MBTI research, helps define students' leadership development and draws connections between these variables and course evaluation results.

Secondly, the study demonstrates a need, or at least justifiable reason, for collegiate outdoor education programs to re-evaluate their teaching styles to accommodate for particular personalities. Also, outdoor educator preparation programs would be wise to balance out their leadership training to include more *soft* and *meta* skill education. This research supports the findings of Sugarman (in Raiola & Sugarman, 1999), distinguishing between the "training" of hard skill competencies and the "education" of *soft* and *meta*, where education is "the process through which the student comes to understand the appropriate use of technique, as well as the implications of such use" (p. 244). This training/education concept is emphasized in programs such as Outward Bound and the National Outdoor Leadership School, yet is not entirely evident in the population studied here – at least not as the results the *LEAD Self* indicate.

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An investigation of Self-Efficacy in a Freshman Wilderness Experience Program

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The use of freshman orientation programs began at Boston University in 1888 (Gass, Garvey, & Sugerman, 2003). While they vary in scope and purpose, they usually help students transition into the university environment in hopes of increasing student 'success.' Wilderness orientation programs have similar goals, but use an outdoor setting as a way to facilitate adapting to the new university environment. Using the wilderness environment as a venue for freshman orientation programs is not new. O'Keefe (1988) noted that some have been in existence since the 1940s, though Davis-Berman and Berman (1996) stated that most began two decades later, in the 1960s.

Philosophies and goals for wilderness orientation programs have changed over the years. In the 1980s, O'Keefe (1988) found that university freshman orientation programs had three key program goals, which included: 1) developing peer group identity, 2) developing positive interaction with faculty, and 3) improving retention. Davis-Berman and Berman (1996) later found that the majority of [wilderness] orientation programs focused their energy on facilitating social interaction and development. Other related goals include academic (including retention), psychological growth, and social interaction.

Research about freshman retention is most plentiful in the orientation literature (Davig & Spain, 2004; Galloway, 2000; Gass, 1990; Murtaugh, Burns, & Schuster, 1999). This research included both traditional and non-traditional (wilderness) orientation programs. Fewer studies have explored the impact of wilderness programs on student adjustment to college. For example, Devlin (1996) discussed the positive effects of a 4-day survival skills program on friendship building and environmental perception.

The study of the long-term effects of freshman wilderness programs is an under-researched area. Gass, Garvey, and Sugerman (2003) undertook this task by interviewing participants 17 years after their involvement in a freshman wilderness program. When studied after the first year and after 3.5 years, the study group was found to have higher retention rates than the control groups. After 17 years, qualitative interviews were conducted; three themes emerged from participant responses. When reflecting back, these alumni indicated that the orientation program that they participated in as a first-year student 1) made them challenge their own assumptions about self and others, 2) led to the development of peer friendships that became an important support network during their undergraduate years, and 3) had positive effects during the undergraduate years, and also had long-term positive effects well beyond graduation.

One of the noted outcomes under "challenging assumptions about self and others" was that of self-examination. Quotes incorporated in this section included such comments as, "…I think what it did was help to open my eyes and see that I could do things on my own…" and "It kind of gave me the feeling that I could conquer anything…So I figured if I could do this program I could pass college Spanish" (Gass, Garvey, & Sugerman, 2003). These statements specifically refer to the notion of self-efficacy.

The person most known for work in self-efficacy is Albert Bandura, who defines self-efficacy as, "peoples' beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (1994, p.1). In regard to freshman wilderness programs, does increasing a person's belief about their capabilities through challenging events lead that person to believe that s/he can perform better in their university career?

Several studies have explored if adventure recreation involvement leads to an increase in self-efficacy. Many have focused on people with disabilities. Findings show that different types of adventure and wilderness programs (e.g., adventure based therapy, hiking, rock climbing, challenge courses) may increase self-efficacy in persons with disabilities (Lin, 2003; Sutherland, 2001), and persons with mental illnesses (Davis-Berman & Berman, 1989; Ferguson and Jones, 2001; Kelly, Coursey, & Selby, 1997; Richardson, 2003).

Another notable study regarding self-efficacy is Paxton and McAvoy's (1998) study of 68 participants on Outward Bound courses. They found increases in self-efficacy in three areas (general, interpersonal, and sociopolitical) at both the first post-test immediately following the 21 day course, and at a follow-up post-test six months later. Participant comments quoted by the authors added powerful anecdotal evidence documenting that Outward Bound programs do have a long-term impact on the self-efficacy of participants in these adventure settings.

This purpose of this study is to further investigate the link(s) between wilderness programs and development of self-efficacy in first-year college students. The impact was measured immediately following the 10-day trip and again two months after program participation. The study also aims to identify if participants in the wilderness group vary on their self-efficacy based on personal characteristics.

A control group of 229 incoming freshmen attending pre-college orientation in July and August of 2005 completed the Perceived Competence of Functioning Inventory (PCFI) (Hays & Williams, 2000). The PCFI is a 16-question survey used to measure self competence, role competence, and relational competence. Investigators will not have further contact with control group participants; data was collected anonymously. The investigators will use the data collected from this control group to compare them with the freshmen who self-selected to participate in the wilderness program to ascertain if the to groups had similar beginning levels of self efficacy.

A treatment group of 28 incoming freshmen in the program consented and completed the PCFI on-campus before leaving for the trip and again immediately following the trip before driving from the wilderness site to campus. Approximately two months after the completion of the trip, students who participated in the program completed a reflection paper. Students who consented to be in the treatment group all agreed to permit investigators to make use of information in these reflection papers for qualitative analysis. Treatment group participants also completed a third and final PCFI on 10/24/05 when they turned in the final reflection paper noted above.

The benefits of this project are many. First, this is research project has practical implications for the program staff who administer the trip. No attempts to modify the trip experience were undertaken at any time; the intent of the project was not to create an intervention. Instead, the study hoped to otherwise document the impact of an already-successful program.

In a larger scope, self-efficacy is a new area of study in the freshman experience literature. Though anecdotal evidence exists, especially for wilderness orientation programs (e.g., "If I can do this, I can do anything!"), few rigorous research studies have been conducted (Gass, Garvey & Sugerman, 2003). It is hoped that this study will provide evidence that first-year orientation conducted in wilderness settings can have a significant impact on the self-efficacy of college students at a critical point in their self-development.

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Emotional States and Daily Experience during
A Wilderness Education Program

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Background

This study explores emotional states associated with outdoor experience within the context of a wilderness education program. Numerous studies have demonstrated various outcomes associated with outdoor education programs. However, it is suggested that this field of study needs to provide a deeper understanding of what happens during the program, what kind of experience or process influences program outcomes rather than overemphasizing outcomes by simply comparing point A and point B. Information obtained from this study will help for future research on psychological conditions leading to program outcomes, which provide future suggestions to improve the quality of programming and teaching.

The literature in positive psychology suggested that emotional states (e.g., distressed, happy, excited etc.) seem to be a key element for explaining mechanisms of growth and psychological well-being. However, little is known about the linkage between emotional states and day-to-day experience in wilderness education settings. One of the few studies on daily moods, Cashel (1994) found that Day 4 of the 10-day outdoor trip appeared to be a pivotal day for high levels of confusion, fatigue, anger, depression and tension. As she pointed out, however, empirical evidence is considerably limited to explain what factors trigger the changes in moods.

Emotional states can change from day to day or even moment to moment. It can be imagined that participants' moods can be influenced by various factors, such as characteristics of activity, level of physical demands, social interactions, and condition of natural environment etc. Psychologists have found external factors related to mood variations in daily life settings, such as weather conditions (Schwartz & Clore, 1983), and health conditions (Clark & Watson, 1988) etc. Nevertheless, these studies neglected the *subjectivity* of the experience, which needs to be reflected upon in this study rather than simply focusing on *types* of activities because perception of a given activity in an outdoor setting is heavily dependent on the individual.

