Abstracts from the Coalition for Education in the Outdoors 13th Biennial Research Symposium

Held at

Indiana University's Outdoor Center
Martinsville, Indiana
January 22-24, 2016

Compiled by

Kendra Liddicoat, University of Wisconsin - Stevens Point
Sharon Todd, SUNY Cortland
Anderson B. Young, SUNY Cortland

State University of New York at Cortland
P.O. Box 2000
Cortland, New York 13045

Preface

Welcome to the 13th Biennial Coalition for Education in the Outdoors Research Symposium. Whether you are using this compilation as an attendee or reading it after the event, we are glad to include you in the work of the Coalition.

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 founders of CEO envisioned 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, *Research in Outdoor Education.* Indiana University's Bradford Woods was chosen as the site of the first symposium in 1992 and every one since then.

Twenty-four years later, the CEO Research Symposium has more than doubled in attendance and in the number of papers presented. Fortunately, the event is still not too large and retains the informal and highly interactive atmosphere that people valued from the start. It attracts scholars and practitioners from a wide variety of academic disciplines and outdoor education professional settings. The purpose has remained the same.

The aim of the CEO Biennial Research Symposium is to assist outdoor educators in advancing the philosophical, theoretical, and empirical bases of outdoor education. It does so in several ways. First, the symposium enables scholars to present their work to one another and, through this book of abstracts and *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. Many on-going research partnerships were formed at a CEO symposium. Third, the symposium provides a forum to address areas of new or ongoing concern to researchers and scholars in outdoor education.

We are pleased to announce two recipients of the Coalition for Education in the Outdoors Graduate Student Research Scholarships. Jed Brensinger, The Ohio State University, and Elizabeth Gill, California Polytechnic State University, were chosen in a blind review of abstracts with a graduate student as the lead author. These scholarships are funded by proceeds from the raffle held during the 2014 symposium. A similar raffle will be held at this symposium.

We owe thanks to many people who make this event possible. The CEO Research Committee and the authors, all listed later, are the ones who bring this program to life. Leo McAvoy, University of Minnesota, Jayson Seaman, University of New Hampshire, Karla Henderson, North Carolina State University, and Becca Franzen, University of Wisconsin – Stevens Point, helped greatly in the initial stages of putting the program together. Kendra Liddicoat, University of Wisconsin – Stevens Point, did yeoman's work in coordinating the reviews of abstracts. Shay Dawson and his staff at Bradford Woods make getting there and being there so comfortable. Special thanks go to Tim Street and Sheryl McGlory, whose work with this event began months before our arrival. Bradford Woods is an extension of the Department of Recreation, Park, and Tourism Studies at Indiana University. We thank that department and its interim chair, Lynn Jamieson, for their continued support of Bradford Woods and the CEO Research Symposium. They generously host our evening socials with Lorin DeSpirito and Seann Conklin providing logistical support. Three publishers, Sagamore, Human Kinetics, and Venture, have donated books for our raffle, the proceeds of which fund scholarships for graduate-student authors of outstanding research presented at the symposium. Finally, our thanks go to SUNY Cortland President, Erik Bitterbaum, and Provost, Mark Prus, for their continued support of the Coalition for Education in the Outdoors and to Charles Yaple, who keeps it going.

Sharon Todd and Anderson Young
For the CEO Research Committee

Coalition for Education in the Outdoors Research Committee

M. Deborah Bialeschki
American Camp Association

Camille Bunting
Texas A&M*

Chris Cashel
Oklahoma State University*

Alan Ewert
Indiana University

Michael Gass
University of New Hampshire

John Gookin
The National Outdoor Leadership School

Karla Henderson
North Carolina State University

Kendra Liddicoat
University of Wisconsin – Stevens Point

Leo McAvoy
University of Minnesota*

Timothy O'Connell
Brock University

Karen Paisley
University of Utah

Keith C. Russell
Western Washington University

Jayson Seaman
University of New Hampshire

Jim Sibthorp
University of Utah

Sharon Todd
SUNY Cortland

Anderson Young
SUNY Cortland

*Emeritus Committee Members

Table of Contents

13th Biennial Research Symposium at Bradford Woods

SCHEDULE OF EVENTS

Friday, January 22, 2016

2:00 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).

3:00 Meet and Greet - ***Carr Center***

4:15 Opening Session - ***Carr Center***

Words of welcome	Sharon Todd, CEO Research Committee Lynn Jamieson, Indiana University Shay Dawson, Bradford Woods
Logistics	Sheryl McGlory, Bradford Woods
Symposium Overview	Sharon Todd

5:30 Dinner - ***Baxter Dining Hall***

6:45 Featured Speaker – Tom Holland, Chief Executive Officer, American Camp Association – ***Carr Center***

7:15 Issues and Challenges in Outdoor Education Research: Setting Our Agendas at CEO - ***Carr Center***
Facilitators: CEO Research Committee

7:30 Research Presentation Session I - Adventure Education - ***Carr Center***
Presider: Garrett Hutson, Brock 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 **Examining the Adventure Experience from Multiple Perspectives: Psychological, Observational, and Biophysical**
Alan Ewert, Yun Chang, Curt Davidson, and Ryan Hines, Indiana University

7:55 **There's Two Ways to Count Your Change: An Investigation of Retrospective Pre and True Pre**
Brad Faircloth, Montreat College; Andrew Bobilya, Western Carolina University

8:15 **Wilderness Encounters: A Historical Analysis of Outdoor Adventure Education and the Human Potential Movement, 1962-1984**
Jayson Seaman, University of New Hampshire; Franklin Vernon, University of Wisconsin - Madison

8:35 General Discussion

Friday, January 22, 2016 (continued)

8:55 Poster Session and Evening Social - *Baxter Dining Hall*

An Examination of Outward Bound Courses and College Readiness: Changing Mindsets and Improving Sense of Belonging
Dan Richmond, Lisa Meerts-Brandsma, and Jim Sibthorp, University of Utah

Environmental Education and Advocacy: Organized Multiday Canoeing and Kayaking Events
Ryan K. Hines, Eric Knackmuhs, and James Farmer, Indiana University

Healthy Eating and Physical Activity at Residential Summer Camps: An In-depth Examination of Programming.
Ellen King and Kendra Liddicoat, University of Wisconsin-Stevens Point

Camp Counselors' Perspectives with Teaching Social and Emotional Learning Skills to Youth
Megan Owens, University of Illinois, Urbana-Champaign

Extended Effects of Participation in a Semester-long Outdoor Leadership Training Program
Molly Staley, Indiana University Bloomington

Evaluating the Development of Life Skills through a 4H Adventure Education Challenge Course Experience
Scott VanderWey, Robby Cooper, and Kevin Wright, Washington State University

Exploring an Emerging Line of Research: Brain Wave Activity and Outdoor Experiences
Brad Daniel and Brad Faircloth, Montreat College

Saturday, January 23, 2016

7:30 Breakfast - *Baxter Dining Hall*

8:25 Research Presentation Session II - Outdoor Education with College Students - *Carr Center*
Presider: Christine McCart, Black Hills State University

8:30 **Insects, Writing, and Art: Comparing Outcomes from Field Experience in Two Types of Entomology Classes**
John Bennion, Lauren Fine, Telyn Peterson, Mat Duerden, and C. Riley Nelson, Brigham Young University

8:50 **Outdoor Orientation Programs as Idioculture: Changing of Beloved Organizations**
Brent Bell, University of New Hampshire; Christa Ricker Torres, Tufts University

9:10 **Teaching and Learning Servant Leadership in the Outdoors**
Sydney Sklar, Jerome Gabriel, and Jessica Monu, University of St. Francis

9:30 **The Development of Judgment and Decision Making in Outdoor Leaders: An Actor-oriented Transfer Perspective**
William Hunter Holland, Clemson University; Bruce Martin, Ohio University

9:50 General Discussion

10:00 Refreshment Break

10:20 Research Presentation Session III - College Orientation Programs - *Carr Center*
Presider: Lisa Meerts-Brandsma, University of Utah

10:25 **Outdoor Orientation Leaders and Perceived Alcohol Use**
Brent J. Bell, University of New Hampshire

10:45 **Taking Stock: Assessing Six Years of Programming for Sense of Community in an Outdoor Orientation Program.**
Timothy S. O'Connell, Brock University; Ryan A. Howard, Lakehead University; Anna H. Lathrop, Brock University

11:05 **The Impact of an Outdoor Orientation Program on Student Persistence**
Tom Quinn, University of Wisconsin - Stevens Point

11:25 **Outdoor Adventure Education and Thriving: The Relationship between Outdoor Orientation and College Student Well-being**
Wally Rude, Ambrose University, Calgary; Andrew Bobilya, Western Carolina University; Brent Bell, University of New Hampshire

11:45 General Discussion

Saturday, January 23, 2016

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

1:25 **Research Presentation Session IV - Environmental Education and Sustainability -*Carr Center***
Presider: Elizabeth Gill, California Polytechnic State University

1:30 **Holding On to Childhood Memories: The Impact of Childhood Nature Collecting**
Jed Brensinger and Kristi Lekies, The Ohio State University; Thomas Beery, Kristianstad University, Sweden

1:50 **Leave More Trace**
Chris Loynes, University of Cumbria, Ambleside, UK

2:10 **Outdoor Ethics through the Lens of the Four Component Model**
Chris McCart, Black Hills State University

2:30 **The Impact of Being Outdoors on Human Well-being: A State of the Research and Theories**
Denise Mitten, Prescott College

2:50 General Discussion

3:00 **Refreshment Break - Baxter *Dining Hall***

3:15 **Breakout Group Discussions on Issues and Challenges in Outdoor Education** – *Baxter Dining Hall and other locations*

4:45 Research Presentation Session V - Mental and Psychological Benefits - ***Carr Center***
Presider: Ryan Howard, Lakehead University

4:50 **Outdoor Adventure Therapy to Increase Physical Activity in Young Adult Cancer Survivors**
Elizabeth Gill, Marni Goldenberg, Heather Starnes, and Suzanne Phelan, California Polytechnic State University

5:10 **Identity Awareness through Outdoor Activities for Adolescents with Serious Illnesses**
Ann Gillard, The Hole in the Wall Gang Camp, Ashford, CT

5:30 **Summer Camp Experiences as a Vehicle for Fostering Psychological Capital among Adolescents who Identify as LGBTQ**
Marek Samblanet and Andy Szolosi, Ohio University

5:50 **Using Outdoor Adventure Education in College Pathway Programs: The Development and Retention of Non-cognitive Factors**
Dan Richmond and Jim Sibthorp, University of Utah; Shannon Rochelle, John Gookin, and Rachael Price, National Outdoor Leadership School

6:10 General Discussion

6:30 Dinner - ***Baxter Dining Hall***

7:45 Evening Forum - ***Baxter Dining Hall***
Raffle Drawings
Brief highlights of afternoon breakout discussion groups
About ***Research in Outdoor Education***
Symposium summary and evaluation – CEO Research Committee

9:00 Social - ***Baxter Dining Hall***
Socials sponsored by the Indiana University Department of Recreation, Park, and Tourism Studies

Sunday, January 24, 2016

Continental breakfast available from 5:00 - 8:00 a.m. - *Baxter Dining Hall*

.