One approach to understanding this subjective experience has been to consider the characteristics of activity using Csikszentmihalyi's (1975; 1997) theory of flow. Studies have demonstrated that the flow model consistently predicts mood states associated with the challenge/skill qualities of activities (Ellis, Voelkl, and Morris, 1994; Voelkl and Ellis, 1998; McCormick, et al. 2005). Thus, this study will use the theory of flow as a conceptual framework to describe students' subjective daily experience during a wilderness education program. Particularly, this study attempts to answer the following questions: How are positive and negative affects related to (a) 'challenge/skill qualities' of daily experience, (b) weather conditions, (c) the number of hours of sleep in the previous night, and (c) occurrence of physical health problem?

Methods

The subjects were 9 students (4 women, 5 men), who participated in a 30-day wilderness education program at a liberal arts college in Washington. The students were asked to fill out questionnaires three times a day (morning, afternoon and evening) during 29 consecutive days in the Olympic National Forest in summer 2005. Each time, students reported on (a) what they were doing, (b) the challenge/skill qualities of the activity, and (c) mood states measured by the Positive Affect and Negative Affect Scale (PANAS) (Watson, Tellegen, & Clark, 1988). Students were also asked to note (d) physical health problems, (e) notable experiences or events, (f) weather conditions they were experiencing, and (g) sleeping hours the previous night.

Results

A total of 188 responses were obtained from the 7 subjects (of the 9 students, one dropped out of the program and another one lost the questionnaires). The respondents provided a mean of 27 responses per person (range 8-62).

Pearson's product moment coefficient indicated statistically significant correlations among some variables (Table 1). The results suggested that when students perceive themselves to be challenged, they tend to experience highs in both positive and negative affects (i.e., *excited* and *alert* but also *distressed* and *nervous*); whereas when students perceive themselves as having high skills in the activity at hand, they tend to experience highs in only positive affects (i.e., *excited* and *alert*). Additionally, a weak but statistically significant correlation indicated that when students perceive themselves as having low skills in the given activity, they tend to experience highs in negative affects (i.e., *distressed* and *nervous*).

High-positive affects were associated with some of the weather conditions (i.e., feeling warm, sunny, and feeling hot). These results were similar to the previous findings mentioned above. Conversely, weak association was found between low-positive affects (*sluggish* and *drowsy*) and other weather conditions (i.e., cold and cloudy), although previous studies indicated strong associations. There was only one rainy day during the program, and so limited data sources possibly affected this result. More hours of sleeping was found to be associated with low-negative affects (i.e., *calm* and *relaxed*). A positive correlation was found between high-negative affects and health problems, which ranged from blisters, sore muscles, knee or back pain, etc. Finally, multiple regression analyses indicated that 22% of the variation in the reporting of positive affects was accounted by the perceived challenges, perceived skills and weather condition (sunny), whereas 17% of the variation in the reporting of negative affects was explained by perceived challenges and occurrence of health problems.

Discussion

It is not surprising to find the relationships between emotions and weather, emotions and health problems, and emotions and sleeping hours, as previous studies have demonstrated. In addition, this study supported the flow model to some extent that moods are predicted by the perceived challenge/skill qualities of activity. These findings are similar to previous studies but cannot be neglected because they are specific to a wilderness education setting. Furthermore, these findings provided evidence that physical, environmental, and psychological (the perceived challenge/skill qualities) factors influence all students' emotional states that potentially impact their learning during the program. What factors should instructors control them and to what extent should they be controlled? What are ideal emotional-states combinations that maximize students' learning? The flow model appears to be a relevant framework to understand subjective experience in wilderness education settings; concurrently it is suggested to utilize multilevel modeling analysis to eliminate interdependence issues between-participant level scores.

Table 1
Person's Correlations Results: PANAS Scores and Other Variables

Positive Affects		Negative Affects	
High			
Feeling a zest of life (e.g., *excited, alert,* and *enthusiastic*)		Feeling unpleasantly aroused (e.g., *distress, nervous,* and *tense*)	
	r		r
Perceived challenges	.25**	Perceived challenges	.30**
Perceived skills	.29**	Perceived skills	-.12*
Weather		Health problems	.34**
Feeling warm	.27**		
Sunny	.28**		
Feeling hot	.20**		
Low			
Reflecting fatigue (e.g., *sluggish* and *drowsy*)		Feeling peaceful (e.g., *calm* and *relaxed*)	
	r		r
Weather		Hours of sleeping	.23**
Cold	.13*		
Cloudy	.18*		

Note. N = 188; **: $p < .01$; *: $p < .05$

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Let Safety be Your Guide: A Risk Management Perspective on Challenge Course Programming and Instructor Training

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Background

"The growth of adventure leisure endeavors, such as challenge courses, that contain elements of danger has resulted in an increased concern for the safety of the participants" (Confer, Wilson, Kim, & Constintine, 2003, p.3). In general, participant safety is a primary concern for adventure programs. The rapid rise in the number of challenge courses being used "in mainstream areas such as education, corporate training, mental health services and the criminal justice system" warrants particular attention to the safety needs associated with the challenge course environment (ACCT, 1998 p.2). Technology and facilitation each focus on producing an increasingly safer environment in which participants are challenged to grow. Technology has provided advances in equipment while review teams work on improving facilitation techniques and promoting standards in a new industry.

Incidents and adventure are symbiotic, in that, an adventure without some risk (real or perceived) leaves the adventurer wondering if an adventure really ever took place. Inevitably, this adventure-associated risk opens up many doors for accidents, warranting further investigation from adventure education professionals (Leemon & Erickson, 2000). The anatomy of an accident was outlined by Dan Meyer and Jed Williamson as a matrix to aid accident investigators in developing a better understanding of the interplay between objective and subjective factors and the resulting accidents (Leemon & Erickson, 2000, p.13). This post-incident tool divided subjective factors into two components: unsafe acts and errors in judgment. Alan Hale (1983) was one of the first people to apply The Dynamics of Accident Theory to adventure programs and specifically, challenge course incidents (Hale, 1990; Leemon & Erickson, 2000). Similar to the Meyer-Williamson three category matrix, Hale's (1989) theory was divided into two categories, human hazards and environmental hazards. The combined effect of those two areas produced what Hale (1989) identified as accident potential.

The Hale model and the Meyer-Williamson matrix provide post-incident tools designed to probe into the details of the incident. The Meyer-Williamson matrix focuses primarily on the individual in an attempt to uncover the decisions, and circumstances which caused the event, while the Hale model provides numeric value for understanding the risk of a given action, decision, or situation. The current research combines information from these two models, focusing on more specific aspects of challenge course incidents. These theories in conjunction with the recent statistical information on challenge course incidents and accidents have laid a foundation for a wide range of potential research in the area of challenge course safety.

Much of the recent statistical information has "been collected by programs' voluntary participation, we cannot be certain programs with poorer safety records or less careful record keeping have been equally represented" (Furlong, Jillings, LaRhette, & Ryan, 1995, p.4). The information reported is voluntary in varied formats with ranging degrees of accuracy. Thus, numerous holes remain unfilled. Two such "holes" constitute the focus of this study.

First, there is no mention of the relationships between reported incidents and elements, transfers, belay type, incident type, gender, or age. These factors represent a small but significant collection of controllable factors that may aid in more effective management of risk in challenge course settings. Second, the reports make no significant mention of incidents of "unclipping" on high elements. Inherent to this process is the potential for a participant to be detached from a belay - "unclipped". A study of the factors that influence a participant's exposure to risk is seemingly essential if we are "to provide standards that better define safe construction and facilitation" of challenge courses (ACCT, 1998, p.2).

The purpose of this study is to provide an initial accurate assessment of the relationship between challenge course incidents and: 1) type of belay system; 2) type of incident; 3) participant gender; and 4) age. This information will provide new insight into relationships between these factors, contributing to better risk management policies and procedures for challenge courses. The ultimate goal is to identify manageable factors that contribute to or increase participant exposure to actual risk.

Methods

Data are archival, consisting of incident forms filed between 1994 and 1997 within a mid-western university's challenge course. Incident forms are completed and filed by university challenge course instructors. The population consisted of a total of 169 reports of individuals experiencing some sort of a "close call" or "near miss" during a challenge course experience. There were a total of 67 males, 89 females and 13 unknown gendered participants ranging in age from 11 years of age to 56 years of age with mean age of 19.46. Independent variables consist of belay type with two levels, type of incident with five levels, gender with two levels, and age with two levels. The dependent variable is the frequency of incidents. Incidents are defined as potentially dangerous situations where safety was compromised but did not result in an injury. Incidents and Near Misses are recorded on Incident/Near Miss forms (which include: date of incident, instructors present, participant name, age, group the participant was with, description of the incident, listing of contributing factors (clothing, weather, ability, etc), and recommendations on future preventive actions) by the lead instructor or assigned personnel.

Results

The statistical treatment used to analyze the data was a Non-Parametric Chi-Square to test for significant differences ($\alpha = .05$) in frequencies along the independent variables. (Data meet the assumptions for the Non-parametric Chi-Square.) Significant differences were found between variables, demonstrating relationships between challenge course incidents and Type of Belay ($\chi^2 = 83.851$), Type of Incident ($\chi^2 = 43.985$), and Gender ($\chi^2 = 4.699$). A Bivariate tabular (crossbreak) analysis was used as follow-up to gain further insight into the significant relationships found in the initial analysis.

Discussion

The results provide a number of valuable insights that have practical applications in the following areas: facilitator training, program development, program delivery, and programmatic philosophy. More specifically, the results from this study facilitate the development of proper training programs for challenge course facilitators; and cement a foundation for an adventure education program philosophy to the end of creating more successful, lasting learning experiences for challenge course participants. Three primary implication areas for challenge course programming were delineated: instructor training and staffing and programming. Results were also compiled to derive the Godsey Risk Exposure Matrix for purposes of planning on a group by group basis.

Instructor Training. In general, results indicate a need for modification and incorporation of new procedures or equipment that re-enforce correct transfer sequence, including the refinement of the high course introduction and walk-through process. Additionally, the planning/programming needs for groups under the age of 16 and over the age of 16 need to be explored. These two groups have their own unique programmatic needs as each have different levels of experience, maturity, self-care skills, and gender specific issues.

Staffing and Programming. The instructor to participant ratio has an effect on the amount and type of instruction a participant may receive. The increasing numbers of participants in one group on the course may impact the program quality and function. The competing factors of time (fewer instructors/more participants) and money (larger groups/fewer instructors) impact the amount of time an instructor would have to spend working with any one individual if they were to be identified as needing additional time to practice or needing a different style of instruction. Increasing the number of available instructors for a group would increase the level of supervision. Furthermore, the increased number of instructors actively working with groups under experienced instructors increases the overall level of instructor quality, which directly impacts the quality of experience a group may receives.

The Godsey Risk Exposure Matrix. In the interest of providing programmers with a practical tool to meet the goals of participants (a powerful, injury-free experience) and the fulfillment of the organizational mission (providing powerful injury-free experiences), the information from some of the most practical variables (Gender, Age, Belay Type, and Type of Incident) included in this study has been synthesized to create the Godsey Risk Exposure Matrix.

The Godsey Risk Exposure Matrix combines the four aforementioned variables, providing a quick reference for likely risk exposures. Based on a cross-tabulation including a combined Age and Gender variable in relation to Belay Type at a level of Incident Type, the matrix examines and combines the variables to predict the Type of Incident (see Figure 1). This matrix can be utilized by instructors and course management as a tool that recommends areas for special instruction or increased instructor to participant ratio. The instructor team now has the ability to respond to a particular population's needs and goals more effectively - ultimately increasing the overall success of the group.

Figure 1: Godsey Risk Exposure Matrix

			Belay System	
			Dynamic	**Static**
Gender & Age Group	Male	<16	None	Unclipping
		>16	Unclipping	Slip, Fall, & Injury
	Female	<16	Unclipping Failure to Complete	Failure to Complete
			Fail to Complete	Slip, Fall, & Injury

Developing Sustainable Access to Bouldering Areas
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Background of the Study

Bouldering is a branch of rock climbing that began in the 1970's as a way for climbers to practice difficult moves, near the ground, without the complexity of safety equipment. Bouldering uses only climbing shoes, chalk, and optional foam pads called "crash pads" to stop the fall. Bouldering is much more financially accessible and social than traditional climbing and therefore has introduced new impacts and management concerns posing many challenges for land managers and local climbing organizations.

The Access Fund, a nationwide climbing advocacy organization, is a leader in bouldering research and is currently working on an initiative to educate boulderers about how to collaborate with land managers and maintain bouldering areas. The Access Fund is currently in need of research on impacts associated with bouldering and studies of successful collaboration with land management officials.

Previous research has focused largely on impacts of climbing activity on specific areas, and done little to produce generalized data that can be used in other areas. Some examples include Müller, Rusterholz, and Baur's 2004 study of climbing's impact on vascular plant species density in the northern Swiss Jura Mountains, and Camp and Knight's 1998 study titled "Rock climbing and cliff bird communities at Joshua Tree National Park, California." Other literature has focused on successful collaboration and climbing management such as Attarian's 1999 article on collaborative resource management in Stone Mountain State Park and his 1996 article "Re-establishing a clean climbing ethic." There is currently a lack of research on the concerns of land management agencies on the behavior and impact of climbers that could be applied beyond the specific location of the study. Aside from the Access Fund's 2004 report, there is also a lack of research focused specifically on bouldering and its environmental and social impacts. The purpose of this study is to separate bouldering from climbing and determine the best practices for minimal impact development of new bouldering areas according to land management agencies in the United States.

Methods/Description

A questionnaire was administered online using Survey Monkey web hosting service. It contained 110 responses organized in 18 questions, primarily using a 1-5 Likert-type scale. The instrument was not tested for validity or reliability. Questions included topics ranging from the impact of boulderers on soil, vegetation, and rock features to management practices and collaboration with user groups. Other topics included effects of outside influences such as publicity (guidebooks, videos, etc..), agency infrastructure, and funding. The questionnaire took approximately 30 minutes for the respondents to complete. All subjects received an email with a brief description of the study and a link to the questionnaire. Subjects who did not complete the questionnaire within the first seven days received a follow-up phone call and an additional copy of the email with a link to the questionnaire. Subjects had the ability to complete questionnaires from the computer of their choice, 24 hours a day.

All subjects were employees of land management agencies in the United States who work directly with climbers. Subjects were identified through the Access Fund and information gathered from Falcon Press climbing/bouldering guidebooks. Online search engines were also used to gather contact information for land management agencies. Snowball sampling was used to forward the email link to participants within land management agencies.

The questionnaire was developed with the assistance of Deanne Buck of the Access Fund. It was based on a 14 question pilot study done by the Access Fund in 2004 that revealed a greater need for research. All additional questions were developed from studies of climbing related impacts in specific areas around the globe.