Thank you for being here. See you in 2018.
Travel safely.

Examining the Adventure Experience from Multiple Perspectives: Psychological, Observational, and Biophysical

Alan Ewert, PhD., Indiana University, Yun Chang, MS, Indiana University, Curt Davidson, MS, Indiana University, Ryan Hines, MS, Indiana University

Background

Adventure Education (AE) featuring activities such as rock climbing, white-water boating, and mountaineering, continue to increase in popularity, both domestically and globally (Woollings, et al., 2014). Tsaur, Lin, and Cheng (2015) report that perceiving challenge is a critical aspect in the adventure experience and these experiences are often thought to be both highly impactful and enriching to individuals in a myriad of ways (Bowen & Neill, 2013). However, the challenge part of the experience typically involves the participant experiencing various degrees of stress as a consequence of often being exposed to relatively high levels of perceived or real risk while in demanding natural landscapes. It has remained difficult to measure various psychological and physiological constructs during the actual participation phase of these AE activities. With few exceptions, such as Bunting's work (1995, 2000), data collection has typically consisted of using a psychological-based instrument with a pre/post format, usually immediately before and after the activity. Using multiple-methods, this study utilized several innovative approaches to determine changes in levels of stress by measuring changes in a biophysical marker (cortisol) and identifying what psychological constructs such as fear and excitement emerged for individuals as they rappelled off a 100 foot cliff. Thus, in part, this study utilized an *in situ* collection process for measuring psychological impacts and biochemical changes while participants were actually engaged in a rappelling activity. This information is important since very little is known about the way in which biophysical and psychological changes occur while actually participating in the adventure experience (Bowen & Neill, 2013).

Methods

Stress is a common element in many AE activities and in this study the cognitive activation theory of stress (CATS) developed by Ursin and Eriksen (2004; 2010) was used as the underlying theoretical framework. This theoretical construct describes four aspects of stress, including stress stimuli, the stress experience, the stress response, and the experience of feeling stress. Salivary cortisol was chosen as the biophysical marker for measuring levels of stress and is a steroid hormone belonging to a broader class of steroids called glucocorticoids which are produced by the adrenal gland and secreted during a stress response. The primary purpose of cortisol is to redistribute energy (glucose) to high priority parts of the body such as the heart, brain, and muscles and is often associated with the concept of "fight or flight." Participants were undergraduate students engaging in a semester-long outdoor leadership program at a Midwestern university and were asked to provide three different samples of saliva.

Levels of cortisol were measured using a competitive immunoassay (ELISA) specifically designed and validated for the quantitative measurement of salivary cortisol (Hellhammer, Wust, & Kudielka, 2009; Shimada et al., 1995). Samples were collected the day before the rappel (T1),

immediately before the rappel (T2), and immediately after the rappel (T3). In accordance with the diurnal cycle of cortisol, all three data collections occurred at approximately the same time period (10:00-12:00pm). A video solicitation component using GoPro helmet-mounted cameras was used to record students, both visually and verbally, during the actual rappelling activity. In addition, using a semi-structured interview method, students were asked to describe what they were experiencing throughout the rappelling experience. The interviews took place immediately before the rappel while on the cliff edge, half-way down the cliff, and immediately upon reaching the ground. The qualitative data were coded and analyzed using NVivo 10 software for themes that represent what the students were experiencing and how these themes changed before, during, and immediately after the activity (Silverman, 2006). Quantitative data (levels of cortisol) were analyzed using SPSS 22.

Results

Subjects were evenly split by gender (9 males and 9 females). For measuring changes in stress, 17 complete sets of cortisol data were obtained. A one-way repeated measures ANOVA was conducted to determine whether there were statistically significant differences in cortisol levels as a function of time. Results indicated significant differences in cortisol levels between the three points of time ($F(2,28) = 4.786$, $p < .05$), with cortisol levels decreasing between T_1 ($M = .26$, $SD = .12$) to T_2 ($M = .16$, $SD = .07$), and increasing from T_2 to T_3 ($M = .26$, $SD = .18$). No significant differences between T_1 and T_3 ($p = .922$) were observed, nor was there a main effect of gender. When compared to the edge of the cliff, a site commonly assumed to elicit the highest levels of stress, the data suggest that participants experienced higher levels of stress the day before and during the rappel, than immediately before it.

Using GoPro helmet mounted cameras for recording the semi-structured interviews, the qualitative portion of this study revealed five major themes that emerged most frequently among the subjects, including *excitement, control, trust, nervousness,* and *learning*. These themes were consistently reported throughout the three interview times.

Discussion and Implications

Surprisingly, analysis of the participants' cortisol levels revealed that participants experienced higher levels of stress the day before and during the rappel experience rather than at the edge of the cliff. These data imply that participants felt most stressed when anticipating the upcoming rappel, but not immediately before the event. In addition, from the thematic analysis, excitement was the most common emotion experienced. Subjects reported being anxious but eager to try a new activity. In addition, control, trust, nervousness, and learning emerged as important themes throughout the activity. It would appear that along with being conscious of their safety, the excitement associated with the activity and in learning new skills or gaining new insights about themselves for the activity are important considerations for the participants. These data illustrate some of the emotions and thoughts that the study participants experienced as they engaged in a high challenge activity. As such, these findings can be useful for programmers and instructors hoping to facilitate a positive, life-changing experience for their students and clients through exposing them to adventure-based activities and experiences. The cortisol findings suggest that high levels of anxiety can develop well before the actual adventure activity; suggesting that programmers and instructors should not underestimate the impact that

anticipation can play in the emotional and psychological status of their students. This fact has important ramifications for the design and implementation of the experience. Finally, future research is needed to investigate the relationship between the participant's perception of benefits from the experience and the perceived risks associated with that experience.

References

Bowen, D. J., & Neill, J. T. (2013). A meta-analysis of adventure therapy outcomes and moderators. *Open Psychology Journal, 6*(1), 28-53.

Bunting, C. J. (1995). Physiological measurements of stress during outdoor adventure activities. *Journal of Experiential Education, 18*(1), 5-11.

Bunting, C. J., Tolson, H., Kuhn, C., Suarez, E., & Williams, R. B. (2000). Physiological stress response of the neuroendocrine system during outdoor adventure tasks. *Journal of Leisure Research, 32*(2), 191-207.

Hellhammer, D. H., Wust, S., & Kudielka, B. M. (2009). Salivary cortisol as a biomarker in stress research, *Psychoneuroendocrinology, 34*, 163-171.

Shimada, M., Takahashi, K., Ohkawa, T., Segawa, M., & Higurashi, M. (1995). Determination of salivary cortisol by ELISA and its application to the assessment of the circadian rhythm in children. *Hormone Research in Pediatrics, 44*(5), 213-217.

Silverman, D. (2006). *Interpreting qualitative data: Methods for analyzing talk, text, and interaction*. London: Sage.

Tsaur, S-H, Lin, W-R., & Cheng, T-M. (2015). Toward a structural model of challenge experience in Adventure Recreation. *Journal of Leisure Research, 47*(3), 322-336.

Ursin, H., & Eriksen, H. R. (2004). The cognitive activation theory of stress. *Psychoneuroendocrinology, 29*(5), 567-592.

Ursin, H., & Eriksen, H. R. (2010). Cognitive activation theory of stress (CATS). *Neuroscience & Biobehavioral Reviews, 34*(6), 877-881.

Woollings, K. Y., McKay, C. D., Kang, J., Meeuwisse, W. H., & Emery, C. A. (2014). Incidence, mechanism and risk factors for injury in youth rock climbers. *British Journal of Sports Medicine*, 49, 44-50. doi: 10.1136/bjsports-2014-094067.

Corresponding Author: Alan Ewert, (812), 855-8116, aewert@indiana.edu

There's Two Ways to Count Your Change:
An Investigation of Retrospective Pre and True Pre

W. Brad Faircloth, Montreat College
Andrew J. Bobilya, Western Carolina University

Background

Various outdoor and adventure programs have recently developed assessment tools or partnered with researchers to investigate various aspects of program outcomes including long-term impacts (Sibthorp, Paisley, Furman, & Gookin, 2008), the instructor's influence on participant outcomes (Schuman, Paisley, Sibthorp, & Gookin, 2009) and other mechanisms that affect the transfer of learning post course (Sibthorp, Furman, Paisley, Gookin & Shumann, 2011). One major outdoor adventure program, Outward Bound (OB) has been engaged in efforts to design and implement an outcomes instrument linked to its educational framework. Luo (2011) had previously established construct validity and outcome model validation for the original, newly developed Outward Bound Outcomes Instrument (OBOI) measuring the following three factors: Character Development, Leadership, and Environmental Service. The North Carolina Outward Bound School (NCOBS) adapted the OBOI to match its educational outcomes and created the NCOBS Course Impression Survey (NCOBSCIS). A psychometric analysis demonstrated that the NCOBSCIS was a valid and reliable measure (Faircloth & Bobilya, 2013). Subsequently, differences in participants' perceptions of their own Character Development, Leadership, and Environmental Service prior to and immediately following participation in a NCOBS course were reported in a *retrospective* pre-test format (Bobilya, Faircloth, & Montgomery, 2013). This initial study reported significant change in Character Development, Leadership and Environmental Service indicating improvement in these three areas. The next step in understanding the usefulness of the NCOBCIS was to assess the 2013 data that was collected using the tool in a *true* pre-post format. The results of this second study indicated significant change in Character Development and Environmental Service (Faircloth, Bobilya & Montgomery, 2014). However, only Character Development represented an improvement. Collectively, these findings continue to raise questions regarding the most appropriate way to assess change in these kinds of programs. In other words, there is no guarantee that counting program change using these two methods will provide the same result.

Retrospective pretests are often used to reduce the potential for response-shift bias that can be result from self-report measures (Howard et al.,1979; Sibthorp, Paisley, Gookin, & Ward, 2007). However, there is evidence that retrospective pretests can produce inflated effect sizes when compared to true pre/post methods (Taylor, Russ, & Taylor, 2009). The question of how to most appropriately assess change is one that cannot be answered *apriori*, but rather must be empirically tested in light of the context and variables of interest by collecting and comparing pre, post, and retrospective pre data (Howard, Millham, Slaten, & O'Donnell, 1981). While other researchers might suggest that the retrospective pre design allows participants to more accurately evaluate where they were prior to program participation and now upon completion (Sibthorp, et al., 2007), only by comparing pre, post and retrospective pre data can researchers make informed decisions about how to measure change in their programs (Howard, et al., 1979, 1981). However, to date there is little evidence that retrospective pre and true pre data have been collected within the same study in outdoor and adventure programming. Therefore, the purpose of this study was to follow Howard et al.'s (1979) recommendation to collect retrospective and

true pre data in the same study to assess which form(s) of bias is present in the data. A secondary purpose of this study was to replicate the 2013 pre-post study to compare findings with two previous waves of data (2012 data: Bobilya et al., 2013; 2013 data: Faircloth et al., 2014).

Methods

The sample was drawn from NCOBS participants who completed an open-enrollment wilderness course of four days or longer during June – December, 2014, provided consent and completed both the Pre and Post surveys (n = 109). Five of these participants completed retrospective pre and true pre post. Participants completed the pre-survey prior to arriving and the post-survey in the field on the last day of their course. The NCOBSCIS is a 20-item measure using a 7-point Likert scale to rate the degree of agreement with each statement (1 = strongly disagree to 7 = strongly agree). The measure can be scored to generate a total score, in addition to 3 separate factor scores for Character Development, Leadership, and Environmental Service. Higher scores indicate stronger agreement with the survey outcomes (Faircloth & Bobilya, 2013).

Five comparisons were made between the retrospective and true pre data of 5 participants following the recommendations of Howard et al., 1979:

1. Comparison of mean pretest scores.
2. Comparison of mean posttest-pretest difference scores.
3. Comparison of mean posttest-retrospective pre-test difference scores.
4. Comparison of posttest means adjusted by pretest means through ANCOVA.
5. Comparison of posttest means adjusted by retrospective pretest means through ANCOVA.

Similar to the previous studies (Bobilya et al., 2013; Faircloth, et al., 2014) a repeated measures ANOVA was conducted on the entire sample to compare Pre and Post means of the Character Development (CD), Leadership (LS), and Environmental Service (ES) factors. Data collection was completed December, 2014.

Results

Paired-samples t-tests revealed a marginally significant difference between the retro (μ = 38.0, SD = 11.38) and true (μ = 43.6, SD = 5.98) pre CD scores; $t(4) = -2.19$, $p = .09$, significant differences between the retro (μ = 57.4, SD = 4.5) and true (μ = 67.0, SD = 2.55) pre LS scores; $t(4) = -4.04$, $p = .02$, and significant differences between the retro (μ = 15.8, SD = 1.1) and true (μ = 19.2, SD = 1.1) pre ES scores; $t(4) = -4.54$, $p = .01$. When comparing true pre to post scores, paired-samples t-tests revealed a significant decrease in reports of LS; $t(4) = -3.57$, $p = .02$, but not of CD or ES. When comparing retro pre to post scores, paired-samples t-test revealed a significant increase in reports of LS; $t(4) = 3.56$, $p = .02$, and of ES; $t(4) = 3.65$, $p = .02$). Two series of ANCOVA models were run examining post test scores using first the true pre, and then the retro pre scores as covariates. Only the true $F(1,5) = 26.49$, $p = .01$ and retro $F(1,5) = 72.99$, $p = .00$ pre CD scores significantly contributed to the variance in post test scores. The results of these within group analyses indicate that true pre scores are lower than retro pre scores, and that retro pre scores provide more favorable outcomes when compared to post scores. These results should not be overstated as they are derived from a very small sample (n= 5).

The results of repeated measures ANOVA using true pre and post data from the entire sample reveal significant improvements in CD $F(1, 105) = 9.06$, $p = .00$. Consistent with

previous findings, NCOBS participants report significant increases in Character Development when comparing true pre and post reports (Faircloth et al., 2014). NCOBSCIS data from various waves of analyses show that regardless of how you choose to count change (i.e., true pre or retro pre), Character Development is a significant outcome (Bobilya et al., 2013, Faircloth et al., 2014).

Discussion

This study adds to the important conversation in outdoor and adventure program literature and beyond regarding how to best assess change as a result of program participation. Currently, North Carolina Outward Bound is collecting true pre, retro pre and post data from their 2016 participants to allow for a large scale evaluation of these methods. The current study was limited by the small sample size, but it does provide preliminary findings to guide future work.

References

Bobilya, A. J., Faircloth, W. B. & Montgomery, W. H. (2013, November). *Exploring course outcomes utilizing a new Outward Bound outcomes instrument.* Paper presented at the Association for Experiential Education International Conference: Symposium on Experiential Education Research (SEER), Denver, CO.

Faircloth, B., & Bobilya, A. J. (2013). A psychometric investigation of the North Carolina Outward Bound Student Course Impression Scale. *Journal of Outdoor Recreation, Education, and Leadership, 5*(2), 115–118. doi:10.7768/1948-5123.1207

Faircloth, W. B., Bobilya, A. J. & Montgomery, W. H. (2014, October). *A confirmatory assessment of a new Outward Bound outcomes instrument.* Paper presented at the Association for Experiential Education International Conference: Symposium on Experiential Education Research (SEER), Chattanooga, TN.

Howard, G. S., Ralph, K. M., Gulanick, N. A., Maxwell, S. E., Nance, D. W., & Gerber, S. K. (1979). Internal invalidity in pretest-posttest self-report evaluations and a re-evaluation of retrospective pretests. *Applied Psychological Measurement*, *3*(1), 1-23.

Howard, G. S., Millham, J., Slaten, S., & O'Donnell, L. (1981). Influence of subject response style effects on retrospective measures. *Applied Psychological Measurement*, *5*(1), 89-100.

Luo, Y. C. (2011). Outward Bound outcome model validation and multilevel modeling (Doctoral dissertation, Indiana University). Retrieved from *ProQuest LLC.*

Schuman, S., Paisley, K., Sibthorp, J., & Gookin, J. (2009). *Instructor influences on student learning at NOLS. Journal of Outdoor Recreation, Education, and Leadership, 1*(1), 15-37.

Sibthorp, J., Furman, N., Paisley, K., Gookin, J. & Shumann, S. (2011). Mechanisms of learning transfer in adventure education: Qualitative results from the NOLS transfer survey. *Journal of Experiential Education, 34*(2), 109-126.

Sibthorp, J., Paisley, K., Furman, N., & Gookin, J. (2008). Long-term impacts attributed to participation in adventure education: Preliminary findings from NOLS. *Research in Outdoor Education, 9,* 86-102.

Sibthorp, J., Paisley, K., Gookin, J., & Ward, P. (2007). Addressing response-shift bias: Retrospective pretests in recreation research and evaluation. *Journal of Leisure Research, 39*(2), 295.

Taylor, P. J., Russ-Eft, D. F., & Taylor, H. (2008). Gilding the outcome by tarnishing the past: Inflationary biases in retrospective pretests. *American Journal of Evaluation*.

Correspondence regarding this study can be directed to Brad Faircloth: bfaircloth@montreat.edu

Wilderness Encounters: A Historical Analysis of Outdoor Adventure Education and the Human Potential Movement, 1962-1984

Jayson Seaman, University of New Hampshire
Franklin Vernon, University of Wisconsin-Madison

The present study examines the historical relationship between outdoor adventure education after 1962, the date of the first US Outward Bound (OB) course, and the ideas and practices of the Human Potential Movement (HPM), a psychological and cultural phenomenon whose zenith came in 1984 with David Kolb's influential book *Experiential learning: Experience as the source of learning and development.* Kolb's book turned the HPM's group training approach into a quasi-science by codifying it into a general model of experiential learning. Literature on the foundations of outdoor adventure education scarcely mentions the human potential movement directly (e.g., Potter & Dyment, 2014; Roberts, 2011; but, see Smith & Leeming, 2010), but we have come to see its influence as ubiquitous. Contra to previous accounts, we suggest here that outdoor adventure education is not a field *sui generis,* but should be viewed as a contemporary version of the human potential movement and its tradition of promoting self-actualization through the use of group awareness and encounter methods.

We extend previous accounts stating that, amidst the cultural upheaval of the 1960s, OB required pedagogical rationales the Hahnian idiom could no longer provide, so proponents of outdoor adventure education adopted ideas, language, and practices from humanistic psychology (Freeman, 2011; Vokey, 1987). The human potential movement supplied a set of discourses and practices that propelled OB into a new era of expansion, launching modern outdoor adventure education in the process and influentially shaping subsequent practical and scholarly agendas.

Outward Bound: From Muscular Christianity to Humanistic Psychology

Not only did 1962 usher a new wilderness-based trip format for OB, its underlying rationale evolved from a character-training program rooted in Protestant sensibilities to a self-growth program that confronted modern anxieties about the individual in mass society (Freeman, 2011). The transition was part of a larger cultural shift in language and emphasis toward secular notions of personality, also affecting traditional institutions like private boarding schools (Armstrong, 1990). The Hahnian framework of nationalism and Christian duty was potent in its ability to draw benefactors in wartime Europe and win early support among US politicians (Miner, 1990), but proved too rigid for a nascent program seeking to attract young enrollees (and staffers) increasingly attuned to the cultural currents of the 1960s. Instead, OB began to emphasize individual-level outcomes like self-concept as it adopted the language and practices of humanistic psychology. These ideas were captured in one schematic model in 1976, disseminated by OB to inform the design of other programs as part of its 'mainstreaming' initiative (Walsh & Golins, 1976; for a discussion, see Vokey, 1987)

Human potential, experiential learning, and group development

Experiential learning became available as a general framework in 1984 upon the publication of David Kolb's book, *Experiential learning: Experience as the source of learning and development*. Kolb cites many influences on his model including Piaget, Dewey, Jung, and Friere, yet, importantly, there is no necessary relationship between these theorists and a small group of people discussing 'here-and-now' experience in order to extract lessons about self-awareness and interpersonal competence. To understand this application, it is necessary to examine another influence Kolb discusses: the group training methods developed by Kurt Lewin and others at the National Training Laboratory (NTL) in Bethel, Maine, starting in 1947.

Lewin's work at the NTL was initially designed to study interactional processes as people learned to address racial and other conflicts in local communities (Bradford, 1967; Lewin, 1946). At the time, 'improving group relations' referred to the wider aim of using experimental methods of deliberative dialogue and adult education to train people as change agents to improve specific social conditions. The original program format involved experts observing members throughout trainings and then subjecting observations to systematic analysis.