Data were evaluated based on a statistical significance of a mean greater than or equal to 3.5, or by percentage of respondents indicating each specific answer. All responses deemed statistically significant or with a response rate greater than or equal to 70% will be used in the development of the "discovering New Terrain" booklet mentioned previously.

Results

The study was conducted during September and October of 2005. Approximately 25 subjects completed the questionnaire. At this time no results are available. The results will be analyzed and conclusions developed in November and December of 2005. A full report of study results will be available at the time of the CEO symposium.

Initial data from the pilot study revealed a diverse range of impacts made by boulderers and exposed a greater need to explore these impacts individually. Respondents provided feedback on how they interact with climbers and climbing organizations and their management practices. The fourteen original questions were expanded to 110 final responses within 18 questions on the questionnaire to help isolate variables. It is likely that the results of this study will help educate climbers and land management agencies on specific needs and impacts.

Due to the general nature of some of the questions in the questionnaire, the results could have implications not only for climbers but also for other users of public open space such as mountain bikers, paddlers, and equestrians.

Discussion/Implications

The data from this study will fill a gap that currently exists in research of bouldering specific impacts and land management agencies' concerns for development and maintenance of bouldering areas.

In addition to the contribution to the climbing community, the study provides an example of how user groups, such as kayakers or mountain bikers, can be proactive in understanding the concerns of land managers in their area. Data from this study could be used by any local land manager to increase their awareness of various impacts of bouldering.

Results from this study will be used by The Access Fund for their creation of a guidebook for climbers developing new areas currently titled "Discovering New Terrain." Previous Access Fund research has shown that the way a bouldering area is developed has the most impact on the overall maintenance and preservation of the area. This study has been designed to collect data that can be used as an educational tool for anyone developing or maintaining a bouldering area.

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The Effect of Reflection Activities in Adventure Education Program on Participant's Personal Development
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Background

The purpose of this study was to determine the effect of constructed reflection activities, such as framing, debriefing, and transferring, on participant's depth of reflection and personal development. Adventure education programs based on experiential learning methods had spread slowly in Japanese outdoor education. However, recent research concluded that adventure programs without constructed reflection activities affected on personal growth and development. Sugerman (2000) describes that some participants are able to reflect spontaneously to understand the meaning of the experience. Other participants are not able to reflect spontaneously about the experience and are unable to extract meaning from the experience. Reflection activities are support participants in organizing the meaning of their experience and to become aware of new ideas from other members. Therefore, reflection activities are not essential in adventure education but they promote more effects of adventure education.

Methods

The subjects were 14 college students who participated in a six-day adventure camp. The treatment group (n=7) was offered constructed reflection activities that consisted of three time processing techniques. The control group (n=7) took part in other activities when the treatment group did reflection activities. The first day, the treatment group created full value contract, at the end of half-day hike. Meanwhile, the control group completed low elements of a challenge course set up using the natural environment around the trail of half-day hike. The second treatment occurred when both groups had group meetings immediately after 2-day adventure hiking (the fourth day of the program). The treatment group debriefed the experience of adventure hiking and the control group discussed the group project for the final day. The final treatment, involved an assignment about transferring their camp experience to school and home situations on the last day. Group members expressed their learning on a piece of paper and shared them with the other group members. On the other hand, the control group made a bench as a group project to present to the lodge's owner.

In order to measure the depth of reflection, the Camp Experience Reflection Scale (CERS) was developed by the researchers. One hundred types of statements relating to reflective experience were gathered from 31 subjects who participant in an adventure education program sponsored by Outward Bound Japan. An open-ended questionnaire was used to ask subjects what they thought about themselves, the other group member, previous event, and the value of the experience in the future during instructed reflective learning. In order to develop a pilot test, nine professors who specialize in outdoor education evaluated generality of these statements. Fifty six items and 7 point likert-type scale based on evaluation was administered to 210 college students after reflective time during a 4-day educational camp. Factor analysis using oblique rotation was repeated until all scores on each factor exceed .40. Nine factors: *Social Skills*, *The Other Recognition*, *Self-Recognition*, *Group Recognition*, *Respect*, *Applying*, *Observation*, *Gaps*, and *Commons*, were obtained. The final version of the Camp Experience Reflection Scale (CERS) consisted of 18 items and was developed choosing two items that had the highest loading on each factor. This inventory was administered after each of the three reflection activities.

Participant's Personal Development was measured using the Evaluation Scale of Nature – experience Programs (ESNP) and the Self-Enhancement Scale (SES). ESNP was developed to evaluate the general effects of educational camps by Tanii & Fujiwara (2001). In this study, three sub-scales consisting of 12 items relating to the outcome of adventure program were selected, such as *Leadership*, *Interpersonal Skill* and *Self-Development*. The SES was developed by Kajita (1980) and contains 31 statements in four sub-scales, *Achievement Motivation, Self-Effort, Self-Confidence* and *Perceived Self*. ESNP and SES were administered three times before, after, and two-months after the six-day adventure experience. Date were analyzed using Mann-Whitney U test and Friedman test.

Results

Total CERS scores of the treatment group were higher than control group, but the scores after adventure hiking showed a significant difference. The factors, *The Other Recognition*, *Respect* and *Commons* of treatment group were significantly higher than control group after the 2-day adventure hiking. Because each factor is related to the others, it was considered that there were interpersonal conflicts and cooperation among the group members during the 2-days of stressful hiking. Additionally, the sub-scales of *The Other Recognition*, *Observation* and *Applying* of treatment group were significantly higher than control group at the final reflection activity. It was postulated that reflection activity made students remember the camp experience and focused goal setting after the camp.

It should be mentioned that total scores and the sub-scales scores from the ESNP and SES reported from the treatment group increased after camp and maintained two months after the camp more than control group, but there was no statistical significant deference between the groups. The result of the Friedman test showed that treatment group's *Leadership* score significantly increased two-month after the camp in comparison with before camp. The result partially supported previous studies concluding that constructed reflection activities have positive effects (Priest, 1996). As a reason that treatment did not strongly influence the outcome of the camp, a spontaneous reflections of the camp experience except three experimental reflection activities could influenced the ESNP and SES after the camp.

The results suggested that constructed reflection activities after a stressful expedition and at the end of a program promoted understanding about the meaning of the experience for participants, although it is not essential for a positive outcome of the program.

For further study, it was recommended that the influence of spontaneous reflection be examined to evaluate causality between reflection and outcome.

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Experience-based Model: Using Outdoor Strategies to Transform Undergraduate Education
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The context: Junior year, fall semester…three core recreation major classroom-based courses: Introduction, Inclusive Practices and Programming. *The challenge*: Cultivate interested, self-motivated learners, well-prepared for a professional career in recreation and leisure. *The new role*: Transitioning from classroom instructor into a learning expedition leader…structuring a journey to pique curiosity, provide foundation, spark connection, and result in learning.

The goal in preparing undergraduates can narrowly be defined as professional preparation and broadly as creating world citizens. The purpose of this paper is to discuss the theoretical background and pragmatic considerations motivating a faculty to re-examine and change its approach to undergraduate education. Specifically, understanding how applying outdoor strategies can transform undergraduate learning practice. The advantage of using outdoor strategies allows the progression of responsibility for learning, intentional use of experience, and organic connection of content across the courses.

The traditional model of simultaneous, compartmentalized core courses taught by different instructors was proving inadequate as more community collaborations were added to the curriculum. Because the introduction and programming courses ran concurrently, students did not have a sufficient appreciation of the professional field by the time they implemented community programs in October. In addition, overlaps and gaps in content were occurring in the Fall course implementation. After reassessing our goals for the undergraduate curriculum, some ideas began to surface. How might the traditional curriculum model benefit from an infusion of perspective and theory from outdoor pedagogy? What if the three semester courses were integrated and approached as one journey into a broader field of exploration? What if the instructors of the courses met together as co-leaders, planning, and implementing the journey as a team? What if the community became the lab for learning?