Over time participants asked to be included in the post-hoc discussions, which trainers regarded as fruitful to scientific insight and instructive for participants (Marrow, 1967). As the NTL expanded, it faced a staffing shortage and trained psychotherapists as leaders. These "T-groups" and the subsequent "feedback" sessions began to move away from social and political issues to focus more on interactions and feelings discussed in the immediate setting; members would then apply this information to their own personal functioning (Gottschalk, Pattison, & Schafer, 1971). The "laboratory" method as it came to be known expanded into myriad new forms including encounter, sensitivity, and marathon groups (Eddy & Lubin, 1971).

By the early 1950s the NTL offered fewer trainings aimed at producing knowledge about racial prejudice or solving related community problems. Instead T-groups involved "teaching people how to communicate with others, the variety of modes of interpersonal communications, and how to increase the effectiveness of communication" more generally (Gottschalk et al., 1971, p. 91). Over the next several years the language and meaning of group relations and associated terms were abstracted from their original context and became available to explain, justify, and prescribe a range of (sometimes bizarre and intense) 'group' interventions designed to facilitate self-actualization; by the mid-1960s enough literature existed to support conclusions about group phases (Tuckman, 1965), which helped to both anchor and expand the movement.

Adventure programming as encounter group

The incorporation of T-group techniques and humanistic language into OB was not merely spontaneous; the connection was brokered by several advocates both within and outside the organization. Katz and Kolb (1968) attended an OB course and were generally impressed but criticized its apparent "ideology" that sudden changes in self-understanding would be achieved merely through dramatic challenges and cooperation on camp tasks. Instead, they opined, "impressive learning could occur if interpersonal exploration were encouraged" (p. 45), and they recommended emphasizing "extensive and intensive interpersonal relationships" (p. 44) in later courses. Lewicki (1975) offered a similar account of an experiment that integrated themes of encounter training into a business class. Ten Dartmouth MBA students spent 3½ days at Hurricane Island, during which time they became "more willing to confront one another's weaknesses, disclose their own faults and weaknesses, and build a more trusting and lasting relationship. … not unlike … marathon weekends in group courses" (p. 24). Kolb would continue to develop his "learning loop" concept through his involvement in T-groups during this period (see Rubin, Kolb, Farris, & McIntyre, 1969), ultimately elaborating on it in his 1984 book as the now-popular experiential learning cycle (Kolb, 1984; see also Miettinen, 2000).

Conclusion

Capturing the merger of Outward Bound and the Human Potential Movement from 1962-1984 is important to understanding models, purposes, and rationales that continue to circulate in outdoor adventure education. Discussions about the educational relevance, outcomes, and best practices of adventure programs following 'experiential' models should therefore be evaluated in light of the underlying ideology and approach of the HPM – not exclusively as the product of German innovation or as a distinctive educational tradition in its own right.

References

Armstrong, C. F. (1990). The making of good men: Character-building in the New England boarding schools. In P. W. Kingston & L. S. Lewis (Eds.), *The high-status track: Studies of elite schools and social stratification* (pp. 3-24). Albany, NY: SUNY Press.

Bradford, L. (1967). Biography of an institution. *Journal of Applied Behavioral Science, 3*(2), 127-143.

Eddy, W. B., & Lubin, B. (1971). Laboratory training and encounter groups. *Personnel and Guidance Journal, 49*(8), 625-635.

Freeman, M. (2011). From 'character training' to 'personal growth': The early history of Outward Bound 1941-1965. *History of Education, 40*(1), 21-43.

Gottschalk, L. A., Pattison, E. M., & Schafer, D. W. (1971). Training groups, encounter groups, sensitivity groups, and group psychotherapy. *California Medicine: The Western Journal of Medicine, 115*(2), 87-93.

Katz, R., & Kolb, D. (1968). *Outward Bound as education for personal growth*. Retrieved from Cambridge, MA:

Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.

Lewicki, R. (1975). Outward Bound and sensitivity training: Experiential learning in the wild. *Journal of Management Education, 1*, 20-24.

Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues, 2*(4), 34-46.

Marrow, A. J. (1967). Events leading to the establishment of the National Training Laboratories. *Journal of the Applied Behavioral Sciences, 3*(2), 144-150.

Miettinen, R. (2000). The concept of experiential learning and John Dewey's theory of reflective thought and action. *International Journal of Lifelong Education, 19*(1), 54-72.

Miner, J. (1990). The creation of Outward Bound. In J. C. Miles & S. Priest (Eds.), *Adventure Education* (pp. 55-66). State College, PA: Venture Publishing.

Potter, T., & Dyment, J. (2014). Is outdoor education a discipline? Provocations and possibilities. *Journal of Adventure Education and Outdoor Learning, 15*(3), 193-208.

Roberts, J. (2011). *Beyond learning by doing: Theoretical currents in experiential education*. New York: Routledge.

Rubin, I., Kolb, D., Farris, G., & McIntyre, J. (1969). *Individuals and organizations: The process of joining up*. Retrieved from Cambridge, MA:

Smith, T. E., & Leeming, C. S. (2010). Kurt Lewin: Another Kurt for experiential educators to know. In T. Smith & C. Knapp (Eds.), *Sourcebook of experiential education: Key thinkers and their contributuions* (pp. 173-179). New York: Routledge.

Tuckman, B. (1965). Developmental sequence in small groups. *Psychological Bulletin, 63*, 384-399.

Vokey, D. (1987). *Outward Bound: In search of foundations.* (Unpublished Masters Thesis), Queen's University, Kingston, Ontario.

Walsh, V., & Golins, G. (1976). The exploration of the Outward Bound process. *Unpublished manuscript.*

Jayson Seaman is Associate Professor of Kinesiology/Outdoor Education with a courtesy appointment in the Department of Education, University of New Hampshire, Durham, NH, USA. Email: jayson.seaman@unh.edu

Franklin Vernon is a Postdoctoral Fellow at the Wisconsin HOPE Lab and Wisconsin Center for Education Research, University of Wisconsin-Madison School of Education, Madison, WI, USA. Email: fvernon2@wisc.edu

An Examination of Outward Bound Courses and College Readiness: Changing Mindsets and Improving Sense of Belonging

Dan Richmond, Lisa Meerts-Brandsma, and Jim Sibthorp: University of Utah

What really makes a student ready for college? We are coming to understand that college readiness certainly includes academic preparation, but that academic success alone is a poor predictor of college success and graduation rates (Nagaoka et al., 2013). Several authors and scholars argue for the value and importance of "non-cognitive" factors in college success (e.g., Dweck, Walton, & Cohen, 2011; Farrington et al., 2012). These factors, mindsets, beliefs and behaviors cannot be measured by traditional academic assessments yet contribute to college readiness (Dweck et al., 2011). Specifically, researchers note that student success is linked to beliefs toward one's abilities to persevere in the face of challenge and an understanding that success is possible through sustained effort (Aronson, Fried, & Good, 2002; Tamir et al., 2007). Yet, as these non-cognitive factors are difficult to measure with traditional academic assessments, they are often deemphasized in school and, thus, need to be developed and honed through out-of-school (OST) settings.

Not all OSTs are created equal. High quality or "high yield" experiences afford participants opportunities for authentic decision making, overcoming challenges, building rapport, building skills, and exercising commitment and perseverance over a program arc (e.g., Sibthorp, 2010). Many OST programs are designed to help students develop a suite of competencies necessary for college and use outdoor adventure education (OAE) as a mechanism for change. Hattie (2009) observes that OAE programs, such as Outward Bound, with their inherent challenges and experiential learning opportunities, are an effective mechanism for influencing a number of non-cognitive factors. Mindsets and sense of belonging are two non-cognitive factors that might be specifically malleable via OAE.

Mindsets refer to an orientation toward learning that ranges from more fixed to more growth oriented. Essentially, do people believe that skills and characteristics can be changed via effort (a growth mindset), or do they believe that certain skills and characteristics are unchangeable (a fixed mindset; cf. Dweck et al., 2011). In addition, mindsets can be applied to a variety of domains (e.g., academic success in math, emotional control, leadership). For this study, we were most interested in if participation in outdoor adventure education might facilitate a shift to more growth oriented mindsets regarding both leadership and emotional control, two important competencies as students complete high school and make the often difficult and disorienting transition to college (Burnette, O'Boyle, VanEpps, Pollack, & Finkel, 2012).

A sense of belonging refers to one's social connection to a community of individuals within a given performance domain like school (Walton & Cohen, 2007). Researchers have noted the importance of sense of belonging to school success as those with high levels of belonging experience less stress and display increased levels of achievement motivation (Shechtman, et al., 2013; Yeager & Walton, 2011).

Therefore, the purpose of this study was to examine the development of growth mindsets in the domains of leadership and emotional control (e.g., do students believe a person can develop leadership qualities and become better at managing their emotions?) and a sense of belonging at both the participant's school and in their OST program. In addition, as our sample included both first year and second year participants, we were interested in how any observed changes might vary by year in the program.

Methods

Data were collected from 49 adolescents from a youth leadership program (American Explorers) who participated in 22-day (first year) or 13-day (second year) backpacking courses during the summer of 2015 with the North Carolina Outward Bound School. All students attend one of two Title 1 Focus Schools in Atlanta, an indicator of low SES. Before and after the OAE experience, students completed a questionnaire that measured leadership mindset emotional control mindset, and sense of belonging.

Results

The final sample included matched questionnaires from 46 participants on 5 separate backpacking courses. RMANOVA showed a significant increase in leadership mindset (p = .003, *partial* η^2 .160), emotional mindset (p = .045, *partial* η^2 .061), and sense of belonging at school (p < .001, *partial* η^2 .232). Exploratory analysis examined differences by year in program, and largely supported the premise that most of the observed growth occurred during the first year (time x year in program interaction terms were significant at p < .05 for all three measures). However, this exploratory finding needs to be interpreted with caution given the sample size and programmatic confounds (see below).

Discussion

As indicated in previous literature (Hattie, 2009), this study demonstrated that students who participated on an OAE experienced a positive change in non-cognitive factors, specifically in their beliefs about a person's ability to be a leader and a person's ability to control their emotions. Both of the mindset variables shifted toward a growth orientation. Such an orientation should allow these students to persevere when struggling with leadership roles or emotional control, as they have a better understanding that these domains can be improved via sustained effort. In addition, the participants in this study reported higher sense of belonging at their schools. This finding is likely a function of our sample given that each of the grade cohorts (8 and 9th) were pulled from the same schools. That is, 8th graders all went to the same middle school and 9th graders attended the same high school. Thus, given the long history of outdoor adventure programs abilities to create cohesive social groups, this finding is hardly surprising. Yet, if sense of belonging is an important aspect of academic success, then increased sense of belonging at their respective schools is advantageous to these students.

In addition, the results showed that first-year students experienced a greater change than second-year students in both mindsets and in sense of belonging at school. Given the confounds (longer courses, younger students, course nested effects), these findings are tentative at best. However, they do make us wonder about the cumulative value of outdoor programs. It remains possible that most of the learning occurs during the initial, in this case, 22 days of the program. The second year may be valuable in different ways–but may be less impactful in other ways given the reduced novelty.

In summary, these findings continue to support the idea that outdoor programming can be part of a larger college readiness program where students can develop positive mindsets and a sense of belonging. Research has shown that students who believe challenges can be overcome through effort are more likely to persist after facing failure (Aronson et al., 2002; Nagaoka et al., 2013) and that holding this belief is associated with college success. Second, the findings show that outdoor programing continues to provide a rich medium for students to bond and form critical beliefs about their own belongingness and fit within a social system (Sibthorp & Jostad, 2014). Lastly, outdoor programs, such as Outward Bound, may have the greatest potential impact

on students during their first exposure to the program, possibly because the second-year students continue to maintain the beliefs they developed in the previous year.

As researchers and practitioners have come to understand that there is more to college readiness than academic preparation, OST programming including outdoor programs can and should play a role in the development of key non cognitive factors. Many of these factors remain commonplace in OAE literature, yet are currently being recognized and embraced in broader education circles. This shift in educational policy may open the door for outdoor programs to be more systematically embraced as part of public education practice.

Aronson, J., Fried, C. B., & Good, C. (2002). Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence. *Journal of Experimental Social Psychology*, *38*(2), 113–125. doi:10.1006/jesp.2001.1491

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: a longitudinal study and an intervention. *Child Development*, *78*(1), 246–63. doi:10.1111/j.1467-8624.2007.00995.x

Burnette, J. L., O'Boyle, E. H., VanEpps, E. M., Pollack, J. M., & Finkel, E. J. (2012). Mind-sets matter: A meta-analytic review of implicit theories and self-regulation. *Psychological Bulletin*, *139*(3), 655–701. doi:10.1037/a0029531

Dweck, C. S., Walton, G. M., & Cohen, G. L. (2011). *Academic tenacity: Mindsets and skills that promote long-term learning*. Seattle, WA.

Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2012). Teaching adolescents to become learners. The role of noncognitive factors in shaping school performance: A critical literature review. Chicago, IL.

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. London: Routledge.

Nagaoka, J., Farrington, C. A., Roderick, M., Allensworth, E., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2013). Readiness for college: The role of noncognitive factors and context. *Voices in Urban Education*, 45–52.

Shechtman, N., DeBarger, A. H., Dornsife, C., Rosier, S., & Yarnall, L. (2013). *Promoting grit, tenacity, and perseverance: Critical factors for success in the 21st century*. Washington, D.C.

Sibthorp, J. (2010). Positioning outdoor and adventure programs within positive youth development. *Journal of Experiential Education* 33(2), vi-ix.

Sibthorp, J. & Jostad, J. (2014). The social system in outdoor adventure education programs: Present and future. *Journal of Experiential Education* State of Knowledge Issue. 37(1). 60-74. DOI: 10.1177/1053825913518897.

Tamir, M., John, O. P., Srivastava, S., & Gross, J. J. (2007). Implicit theories of emotion: Affective and social outcomes across a major life transition. *Journal of Personality and Social Psychology*, *92*(4), 731–744. doi:10.1037/0022-3514.92.4.731

Walton, G. M., & Cohen, G. L. (2007). A question of belonging: race, social fit, and achievement. *Journal of Personality and Social Psychology*, *92*(1), 82–96. doi:10.1037/0022-3514.92.1.82

Yeager, D. S., & Walton, G. M. (2011). Social-psychological interventions in education: They're not magic. *Review of Educational Research, 81*(2), 267–301. doi:10.3102/0034654311405999

Environmental Education and Advocacy: Organized Multiday Canoeing and Kayaking Events

Ryan K. Hines, Eric Knackmuhs, and James Farmer, Indiana University

Abstract

Organized canoeing and kayaking events with educational components, though few in number and frequency, have the potential to change environmental behaviors among people in the U.S. Canoeing and kayaking are popular and immersive activities within the spectrum of outdoor recreation, and previous studies have shown that immersive outdoor activities can foster positive interactions with the environment, and may have other outcomes. Yet, little research to date has examined the emergent outcomes and meanings that organized river canoeing and kayaking events with educational components and a community focus may have for its participants.

Keywords: environmental education and advocacy, water resources, canoeing and kayaking

Background

This exploratory research involves multiple outcomes of outdoor recreation programming provided by a nonprofit organization in the Southeast with a mission "to ensure a clean water legacy by engaging and empowering (citizens) to protect, restore and enjoy our rivers from the mountains to the coast" (Georgia River Network website, 2014, Our Mission page). Every summer since 2005, the organization has hosted a weeklong canoe and kayak paddling trip during which paying participants complete a 85 to 100+ mile section of a selected Georgia river.

The organization attempts to achieve its goals through experiential environmental education and interpretive components, which are part of the opportunities in which participants of the program may choose to participate. Educational opportunities include *in situ* environmental interpretation, learning water monitoring protocols, and a site visit to a river water cooled power plant. The experience is highly social, and participants are generally near each other throughout. With this social component considered, we are interested in social psychological outcomes that may be related to the experience such as inter/intrapersonal relationships, identity, and socialization through leisure (Kleiber, Walker & Mannel, 2001).

Theoretical Framework

The research is informed and inspired by the Theory of Planned Behavior (TPB), which indicates that knowledge impacts attitudes and norms, attitudes and norms predict intention, and intention predicts behavior (Ajzen, 1991; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). The current study was also conceived with consideration of the human environmental interaction as a lens through which to examine the experiences as told by participants of the aforementioned immersive river experience; a large part of the experience is aimed at creating social change in environmental behaviors. It is not at this time in the interest to try to quantitatively apply the TPB model to inquiry of the program of study. Interview data was collected, and an inductive, constant comparative approach will be used to learn about the experiences of program participants, though theory building is not an intended outcome at this time (Merriam, 2009).

Literature Review

Environmental interpretation has been shown to improve environmental attitudes (Aise, Airey, & Szivas, 2011; Hughes and Saunders, 2005; Zeppel & Muloin, 2008;) and widely accepted behavior models create a connection between attitudes and behaviors (Fishbein & Ajzen, 1975). If organized river canoeing and kayaking events with educational components, such as river impact site visits environmental interpretation can create positive environmental attitudes, then it may be proposed that they have the potential to promote pro environmental and water resource related behaviors on a large scale if implementation were to become widespread; few programs with these qualities exist. Connecting people with nature and water resources should be considered a positive outcome of this activity, with potential to benefit of water resources, environment, and society in the United States. Larson, Whiting, and Green conclude, "positive exposure to the natural environment through participation in outdoor recreation is often correlated with pro-environmental attitudes, awareness, and support for conservation" (Larson, Whiting, and Green, 2011, p. 70).

Method

Participants

Research participants engaged in the aforementioned multiday canoeing and kayaking event, which was held in June of 2014. Event participants were invited to participate in semi structured interviews (n=13), and were informed that they could stop at any time after the researchers informed the participants of the purpose/intent of the study and their rights as research participants. Research participants will remain anonymous for textual data production. Appropriate measures have been taken to ensure data security; data is stored on a secure physical storage device.

Procedure

A qualitative approach, with one data collection procedure, has been implemented to gather qualitative data in this exploratory study (Merriam, 2009). IRB approved semi structured interviews were conducted *in situ;* data were collected on the water/in boat through interviews which were recorded using a digital voice recording device. Data has been transcribed, and is currently being analyzed and coded using Nvivo. Results and subsequent interpretation of the interview data will be reviewed and checked by an overseeing researcher. The data analysis employs a constant comparative approach to inductively allow themes to emerge as a way to get a "rich description" of the experience (Merriam, 2009, p.16). Though the TPB model was considered when the research was conceived and instrument created, the intended use of data in this study is not to match qualitative data as it relates to TPB, so much as it seeks to learn what may be happening THROUGH the experience by allowing themes of the experience as told by its participants to emerge. Most importantly, we are interested in a deeper understanding of what the experience means to those who participate, and, if the experience may be a positively related to how participants think about, know, and behave towards the environment and water resources.

Preliminary Results

Preliminary coding and analysis has shown us some emergent themes that are worth sharing, as the analysis of the interview data is ongoing. Participants spoke frequently about Learning in the context of the experience, which is not surprising since two of the interview questions ask about educational components of the program of study. What is interesting is that three subthemes have thus far emerged within Learning; experiential learning, value of rivers and

sense of place. Social aspects of the experience seem to be important for participants, and may affect motivation to participate. Within the Social theme, participants reported having a sense of community as it relates to being part of the larger paddling community as well as the community created by those participating in the program. Another important theme that is emerging is Identity. Several participants indicated that some part of their identity is related to participation in the experience. For example, one participant stated that ever since she first participated in Paddle Georgia she's been a "river girl", who now owns 10 boats. Other emergent themes include Camaraderie, Empowerment, and River as Sensory Environment, which may be part of Sense of Place. The research team looks forward to teasing out the rest of the data for an anticipated full report.

References

Aise, K., Young, J.K., Airey, D., & Szivas, E. (2011). The Multiple Assessment of Interpretation Effectiveness: Promoting Visitors' Environmental Attitudes and Behavior. *Journal Of Travel Research*, *50*(3), 321-334.

Ajzen, I., & Fishbein,M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Hudson, K., & Lee, D. (2010). Biodiversity and Tourism: A valuable relationship. *Social Alternatives*, 29(3), 39-43.

Hughes, M., & Saunders, A. (2005). Interpretation, Activity Participation, and Environmental Attitudes of Visitors to Penguin Island, Western Australia. *Society & Natural Resources*, *18*(7), 611-624. doi:10.1080/08941920590959587

Kleiber, D.A., Walker, G.J. & Mannell, R.C. (2011). *A Social Psychology of Leisure.* Venture, State College, PA

Larson, L. R., Whiting, J. W., & Green, G. T., (2011). Exploring the influence of outdoor recreation participation on pro-environmental behaviour in a demographically diverse population. *Local Environment*, *16*(1), 67-86.

Merriam, S.B. (2009). *Qualitative Research: A Guide to Design and Implementation.* Jossey Bass, San Francisco, CA.

Powell, R. B., & Ham, S. H. (2008). Can Ecotourism Interpretation Really Lead to Pro-Conservation Knowledge, Attitudes and Behaviour? Evidence from the Galapagos Islands. *Journal Of Sustainable Tourism*, *16*(4), 467-489.

Ramsey, C. E., & Rickson, R. (1977). Environmental knowledge and attitudes. *The Journal of Environmental Education, 8*, 10–19.