Last year, as a class exercise, students were challenged to take the body of professional content (taken from the NRPA accreditation guidelines and the instructors' professional judgment) and place the content within the program planning steps they had just used to design and implement community programs. Could they see a way to place the content expectations into a context that would provide meaning and motivation…knowledge to accomplish something for the community rather than something that the "instructor saw as important for me to learn"? How could a learning environment be structured that would allow students to take control of their learning?

Theoretical Underpinnings

Learning does not take place in a vacuum, but is both a personal and cultural experience (Vygotsky, 1978; Bandura, 1989). On a personal level, learning is inherent in a person's interest and motivation (Ausubel, 1968, Novak & Gowin, 1984; Novak, 1998). Yet, on a cultural level, a person's learning is reflective of his/her surroundings, social support, and cultural values (Vygotsky, 1978; Wertsch, 1984; Rogoff, 1996). Meaningful learning is enhanced by intrinsic motivation, perceived freedom, and surrounding culture of the individual. Through cognition, affect, and psychomotor the individual makes sense out of his/her experiences (Dewey, 1938; Novak, 1998). Outdoor educators have capitalized on these characteristics connecting the outside world with learning content.

Outdoor learning programs (i.e., outdoor education, experiential education, and adventure education) often refer to Dewey's "learn by doing" philosophy and educational theory (Hammerman, Hammerman & Hammerman, 1994). In this approach, the classroom becomes a living laboratory that incorporates experiences from all the learning contexts (i.e, informal, nonformal and formal). Specific to learning, Dewey defines the educative experience as testing theory and "prepare(s) a person for later experience of a deeper and more expansive quality" (Dewey, 1938, p. 28). In his educational philosophy, Dewey believed education should provide opportunities for learning through direct experience and be directed toward the whole person: cognition, affect, and action (Raiola & O'Keefe, 1999).

Expeditionary learning, developed by Outward Bound USA and based on the educational philosophy of Hahn, is a student-driven journey of self-discovery, passion and challenge (Flavin, 1996). The method builds on student experiences that enable them to see their strengths and weaknesses (Garvey, 1995) to promote self-directed learning. Expeditionary Learning seeks to promote critical thinking skills through in-depth investigation of topics, thus becoming an "adventure in learning."

The experiential learning circle connects outdoor learning theories to the classroom through creating a living laboratory (Kolb & Fry, 1975). The learning circle has four elements: 1) concrete experience, 2) observation and reflection, 3) the formation of abstract concepts, and 4) testing in new situations. Within these elements, there is a recognition of the student being in control of his/her learning and faculty's job to assist, not control in his/her learning (Boyatzis, Cowen & Kolb, 1994). Crucial to experiential learning is reflection or debriefing of the learning experience. In the living laboratory, reflection allows the individual to begin to make sense of his/her uncertainty regarding the new information, make adjustments to his/her mental model and foster continued curiosity for acquiring new information (Dewey, 1958).

The Living Laboratory

Learning is not just a change in behavior but "leads to a change in the meaning of the experience" (Novak & Gowin, 1984, p. xi). After assessing the curriculum and its ability to provide meaningful connections and real world applications to the profession, we determined a need to identify a teaching method that was purposeful and based on problem-centered learning (Dewey, 1938). A pedagogy that allows the students to meaningfully explore their interests and build links to comprehending the recreation and leisure profession. Learning had to be both meaningful and experiential. In meaningful learning, the learner is actively seeking to make sense of new information in light of prior information (Ausubel, 1968; Novak, 1998). In experiential learning, the experience is the basis for learning (Kolb, 1984). Through explorations of experiential and expeditionary learning theory (Flavin, 1996) and implementation in the college classroom (Boyatzis, Cowen & Kolb, 1994), the idea of an integrated block curriculum emerged. For Fall semester 2005, the core courses: Introduction to Leisure Services, Inclusive Practice in Leisure Services, Programming in Leisure Services and the Leadership Laboratory in Leisure Services were blended into a 10-credit hour course, team-taught by three instructors. Using the research method of participant observation, at the end of semester, we will be able to discuss lessons learned along the journey, offer recommendations and research questions regarding in bringing outdoor education principles and practices into the undergraduate classroom.

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Empowerment Transformed at an All-Girls Summer Camp

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In most reports on gender and the outdoors, all-female outdoor adventure is described as an extremely liberating experience for its participants. These reports have described how outdoor adventure environments provide a freedom from the culturally constructed ideals of femininity, particularly the relentless image of the body ideal (McDermott, 2004). Further, in outdoor adventure, women can be strong, physical, and active rather than passive, which McDermott described as a "gender-resisting physicality." Overall, outdoor adventure was empowering to its female participants for how it contributed to alternative understandings of selves as women.

Although these findings relate to studies that focus on adult women, *can they be extended to girls' experiences as well, and to the summer camp setting*? In other words, are all-girls summer camp experiences similarly empowering and liberating to the girls and young women who attend and work in these environments? Clearly, it is not difficult to find camps that make such claims. However, are they supported by experience?

This paper explores theses questions within the context of Camp X, an all-girls residential camp. In the summer of 2005, the first author spent six weeks at [Camp X], hired to serve as the camp's ropes course director, and the following description is based on her observations of the camp environment. It is important to note that these observations were not taken as part of a formal research study but instead are drawn from the first author's personal notes and reflections collected during her work stay at the camp. The following section is written in first person, to reflect the experiences of the author.

I was drawn to the camp out of my interest in working with girls in the outdoors, and I was looking forward to learning more about facilitating a positive learning environment for women. The philosophy and aims of the camp were commendable: "At [Camp X] our philosophy is to help each individual grow – socially, emotionally, intellectually and physically in a safe and happy environment…[Camp X] is where fun and friendship come together in a spirit of adventure…It is the perfect setting to explore nature and discover yourself…Our qualified counsellors are models of the strong and positive attitudes we look to encourage in [Camp X] girls…" (Camp website) However, my experience as a worker trying to fulfill the camp mission was a frustrating one, as I realized that the camp philosophy was not being actively facilitated and that the lessons and social environment may actually be quite contrary to the goals.

Rather than serving as a setting to foster and support new challenges, the culture of the camp was one of laissez-faire. Although the camp did have the structures and resources to facilitate outdoor challenge (e.g. ropes course, out-tripping), oftentimes campers and staff were discouraged from using these activities in a challenging way. For example, campers who wanted to raise their skill level in various camp activities (and earn badges in the process) were often redirected towards working on their "fun levels" instead. Another way that engaging in outdoor challenge was discouraged was in the area of out-tripping. For example, as a new staff member, I was forewarned that these activities tended to be staffed mostly by lesbians, which was an identity with lower status in this camp setting.

Also, rather than serving as a time to escape the body ideal, this camp environment seemed to amplify the attention given to body awareness and monitoring. Many staff used their instructional time to sun-tan and socialize, and string bikinis were the swim wear and 'casual clothing' of choice. This was pervasive to the extent that, upon seeing all lifeguards on the dock dressed in a bikini, a new camper asked me, "Emily, am I supposed to wear a bikini for my swim test?" Further, displaying one's body was linked to the idea of empowerment. For example, at a 'chapel' session, where "why I love camp" was the focus, one of the counsellors-in-training stepped up to the podium wearing her string bikini and spoke of how she loves camp because of the confidence she'd gained in feeling comfortable wearing her bikini.