Young, R. A. (1980). The relationship between information levels and environmental approval: The wilderness issue. *The Journal of Environmental Education, 11*, 25–30.

Zeppel, H., & Muloin, S. (2008). Conservation Benefits of Interpretation on Marine Wildlife Tours. *Human Dimensions of Wildlife, 13(*4), 280-294. doi:10.1080/1087120080218710

Healthy Eating and Physical Activity at Residential Summer Camps: An In-Depth Examination of Programming

Ellen King, University of Wisconsin – Stevens Point
Kendra Liddicoat, University of Wisconsin – Stevens Point

Background

Residential summer camp research has previously described camp characteristics promoting positive youth development, created developmental outcomes of the camp experience, and provided measurement strategies for development outcomes (Garst, Browne, & Bialschki, 2011; Thurber, Scanlin, & Scheuler, 2007). New research has begun to examine healthy eating and physical activity at camp. These studies have focused on camp as a place to explore obesity prevention in youth (Ventura & Garst, 2013), the role of the camp counselor in promoting healthy eating behaviors during camp mealtimes (Ventura, Anzman-Frasca, & Garst, 2014), and on the amount of physical activity at camps (Hickerson & Henderson, 2014). According to Zarrett, Zorenson, & Skiles (2013), residential summer camps provide a social climate experience that can be predictive of youth physical activity participation. This social climate experience provided by camps can be understood through social learning theory, or learning that can occur by observing others (Bandura, 1977).

Campers who attend residential summer camps have many opportunities to observe other campers and learn from them including during meal times and during specific activity instruction and participation. In one hands-on cooking camp, youth who participated gained confidence and mastery of food skills and applied their new skills by teaching a family member or friend (Condrasky, Quinn, & Cason, 2007). This type of observational learning has also been found in afterschool programs, where researchers noted increased confidence in youth during physical activity participation (Werner, Teufel, Holtgrave & Brown, 2012). This research that examines healthy eating and physical activity programming in settings similar to residential summer camp supports future research to closely examine the program activities that provide healthy eating and physical activity at camp.

The current study sought to identify and examine the efforts that Wisconsin residential summer camps are using that support campers meeting national physical activity and dietary guidelines. The research objectives of this study were to understand how camps are achieving national physical activity and dietary recommendations by cataloging the practices Wisconsin residential summer camps are already using, to identify the challenges that Wisconsin residential summer camps face in order to support and promote these recommendations, and to develop a framework of current program practices.

Methodology

This study used a mixed methods approach to investigate the program strategies that residential summer camps are using to promote and provide healthy eating and physical activity opportunities to its campers. Data from surveys completed by American Camp Association (ACA) Wisconsin members and in-depth interviews with camp directors at ACA accredited camps were used to explore programming efforts made by residential summer camps to implement healthy eating and physical activity at their camps.

Surveys were distributed to ACA Wisconsin members who currently work at a residential camp. The first part of the survey asked respondents to answer five open-ended response questions regarding healthy eating and physical activity at camp. These questions asked about camp traditions, priority the camp places on healthy eating and physical activity, and the factors that have assisted or challenges that

their camp have faced in providing healthy eating and physical activity at camp. In-depth interviews were conducted to better understand the efforts made by camps to align their programming with the national dietary and physical activity guidelines. This method for data collection was included in order to gather more in-depth information about the types of programs camps offer, how physical activity and healthy eating decisions are made, and how camps purposefully create an environment for campers to learn from their peers during physical activity and meal times. Interviews were either conducted in-person combined with a site visit or on the phone. The interview transcripts were analyzed using a hybrid of conventional content analysis with an inductive thematic analysis, following Feredey and Muir-Cochrane's (2006) stages of coding. This approach was chosen because of the nature of the exploratory study. Codes were defined during data analysis and were derived from the data.

Results

Thirteen camp directors or owners of ACA accredited camps in Wisconsin participated in the in-person or phone interviews. Due to the small survey response rate, only short answer response questions were included as part of the data analysis (n=12). Preliminary results show that campers who attend residential summer camps in Wisconsin are meeting or exceeding the national physical activity recommendations. Residential summer camps provide a variety of physical activity related activities to their campers, offered at a minimum of four times a day with session lengths lasting between 45 minutes to an hour and a half. Camp directors believe their campers are physically active due to the nature of walking between each activity. The geographic location of the camp also contributes to a camper's participation in physical activity and whether campers have to walk up and down steps or large hills.

Camps are intentional about providing healthy food options to their campers. This is accomplished through offering healthy snack options including leaving out a fruit bowl, increasing the number of fruits and vegetables served, limiting fried foods and desserts, and limiting candy sold in the camp store. Some camps simply do not sell food in their camp store, while others limit the number of trips to two or three times a week. Mealtimes appear to offer learning opportunities to the campers such as learning manners, interacting with older campers, and learning about portion control.

Still camp directors identified some challenges in being able to provide healthy eating and physical activity options to their campers. The perceived cost of healthy foods can be a challenge for several camps. Other camps identified finding the balance between healthy food and food that kids are willing to eat as a challenge. Incorporating the camp garden into the dining services or programming is another challenge. For example, one camp stated, "in the past we also had a camp garden. But we found that within the area that we are in the growing season went past season, so the campers didn't always get to experience actually eating the food that they helped grow." Some camp directors identified their staff participation in activities as relating to the participation of their campers by saying, "If staff are really involved and passionate about an activity they are going to get kids to join that activity."

Discussion and Conclusion

These results demonstrate that Residential summer camps provide several program strategies to promote physical activity and healthy eating to their campers. Camps are keeping their campers active through their participation in a variety of sports and fitness based activities held across a camp's large property. Camp directors are making an effort to provide their campers with healthy food options whether that is during a meal or as a snack. Campers are given plenty of opportunities to learn healthy eating and physical activity habits while attending camp. Camp activity periods are designed either by age or mixed aged groups, which offers an opportunity for campers to learn technical skills, team dynamics, and gain knowledge of the activity. Bandura (1977) describes in social learning theory that these characteristics are

behavioral, environmental, and cognitive factors that can determine human behavior. Social learning theory methods such as observing behavior, learning through direct experience, and reinforcement are used widely in the camp context either by the camp staff, older camper role models, or through direct participation in team sports and during meal times. The results of this study support previous research on examining camps a place to explore obesity prevention in youth. Residential summer camps should be considered as a setting for the promotion of healthy eating and physical activity for children.

References

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Condrasky, M., Quinn, A., & Cason, K. (2007) Cooking camp provides hands-on nutrition education opportunity. *Journal of Culinary Science & Technology, 5*(4), 37-52.

Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: a hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods 5*(1), 1-11.

Garst, B. A., Browne, L. P., & Bialschki, M. D. (2011). Youth development and the camp experience. *New Directions for Youth Development, 130,* 73-87.

Hickerson, B. D., & Henderson, K. A. (2012). *Physical activity and health in camps*. ACA Briefing Papers Series. Retrieved from http://www.acacamps.org/sites/default/files/images/research/connect/documents/Physical-Activity-and-Health-in-Camps-Briefing-(updated-2012).pdf

Hickerson, B.D., & Henderson, K.A. (2014). Opportunities for promoting youth physical activity: An examination of youth summer camps. *Journal of Physical Activity and Health, 11,* 199-205.

Thurber, C.A., Scanlin, M. M., Scheuler, L., & Henderson, K. A. (2007). Youth development outcomes of the camp experience: Evidence for multidimensional growth. *Journal of Youth Adolescence, 35,* 241-254.

U.S. Department of Health and Human Services (2012). *Physical Activity Guidelines for Americans Midcourse Report: Strategies to Increase Physical Activity Among Youth,* Retreived from http://health.gov/paguidelines/midcourse/pag-mid-course-report-final.pdf.

Ventura, A. K., & Garst, B. A. (2013). Residential summer camp: A new venue for nutrition education and physical activity promotion. *International Journal of Behavioral Nutrition and Physical Activity*, *10*(1), 64-72.

Ventura, A. K., Anzman-Frasca, S. & Garst, B. A. (2014). Mealtimes at residential summer camps: What are camp staff doing to promote campers' healthy eating behaviors. *Journal of Nutrition Education and Behavior, 46*(6), 491-498.

Werner, D., Teufel, J., Holtgrave, P. L., & Brown, S. L. (2012). Active generations: An intergenerational approach to preventing childhood obesity. *Journal of School Health, 82*(8), 380-386.

Zarrett, N., Sorensen, C., & Skiles, B. (2013). Environmental and social-motivational contextual factors related to youth physical activity: systematic observations of summer day camps. *International Journal of Behavioral Nutrition and Physical Activity, 10(*63), 63-75.

Contact: Ellen King (ellen.king@uwsp.edu)

Camp Counselors' Perspectives with Teaching Social and Emotional Learning Skills to Youth

Megan Owens, University of Illinois, Urbana-Champaign

Many summer camps design their programs to address developmental outcomes such as enhancing self-constructs (Marsh, 1999) or life skills (e.g. Klem, 2006). One developmental outcome that has received less attention among out of school time program (OST) research is youth social-emotional learning (SEL) development. Significant research has been conducted on social skill outcomes resulting from camp participation (Bialeschki & Sibthorp, 2011) compared to the relatively small number of studies examining emotional skill development in camp settings (Henderson, 2012). SEL is a subject primarily studied within academic research until recently, as this topic is emerging among afterschool activities (Frazier et al., 2012) and camps (Browne & Sibthorpe, 2014; Ee & Ong, 2014). Summer residential camps have a highly social, interactive atmosphere with the potential for campers to encounter emotional situations (Henderson, 2012) given the absence of youth's home network of family and friends. This setting is ripe for potentially learning or enhancing important SEL skills for a positive developmental experience.

SEL education research regularly evaluates intervention programs that teach specific SEL skills to both students and teachers (Durlak et al., 2011). Several studies have focused on teachers' behaviors and actions when teaching SEL skills as well as how their interactions with students might impact academic outcomes (e.g. Jones, Bouffard, & Weissbourd, 2013). A teachers' role varies from a camp counselor, as they fulfill multiple roles such as friend, confidante, teacher, and caregiver while modeling the desired positive behaviors. This distinct role suggests youth may establish a special bond with this important non-parental adult while also observing and interpreting the counselors' behaviors and actions (Bowers et al., 2014).

If a summer residential camp setting is a potential environment for learning SEL skills one important avenue to examine is the counselor-camper interactions. This information is pertinent for understanding how the current SEL interventions would be beneficial and adaptable to fluid camp settings. This study sought to understand how camp counselors' social emotional behaviors were perceived by the campers during counselor-camper interactions.