Overall the culture I encountered was one in which girls resisted opportunities for challenge. The general attitude within Camp X was that 'trying' wasn't 'cool' and the benefits of achievement and effort were overshadowed by the more dominant camp value of having 'fun.' Although fun and challenge are by no means incompatible, in the case of Camp X these two qualities seemed to be in opposition. Challenge or adversity tended to be seen as a quality that undermined or lessen the amount of 'fun' that a girl or woman may experience. Further, fun had become almost the enemy of any effort of campers to develop competency.

Discussion

How come this all-girls camp experience did not share the same empowering qualities that tend to describe all-women's outdoor experience? One reason may relate to the camp environment. In the case of Camp X, history and tradition played a central role. As a camp founded in 1924, Camp X offered a place for women to experiment with outdoor activity, but as a form of fun and entertainment, not as a place for accomplishment – an emphasis that remains today. Although the camp saw it's role of producing "X girls," the "bright, capable leaders of tomorrow," these ideas of leadership may still carry many gendered connotations.

A second reason may be that it is not as easy to leave behind the ideals surrounding body image as it is for older women. Indeed, sexuality and body-image may perhaps have been magnified because Camp X did in fact achieve it's 'safe' environment for experimenting with these very common issues of youth. These girls felt free to internalize and interpret these concepts on their own terms, but without any aspects of vulnerability and negative consequence, which allowed them to 'run' with these issues. However, what may not be clear is how fully these girls are aware of the social roles they are acting out.

The Camp X experience may unfortunately be more common than is recognized in literature on women's experiences in the outdoors. Although there is significant proof that outdoor experiences can and do provide a positive experience with numerous

benefits, it is also important to consider the instances when there are alternative outcomes. In reflecting on this residential camp experience, it seems that there are gaps in understanding all-female outdoor environments and how to best facilitate them. This reflective paper seeks to inspire questions and deeper examination of outdoor experience for both girls and women.

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The Value of a Service Ethic of Employees in an Outdoor Service Organization:
A Means-End Study

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Background:

This study examines the core value of service among Outward Bound staff by using means-end theory. The use of the means-end theory has traditionally been used to study consumer behavior. In the past, means-end theory has been used in the adventure context through examining outcomes associated with ropes course and Outward Bound participation. Previous Outward Bound studies examined immediate outcomes associated with participation on an extended wilderness course. The means-end theory links attributes (the physical aspects or characteristics to describe a service or product), with consequences (desirable or undesirable results), with values (end states that consumers are trying to achieve). In this study, the principle investigator examines the service ethic related to Outward Bound staff. Service is one of the core components of Outward Bound and is built into every Outward Bound course. Outward Bound core values and design principles define service as "an active expression of valuing our common humanity, our diversity, and the natural world" (Outward Bound USA, 2004, p. 3). A few definitions of service for Outward Bound staff include "the opportunity for people to give back to the environment and society by volunteering their time and skills" (B. Anglin, personal communication, July 15, 2004) or "to take action to contribute/help the good of others, having a larger purpose" (L. Mattis, personal communication, July 16, 2004). This project was completed in the summer of 2004 through one-on-one on site interviews using means-end theory.

Methods/Description:

Means-end theory specifically examines the linkages between the means (the service) and the ends (the consequences and values important to the individual). This theory has typically been used to better understand consumer decision-making behavior, such as selecting a ski destination (Klenosky, Gengler, & Mulvey, 1993) or selecting a spring break destination (Klenosky, 2002). The approach was recently used to examine Outward Bound outcomes (Goldenberg, 2002). This research extends the use of the means-end approach in an outdoor adventure context by examining the outcomes associated with a specific group focused on service ethics among employees working for an outdoor service organization.

Study respondents were interviewed by the researcher at their perspective Outward Bound schools and questioned about their feelings on service as a component of Outward Bound programs and philosophy. The interview script asked them to explain whether or not they felt service was important and what they felt service contributed to the program. This series of questioning, known as laddering, uncovers the attributes, consequences, and values associated with the participant's thoughts and beliefs.

Results:

During the summer of 2004, interviews were conducted with 81 Outward Bound employees who worked at various Outward Bound schools from across the United States. These employees were diverse in background and age. Ladder Map (Gengler & Reynolds, 1995), a computer program, was used for data analysis once the ladders were edited and content codes were formed based on phrases or keywords. A series of hierarchical value maps (HVMs) will then be constructed based on the themes that emerged. The HVMs will summarize the key linkages among the attributes, consequences, and values that are identified. These links and relationships among the themes provide useful insight into the outcomes and values associated with the service component of Outward Bound.

Initial data from this study contributes to our understanding of the benefits derived from staff who work for an organization that emphasizes a service ethic. The data varies in results and scope from previous Outward Bound means-end research in terms of the attributes, consequences, and values associated with service in Outward Bound courses. The attributes for this study included service, Outward Bound mission, and Outward Bound. Consequences that varied from previous data included civic engagement, social contribution, and making a difference. Some of the most frequent values that emerged from the data included fun and enjoyment of life, self-awareness, self-improvement, warm relationships with others, and compassion. Values that varied strongly from past Outward Bound means-end research included world improvement, community awareness/improvement, and altruism. A complete analysis of this data will be completed in fall 2005. A full report, including HVMs, will be available at the time of the CEO Symposium.

Discussion/Implications:

These research findings do not only add to the growing body of literature on means-end theory applications, but extend the use of the theory to service and service learning in outdoor education. Research findings also uncover employee's beliefs and thoughts on core values associated with their organizations. This research is useful for Outward Bound in that it contributes to the understanding of the attribute of service and what consequences and values are associated with service. For an organization based around service, it is important to understand how employees view and value such an important core component. If the values associated with service are understood, then an organization, such as Outward Bound, can either re-emphasize service in a different way to its employees or it can maintain what it is currently promoting as a service ethic.

The significance of this study is to examine the thoughts and beliefs of employees who work for a service organization. This research can impact any organization that operates and uses service as a core component to understand how employees feel and think about service. There has been a hope or assumption by service organizations that they create a service ethic among their employees as a by-product of their philosophy. This research illustrates the consequences and values associated with a service ethic from a service organization.

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Factors Influencing Participants' Trust in Outdoor Organizations and Outdoor Leaders

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Trust plays a critical role in the field of outdoor education. The building of trust among participants is a common goal of outdoor educators (Honchalk, 1982; Smith, Roland, Hanes, and Hoyt, 1992; Fox and Mick, 1996) and is believed to influence learning outcomes (Rotter, 1967). In the absence of a trusting relationship between teacher and learner, the process of learning is hindered (Costigan, Ilter, & Berman, 1998). In addition, trust literature confirms that interpersonal trust is a key ingredient of cooperative relationships and influences teamwork (Schindler & Thomas, 1993; Gareth & George, 1998). The absence of trust in one's leader may result in unrealized goals and lack of productivity (Kramer & Cook, 2004). Cooperation, learning, teamwork, and leadership are constructs and outcomes intrinsically linked with the goals of outdoor education. Surprisingly, we know little about the process through which trust is established and maintained between participants in outdoor experiences and their outdoor leaders and between consumers of outdoor programs and organizations. Therefore, the purpose of this study was primarily to understand how trust is established between participants in outdoor programs and their outdoor leaders and between consumers of outdoor programs and organizations.