Conceptual Frameworks

This study employed the conceptual frameworks of social learning theory and positive youth development in order to understand how social-emotional learning development may occur from counselor-camper interactions. Social learning theory centers on the reciprocal relationship between a person's cognition, behaviors, and environment (Bandura, 1978). These three components are interrelated as a person's understanding and awareness impacts their behaviors and actions, which may simultaneously be influenced by other individuals or environmental circumstances. Most camps expect counselors to role model the behaviors sought from the youth therefore, social learning theory is an appropriate lens for exploring how camp counselors perceive their role with regard to teaching SEL skills. The positive youth development framework centers on creating an environment where youth engage in opportunities such as building healthy relationships with adults or enhancing skills through developmentally appropriate experiences (Larson, 2000). The camp setting provides an environment where youth have multiple adults with whom positive, supportive relationships can be fostered (Henderson et al., 2007) as well as engage in skill building opportunities (e.g. Larson, 2000; Thurber et al., 2006). Camp counselors have been identified as a potentially important adults for campers, as their microsystem of immediate family and friends is unavailable to them at camp (Bowers et al., 2014; Henderson et al., 2007). The camp counselors' SEL perceptions are discussed below.

Methodology

This study employed a qualitative approach to explore how SEL may transpire between counselors and campers. Interviews and observations were utilized to gain a deeper understanding of the phenomenon: camp counselor-camper interaction. The study was conducted during the 2015 summer at a co-ed summer residential camp in Central Illinois that provided traditional outdoor education, sports, arts and crafts, and waterfront activities. Adult female counselors assigned to work with female campers aged 10 to 12 were recruited for this study and four counselors participated. Four one-week sessions were conducted and the researcher engaged one counselor per week. These counselors participated in two semi-structured interviews (pre-camp staff training and final camp day). Counselors were observed for approximately 14 hours during their designated week. Twelve campers were also interviewed for the study, however that analysis is not included for this presentation. Data analysis followed a phenomenological approach of listening to interviews multiple times for verbal and nonverbal cues, thorough reading and rereading of interview transcripts, identification of meaning units and clusters to reveal the central themes, which is compared across interviews (Giorgi, 1997; Hycner, 1985). Observational data is analyzed for divergence and convergence of their beliefs and practices.

Results

The camp counselors strongly believed their role was to provide campers with a fun, relaxed experience. Counselors felt confident that campers' perspectives and needs were taken into account when making decisions. Campers were perceived as distinct individuals and counselors sought to establish caring and positive relationships with them. Counselors believed they were able to recognize personal emotions as well as contemplate the impact on other people. However, in their description, the awareness emerged after an emotional reaction occurred. Similar to other research, self-awareness descriptions were challenging to ascertain due to difficulty connecting recognition to influence of one's own behaviors. These counselors used multiple strategies to manage their stress such as obtaining adequate sleep or stepping away from a situation for several minutes. Each counselor discussed the importance of focusing on and engaging with campers compared to meeting their own interests for socializing with others. The observational data revealed more counselor-counselor interactions compared to counselor-camper interactions throughout the day. Counselors were observed engaging (laughing, joking, playing, and conversing) with fellow counselors during all activity periods as well as during cabin only times when counselor-camper interactions were anticipated. All four counselors previously attended the camp as youth, and their experience provided the impetus for several techniques when working with campers. Lastly, each counselor attempted to teach their campers a different life skill that was important to them: leadership, independence, confidence, or social skills. Two skills, leadership and independence, were identified as important by the camp, but were discussed as being important to those individual counselors. SEL was not identified as personally important to them, but their responses indicate some consideration toward concepts.

Conclusion

Significant research is focused on enhancing the adoption of 21st Century Skills among today's young people and SEL is a key component of this diverse skill set. More information is required for understanding how youth might learn these skills through OST programs. Summer residential camps are a distinct setting compared to other OST programs, and these camps may potentially provide greater opportunities for practicing or enhancing the SEL lessons learned during the school year (Allen et al., 2011). This study provides insight into the ways counselors perceive their role, ability, and behaviors with teaching SEL to youth.

References

Allen, K., Akinyanju, K., Milliken, T., Lorek, E., & Walker, T. T. (2011). Improving the Pro-Social Skills of Transitioning Urban Youth: A Summer Camp Approach. *Middle School Journal*, *42*(4), 14–22.

Bandura, A. (1978). The self system in reciprocal determinism. *American Psychologist*, *33*(4), 344–358.

Bialeschki, M. D., & Sibthorp, J. (2011). Celebrating the camp experience through eighty years of camp research. *Taproot Journal*, (Fall/Winter).

Bowers, E. P., Johnson, S. K., Buckingham, M. H., Gasca, S., Warren, D. J., Lerner, J. V., & Lerner, R. M. (2014). Important non-parental adults and positive youth development across mid- to late-adolescence: the moderating effect of parenting profiles. *Journal of Youth and Adolescence*, *43*(6), 897–918.

Browne, L. P., & Sibthorp, J. (2014). Training staff to create caring communities: Promises and challenges. *Journal of Youth Development*, *9*(4), 47–60.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, *82*(1), 405–432.

Ee, J., & Ong, C. W. (2014). Which social emotional competencies are enhanced at a social emotional learning camp? *Journal of Adventure Education & Outdoor Learning*, *14*(1), 24–41.

Frazier, S. L., Chacko, A., Van Gessel, C., O'Boyle, C., & Pelham, W. E. (2012). The summer treatment program meets the south side of Chicago: Bridging science and service in urban after-school programs. *Child and Adolescent Mental Health*, *17*(2), 86–92.

Giorgi, A. (1997). The theory, practice, and evaluation of the phenomenological method as a qualitative research procedure. *Journal of Phenomenological Psychology*, *28*(2), 235–260.

Henderson, K. A. (2012). Emotional safety and camps. *ACA Briefing Papers Series*. Retrieved from http://www.acacamps.org/volunteers/care/carebriefings

Henderson, K. A., Bialeschki, M. D., Scanlin, M. M., Thurber, C. A., Whitaker, L. S., & Marsh, P. E. (2007). Components of camp experiences for positive youth development. *Journal of Youth Development*, *1*(3).

Hycner, R. H. (1985). Some guidelines for the phenonmenological analysis. *Human Studies*, *8*, 279–303.

Jones, S. M., Bouffard, S. M., & Weissbourd, R. (2013). Educators' social and emotional skills vital to learning. *Phi Delta Kappan*, *94*, 62–65.

Klem, M. (2006). An evaluation of the effectiveness of life skill development in Missouri's 4-H youth resident summer camps. In *American Camping Association Camp Research Symposium* (p. 22). Chicago, IL: American Camp Association, Inc.

Larson, R. W. (2000). Toward a psychology of positive youth development. *American Psychologist*, *55*(I), 170–183.

Marsh, P. E. (1999). Does camp enhance self-esteem? Good new for the future of camping. *Camping Magazine*, *November/D*, 1–4.

Thurber, C. A., Scanlin, M. M., Scheuler, L., & Henderson, K. a. (2006). Youth development outcomes of the camp experience: Evidence for multidimensional growth. *Journal of Youth and Adolescence*, *36*(3), 241–254.

Contact: Megan Owens, University of Illinois, Urbana-Champaign, mhowens2@illinois.edu

Extended Effects of Participation in a Semester-long Outdoor Leadership Training Program

Molly M. Staley
Indiana University

Background

Outdoor adventure programs can be a recreational outlet, educational platform, or even a therapeutic medium that allow each participant to take away different skills and experiences (Webb, 1999). According to one of the most cited studies in outdoor adventure education, Hattie and his colleagues categorized the outcomes of adventure programs into leadership, self-concept, academic, personality, adventuresome, and interpersonal development (Hattie, Marsh, Neill, & Richards, 1997). Although outcomes of adventure programs have garnered a lot of attention in research, little has been done to understand how these programs accomplish these outcomes.

Gaining insight into the extended effects of outdoor adventure programs on participants could contribute to both an evaluation of the program and the understanding of the overall effectiveness of adventure programs. Although this study will focus on a specific adventure program, the implications of the study will support the need for additional research in the adventure program field regarding overall program evaluation and impact. Contributing more research on adventure programs will help dissuade any doubts about the purpose and impact of adventure programs.

Introduction

This study will specifically focus on the Conservation and Outdoor Recreation Education (CORE) program at Indiana University and the skill retention of its past participants. Little research has been done on the outcomes and retention of skills of past participants of the CORE program. Prior research that has been conducted has focused on topics such as leadership development and resilience (Ballard, Shellman, & Hayashi, 2008; Ewert, & Yoshino, 2007). The skills that will be explored in this study will be categorized as technical and interpersonal, both of which contribute to personal and professional development (Shooter, Sibthorp, & Paisley, 2009).

The significance of this study will benefit the CORE program by providing evaluation, but this study can have a larger impact on the field of adventure programming by focusing on the impacts of programs on the professional and personal lives of participants. There is plenty of research regarding participant development, but their focus is primarily on specific skill development, such as communication, self-efficacy, and leadership (Hattie et al., 1997; Gass, Garvey, & Sugerman, 2003; McKenzie, 2003; Sibthorp, Paisley, Gookin, 2007). In order to provide more impactful and reliable testament to the credibility of adventure programs, there is a need for more in depth results and outcomes of such programs. This study hopes to provide those results by taking a look at the skill retention of past participants and how those skills have impacted their personal and professional development. In this sense, looking at these particular skills and impacts can resonate with fields other than outdoor adventure because of the diversity of participants and where they end up after the program.

For instance, the healthcare and business industries have experienced difficulty in providing training for employees with regards to soft skills (Caudron, 1999; Ashbaugh, 2003). The case has always been hard to make for soft skills, but executives are beginning to understand why skills such as trust, adaptability, and confidence are necessary for their employees to possess (Caudron, 1999). Leaders of organizations and companies outside of the recreation field have

begun to realize that interpersonal skills create a more open working environment that is more likely to retain employees (Ashbaugh, 2003). This study can help contribute evidence as to the importance of interpersonal skills, especially with regards to professional development.

There is a harder case to make for the importance of technical skills outside of the recreation and outdoor adventure fields. This study will not make a case for technical skills, rather, it will help dissuade the belief that they are more important than interpersonal skills. Evidence needs to be provided in order to break the notion that hard skills are more important or harder to achieve than soft skills (Sibthorp et al., 2007). As the authors suggest, a movement towards the terms technical and interpersonal can help restore balance to the need for both sets of skills. Studying a program like CORE, which balances technical and interpersonal skills in its programming, will solidify the importance of the program and the outcomes it has for its participants.