Methods Since no previous studies were identified within outdoor education that offered a specific theory of trust development, the current study represents an action research project. To create the questionnaires for this study, six experts representing campus outdoor recreation and education, the National Outdoor Leadership School, Outward Bound, the Wilderness Education Association, organized camping for people with disabilities, and the Student Conservation Association developed an extensive list of factors they believed influenced participants' trust in outdoor leaders and outdoor organizations. Through a nominal group technique, items receiving three or more votes were retained. These retained items were then phrased both positively (e.g. "Facilities are clean.") and negatively (e.g. "Facilities are dirty.") to account for trust building as well as trust erosion. Two separate instruments were created: the organizational trust questionnaire (34 total items, consisting of 17 positive and 17 negative) and the outdoor leader trust questionnaire (44 items, consisting of 22 positive and 22 negative). Participants were asked to rate the extent to which each item had an impact on their trust in an outdoor organization or an outdoor leader, respectively, on a scale ranging from zero (no impact) to ten (high impact). Data were collected in two university outdoor education programs, one in the west and one in the southeast, during the fall of 2004 and spring and summer of 2005. Participants were voluntary registrants in for-credit outdoor skills classes and received either the outdoor organization or the leader questionnaire.

Results For the outdoor organization questionnaire, 195 usable responses were received. The sample was 53% male/47% female, and had an average age of 22.5 years. For the outdoor leader questionnaire, 181 usable responses were received, resulting in a sample that was 53% female/47% male and had an average age of 22.8 years.

Descriptive statistics were computed for each item, and the five most and least influential items (based on mean scores) were identified with respect to building and eroding trust in outdoor organizations and outdoor leaders (see figures 1-4). This cut-off was supported by repeated measures analyses indicating significant differences between the most and least influential items ($p<.05$). For example, Figure 1 identifies the least and most influential factors with respect to eroding participants' trust in an outdoor organization. Participants indicated that a lack of endorsement of the program/organization by a "big name" has little influence on their level of trust in that organization, but poorly maintained equipment and dirty facilities negatively affect trust quite considerably.

Discussion The identification of possible determinants of trust benefits both practitioner and organization by providing a list of positive and negative behaviors that may influence both interpersonal and organizational trust development and retention. These results provide some guidance to outdoor organizations and outdoor leaders regarding where they should focus (and save) their efforts with respect to building trust among participants.

For outdoor organizations, the factors with the greatest impact on both the development and erosion of trust involve safety, cleanliness, and organization of staff and information. Factors with the least influence include, primarily, marketing issues – testimonials, brochure quality, etc. Word of mouth is very important, but outside the control of the organization. Therefore, it is more important for outdoor organizations to attend to the concrete dimensions of their program than to the more esoteric dimensions. In essence, a solid, well-run, and safe program will speak for itself.

For the outdoor leaders, results support the importance of the "hard skills" needed to lead a safe outing with respect to building trust, but also suggests the potential impact of a lack of "soft skills" on the erosion of trust. The practical application of this finding confirms what we know intuitively: Although an outdoor leader may be an excellent climber, for example, he or she may still lose participants' trust by not communicating effectively or by behaving hypocritically.

Limitations of this study include the exploratory nature of the instruments. In addition, the sample of university outdoor education students may not be representative of other outdoor education programs. Finally, the exploratory nature of this study, while providing a foundation for future research, precluded explicit hypothesis testing. Such future research will include a factorial survey approach to determine the relative impact of each of the top five influences on the development and/or erosion of trust.

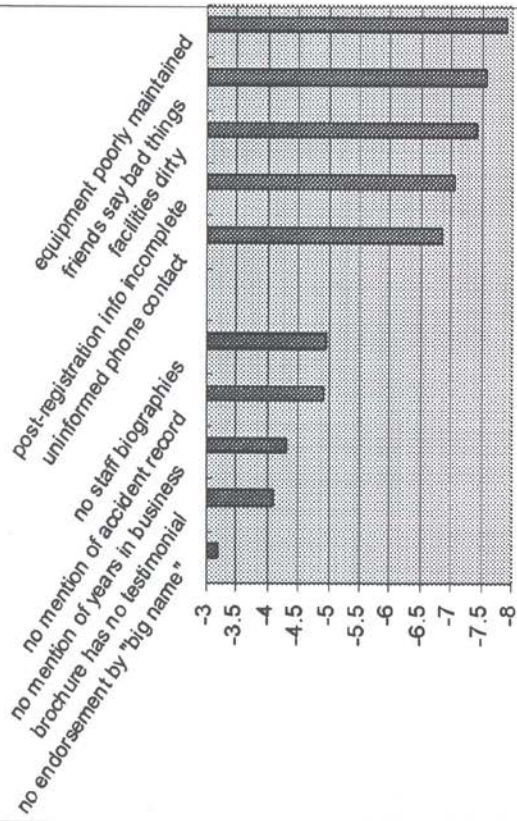Figure 2: Positive influences on trust in outdoor organizations

friends say good things
facilities is well-maintained
equipment is clean
phone person knowledgeable
staff bios show qualified to others
quality brochure and website
positive compared to testimonials
expensive for 25 years
in business endorsement
well-known person

9.5 8.5 7.5 6.5 5.5 4.5 3.5

Figure 4: Positive influences on trust in outdoor leaders

is honest
is calm in crisis
knows itinerary
shows respect
communicates effectively
asks for feedback
makes eye contact
organization's philosophy
agrees w/organization's
does not show favoratte
appearance appropriate

9.00 8.50 8.00 7.50 7.00 6.50 6.00 5.50 5.00

Figure 1: Negative influences on trust in outdoor organizations

equipment poorly maintained
friends say bad things
facilities dirty
post-registration info incomplete
uninformed phone contact
no staff biographies
no mention of accident record
no mention of years in business
brochure has no testimonial
no endorsement by "big name"

-3 -3.5 -4 -4.5 -5 -5.5 -6 -6.5 -7 -7.5 -8

Figure 3: Negative influences on trust in outdoor leaders

not knowledgeable about safety
does not stay calm in crisis
does not have enough experience
does not communicate effectively
does not practice what he/she preaches
shows favoratism
disagrees w/organization's philosophy
does not use participants' names
does not make eye contact
appearance seems inappropriate

-4.50 -5.00 -5.50 -6.00 -6.50 -7.00 -7.50 -8.00 -8.50

Leadership Development through an Outdoor Leadership Program
Focusing on Emotional Intelligence

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Outdoor leadership involves a wide range of issues, and the competencies of outdoor leadership are often categorized into three types of skills: (a) *hard skills,* including technical skills, safety skills, and environmental skills; (b) *soft skills,* including instructional, interpersonal, and organizational skills; and (c) *meta skills,* which involve problem-solving, decision-making, and judgment skills (Priest, 1999). Juxtaposed to this research in outdoor leadership, emotional intelligence has become an increasingly visible construct for both identifying potentially effective leaders, and as a tool for developing effective leadership skills (Palmer, et al., 2001). Salovey and Mayer (1990) defined "emotional intelligence as the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (p189). Feldman (1999) suggests that emotional intelligence consists of *core skills,* such as knowing yourself, maintaining control, and perceiving others accurately; and *higher-order skills,* including taking responsibility, generating choices, and embracing a vision. Considering Feldman's (1999) theory of emotional intelligence and the three categories of outdoor leadership competencies identified by Priest (1999), emotional intelligence may be an important component in training outdoor leaders. Since many outdoor leadership programs emphasize leadership development, not limited to the outdoor setting, there is a need to provide evidence of leadership development through outdoor leadership programs using emotional intelligence as an indicator of leadership. In addition, little research has been conducted on the intrapersonal and emotional aspects of outdoor leadership; a major aspect of concern in the area of outdoor leadership research.

In a similar fashion, Burns (1978) proposed that the leadership process occurs in one of two ways: either *transactional* or *transformational*. Burns described transactional leaders as emphasizing work standards, assignments, and task-oriented goals. Conversely, transformational leaders focus on elucidating on the importance and value of designated outcomes and ways of achieving them. As such, transformational leaders strive to motivate followers to achieve beyond what they originally thought was possible. Within this framework, transformational leadership was thought to be a potentially important style inherent in many outdoor leadership situations. Hayashi and Ewert (2005) examined outdoor leaders' emotional intelligence and transformational leadership with the consideration of outdoor experience levels, and found a moderate and positive relationship between emotional intelligence and transformational leadership and contributions of past outdoor experience to development of emotional intelligence as well as transformational leadership. Accordingly, this study explored outdoor leadership from the perspectives of emotional intelligence and transformational leadership.

The purpose of this study was to identify how an outdoor leadership program experience impacts students' development of emotional intelligence and transformational leadership. Other critical information regarding development of emotional intelligence and leadership, such as the relationships between level of outdoor experience and development of emotional intelligence, and kinds of experiences that contributes to development of emotional intelligence were also investigated.

This study was designed to answer the following research questions:
1. What is the relationship between emotional intelligence and transformational leadership of students who participated in an outdoor leadership program?
2. Are there significant differences in the emotional intelligence and transformational leadership of individuals after participating in an outdoor leadership program?
3. What kinds of experiences during programs are associated with development of participant reported emotional intelligence?

Methods

Students who participated in a National Standard Programs (typically 21-35 days) sanctioned by Wilderness Education Association were asked to complete a set of questionnaires before and after the program from March to November 2005. The questionnaires include the BarOn Emotional Quotient Inventory: Short (EQi:S) (Bar-On, 2002), the Multifactor Leadership Questionnaire (MLQ 5X short) (Bass & Avolio, 2000), the Outdoor Leader Experience Use History (OLEUH) (Galloway, 2003), the New Social Desirability Scale (NSDS) (Strahan & Gerbasi, 1972), and the Emotional Intelligence Experience Questionnaire which consists of open-ended questions and the importance scale regarding 5 components of emotional intelligence. The instructor's evaluations of student leadership were collected as additional information. Eight students were also asked to participate in semi-structured interviews after the program to obtain deeper information about their experiences during the program that contributed to their development of emotional intelligence and leadership.

In order to compare the effect of the program, students in a classroom based undergraduate course were asked to fill out the EQi:S, MLQ and NSDS. They were asked again to fill out same questionnaires three weeks after the first survey.

Results

A preliminary analysis of the data from 60 participants indicated that experience of outdoor leadership program led the positive changes in emotional intelligence, specifically intrapersonal, stress management, and adaptability aspects of emotional intelligence. Several interaction effects with gender and the levels of past outdoor experience were also found. The data from two more courses will be added to analyze, and the full report of results and discussion regarding research questions will be presented at the January symposium.

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Collective Meanings of an Outdoor Leadership Program Experience: Relationships that Matter

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Background

Outdoor leadership programs have evolved out of a need to provide competent outdoor leaders. "Theoretically, when college students participate in an outdoor leadership course they begin at a point of entry then, through a curricula of instruction and experiences, exit as 'outdoor leaders'" (Roberts & Galloway, 2000, p. 17). Research has provided much with regard to outdoor leadership curricula and the specific competencies and qualities desired for outdoor leaders (e.g. Buell, 1981, 1983; Cousineu, 1977; Green, 1981; Priest, 1984, 1986; Raiola, 1986; Swiderski, 1981); however, less has been concerned specifically with the outdoor leadership development experience (e.g. Medina, 2004; Sharpe, 2000; Sibthorp, 2000). Practitioners and researchers alike have generally accepted the notion that outdoor leadership development programs can provide an empowering experience for participants (e.g. Ewert, 1989). Despite this, perspectives of the students who have lived the experience and who have undergone the mechanisms of change are typically not well represented. Ewert (1989) suggests that participants of such programs may arrive at a common understanding of their shared experience (p. 40). It was in this vein that the current research project was undertaken.

The purpose of this study was to describe the perceptions and meanings of the lived experiences of participants of an outdoor leadership program, the Conservation and Outdoor Recreation/Education (CORE) program at Indiana University. The CORE program is "a semester-long curriculum encompassing many of the experiential elements found in well known outdoor programs such as Outward Bound and the National Outdoor Leadership School (NOLS)" (Meier, 1996, p. 82). The current research team collected data over the course of several years in order to gain a more descriptive and thorough account of the outdoor leadership development experience in hopes of capturing the perspective of the students concerned therein. The significance of this study is grounded in the paucity of research activity that focuses uniquely on the student perspective in outdoor leadership development programs.

Methodology

Given the stated purpose of this study, the methodology of choice was qualitative in nature. In speaking of methodological concerns, Roberts & Galloway (2000) recommend, "If we want to know more about the 'experience' of individuals relating to a central phenomenon (such as what happens during an outdoor leadership course) and the meaning they ascribe to these experiences, then a phenomenological study would be a more valid approach" (p. 19). Denzin and Lincoln (2003) offer that qualitative researchers often utilize and interconnect more than one interpretive practice in a study in hopes of gaining a better understanding of the subject at hand (p. 5). As such, the current research design involved the collection and analysis of in-depth phenomenological interviews as the primary data set, with ongoing inductive analysis of supplementary course documents, participant observations, and visuals in the form of participant photographs. In all, a total of 25 interviews were conducted between the years of 2001 and 2005 by three independent researchers on four separate occasions. The researchers utilized an extensive knowledge of the program and participants to guide the selection of interviewees. The criteria used for sampling included: (a) the participants were graduates of the CORE program; (b) participants had an interest in becoming a co-researcher to help understand and describe the meanings ascribed to their CORE experience and could articulate their experiences well; and (c) participants represented a variety of perspectives (i.e. were chosen from different expedition groups), including a maximum diversity of backgrounds. All data sets were explored by way of constant comparison.

Throughout the process of data analysis, significant measures were taken to insure trustworthiness (Creswell, 2003, p. 196). When possible, member checks were initiated to determine the accuracy of findings. Critical colleagues were employed to offer validation of the ongoing analysis. Effort was made to search for instances which would negate potential themes or provide alternative interpretations. Data triangulation was achieved through constant comparison of course documents, reflexive journal entries, visuals, and individual interview data sets for each respective CORE program year. Thick descriptions, embellished with direct transcript quotations, will be offered in the final reporting of the results from this ongoing study. Researchers' roles and biases were clarified throughout the study.

Results and Discussion

Qualitative research does not lend itself to law-like generalizability. Instead, a thorough understanding of particular experiences may enhance transferability of results. Based on our current understanding of the findings from this study in progress, an assertion can be made that participants often identified the meanings that were ascribed to the outdoor leadership experience as a result of developing *relationships*. Initial analysis shows that the relationships may be categorized as environmental, interpersonal, or intrapersonal. This finding can be supported by collectively examining the literature concerning outdoor-related experiences (such as wilderness experience, adventure experience, and challenge course

experience). Several authors document similar themes concerning *relationship with nature* (Arnould & Price, 1993; Fredrickson & Anderson, 1999; Loeffler, 2004; McIntyre & Roggenbuck,1998; Patterson et al.,1998), various forms of personal development or *relationships to selves* (Arnould & Price, 1993; Davidson, 2001; Goldenberg, 2002;Goldenberg, et al., 2000; Loeffler, 2004), as well as *relationship with others* (Arnould & Price, 1993; Clark & Goering, 1991; Goldenberg, 2002; Loeffler, 2004; Witman, 1999). These meanings ascribed to "relationships" and the role of 'relationships' in the leadership development process will be further explored and discussed.

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