Methods

The aim of this study is to analyze the retention of technical and interpersonal skills, and attitudes of past CORE program participants and identify the impact these skills have on areas such as personal and professional development. The subjects were self-enrolled past participants of the CORE program from 1995-2014. Not all of the past participants of the CORE program could be contacted for the study, but all participants were eligible to participate. Past CORE participants were contacted and recruited three ways: letter in the mail, email, and Facebook. The participants for the phone interview volunteered and ten were randomly selected. This study utilized a mixed-method design employing survey data and structured phone interviews.

An instrument was created to evaluate the technical and interpersonal skill retention of past participants of the CORE program. This instrument was developed through an exploration of the literature that exists on similar outdoor adventure programs and higher education wilderness programs, as well as anecdotal experience from the researcher's participation in the program. Due to the fact that the survey instrument used in this study is designed specifically for this study and its participants, it was essential that it was reviewed and bench-tested before it being implemented. The author employed a group of Indiana University graduate students to review the instrument and provide feedback regarding wording, length, layout, understanding, etc. that need to be improved or changed before distribution to the study participants. Minor wording and layout changes were made as a result of the feedback from the graduate students. The author also conducted a pilot study of the survey by asking four past CORE participants to complete the survey and give their feedback regarding burden of time, wording, layout, etc. Again, minor wording and layout changes were made as a result.

Skills being examined include technical skills such as knots, climbing, and orienteering and interpersonal skills such as problem solving, group management, and decision-making. Data collection took place during the summer of 2015 through a self-administered retrospective pre-post test administered to participants via an online survey that asked CORE alumni to reflect and rate their skill level on a 5-point Likert scale on three time points: before participation in CORE, right after completion of the CORE program and their current level of skills.

After completing the survey, CORE alumni volunteered to participate in a follow up structured 5-question phone interview, which attempted to gain more insight into the participant's CORE experience. The interview guide was created based on literature reviewed in addition to the researcher's anecdotal knowledge of different themes that often emerge during the program. Interview responses will be coded and emergent themes used will be identified.

Status of Study

The author is in the process of analyzing the quantitative collected through the survey instrument described above and the qualitative data from phone interviews. A multivariate analysis of variance (MANOVA) will be generated for the initial statistical analysis to explore significant differences in the dependent variables of technical skill retention, interpersonal skill retention, personal and professional development. The independent variables in this study are participation in the CORE program, gender, class standing, and major. Interview responses will be coded and themes will be identified. These themes will then be weighted based on the number of times the respondents cited them and at what depth they were talked about.

References

Ashbaugh, J.L. (2003). The hard case for soft skills and retention. *Healthcare Executive, 18*(2), 59-60.

Ballard, A., Shellman, A., and Hayashi, A. (2006). Collective meanings of an outdoor leadership program experience as lived by participants. *CORE Research: A compilation of research based on the Conservation and Outdoor Recreation Education Program at Indiana University, 1*, 55-75.

Caudron, S. (1999). The hard case for soft skills. *Workforce, 78*(7), 60-65.

Ewert, A., and Yoshino, A. (2007). A preliminary exploration of the influence of short-term adventure-based expeditions on levels of resilience. *Journal of Experiential Education, 30*(3), 262-266.

Gass, M.A., Garvey, D.E., and Sugerman, D.A. (2003). The long-term effects of a first-year student wilderness orientation program. *Journal of Experiential Education, 26*(1), 34-40.

Hattie, J., Marsh, H.W., Neill, J.T., and Richards, G.E. (1997). Adventure education and Outward Bound: Out-of-class experiences that make a lasting difference. *Review of Educational Research, 61*(1), 43-87.

McKenzie, M. (2003). Beyond "The Outward Bound Process:" Rethinking student learning. *Journal of Experiential Education, 26*(1), 8-23.

Shooter, W., Sibthorp, J., and Paisley, K. (2009). Outdoor leadership skills: A program perspective. *Journal of Experiential Education, 32*(1), 1-13.

Sibthorp, J., Paisley, K., and Gookin, J. (2007). Exploring participant development through adventure-based programming: A model from the National Outdoor Leadership School. *Leisure Sciences, 29*(1), 1-18.

Webb, D.J. (1999). In J.C. Miles and S. Priest (Eds.), *Adventure Programming* (pp. 3-8). State College, PA: Venture Publishing, Inc.

Molly Staley
mostaley@indiana.edu or staley.molly@gmail.com
513-227-9914

Evaluating the Development of Life Skills Through a 4H Adventure Education Challenge Course Experience

Scott VanderWey, Washington State University
Robby Cooper, Washington State University
Kevin Wright, Washington State University

Background

Youth need more than knowledge to be successful and productive members of society. They also need social and emotional life skills, such as communication, teamwork, decision-making, and self-efficacy. Adventure Education activities help increase participant self-confidence and positive risk-taking, while reducing risk factors, increasing protective factors, and improving readiness to learn (Jelicic, Bobek, Phelps, Lerner, & Lerner 2007). Youth development programs are most effective when they create positive relationships for youth and engage them in challenging, authentic activities (Eccles & Gootman, 2002; Mahoney, Vandell, Simpkins, & Zarrett, 2009).

Seattle and King County are the most populous city and county in the state. Seattle has a population of over 640,000, and King County totals 1.9 million people. Seattle boasts "one of the most diverse zip codes" in the county (98178), but ranks 39th out of the top 50 U.S. cities in diversity (69.5% of the population is Caucasian). WSU 4-H Camp Long Challenge program reaches out to underserved audiences – course participants are 46% non-white, and a majority of participants are also eligible for free or reduced meals at school. Faculty from WSU chose to address this need for the potential positive impacts on diverse, urban populations with creation of an Adventure Education Program and Challenge site, located in an urban setting at Camp Long in Seattle. The hands-on learning and experiential methodologies used in the program are the tools for re-engaging students in the learning process, strengthens relationships and builds a sense of community while promoting diversity, equity, and inclusion.

Methods

Camp Long Challenge Course began development of a new evaluation procedure in October 2013, in an effort to measure specific intended outcomes of low course and high course programming, including teamwork (low and high course), decision-making (low and high course), communication (low course only) and self-efficacy (high course only). Each of these outcomes were measured using established, psychometrically-sound scale variables(Annett, Cunningham & Mathias-Jones, 2000; Klein et al., 2006; Sherer et al., 1982). These measures were adapted for participants' reading level and reduced (if necessary) to four-item scales to account for the time constraints presented to program facilitators. The study uses pretest-posttest design to measure changes in each of these outcomes. Trained facilitators administer self-report paper surveys immediately before and after the challenge course experience to assess pretest-posttest changes for each outcome variable.

Results

Trained facilitators collected surveys from 731 program participants between August 2014 and October of 2015. Of these, we received 696 matched pretest-posttest surveys. Because the communication (N = 576; low course only) and self-efficacy (N = 386; high course only) surveys were not given to all participants, we collected fewer matched surveys that included these variables.

We examined changes in pretest-posttest measures for the four variables using paired t-tests. All four variables showed significant increases in mean scores from pretest to posttest. Of the four, the communication measure showed the greatest increase ($t = 7.78$; $p < .001$), followed by self-efficacy ($t = 7.45$; $p < .001$), teamwork ($t = 5.39$; $p < .001$) and decision-making ($t = 4.50$; $p < .001$). Small effect sizes were found for change in communication skills ($d = .26$) and self-efficacy ($d = .32$). **See table 1.**

Table 1.

Paired t-tests comparing pretest-posttest changes in outcome variables.

Scale	N	Mean Change*	t	p	Effect Size (d)
Communication	576	.181	7.78	.000	.26
Decision-making	693	.089	4.50	.000	.14
Self-efficacy	386	.194	7.45	.000	.32
Teamwork	696	.103	5.39	.000	.17

* Based on mean changed score on a 5-point Likert-type scale

We also examined differences by gender and race for changes in pretest-posttest scores using repeated measures analysis. When grouped by gender (male / female) and race (white / non-white), there were no differences in pretest-posttest score change for the self-efficacy, communication or decision-making variables. We did find a significant difference in the change of teamwork skills when comparing males and females ($F(677) = 3.75$; $p < .05$), as well as when comparing white participants and non-white participants ($F(567) = 5.81$; $p < .02$). **See figures 1 and 2.**

Figure 1.

Repeated measures analysis comparing pretest-posttest teamwork change by gender.

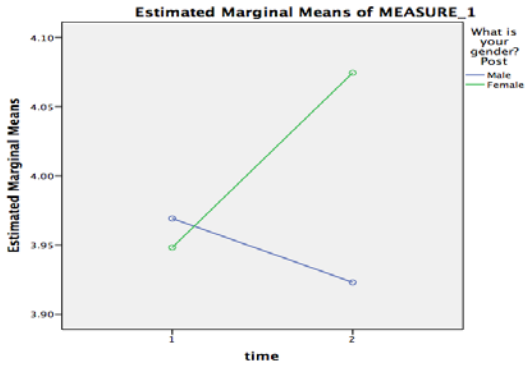
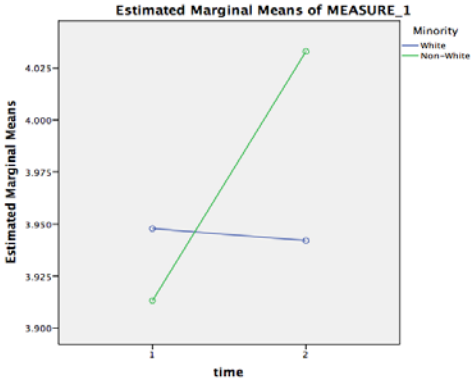


Figure 2.
Repeated measures analysis comparing pretest-posttest teamwork change by race.



Discussion

Initial results support the idea that urban 4-H Adventure programming is an effective way to develop communication, decision-making, teamwork skills, as well as a sense of self-efficacy, in program participants. Results also seem to have a particularly interesting effect on female and non-white participants. Female and non-white participants showed a significant increase in teamwork skills from pretest to posttest, while male and white participants did not. These findings suggest that not only are these programs useful for developing life skills for youth participants, but may be especially useful for developing teamwork skills in those participants (female and non-white) who are more likely to feel excluded or marginalized. This study offers evidence of the usefulness of intentional team-building experiences for those groups.

References

Annett, J., Cunningham, D., and Mathias-Jones, P. (2000). A method for measuring team skills. *Ergonomics, 43 (8)*: pp. 1076-1094.

Eccles, J.S., & Gootman, J.A. (Eds.). (2002). Community programs to promote youth development. Committee on community-level programs for youth. Washington, D.C.: National Academy Press.

Jelicic, H., Bobek, D.H., Phelps, E., Lerner, R.M., & Lerner, J.V. (2007). Using positive youth development to predict contribution and risk behaviors in early adolescence: Findings from the first two waves of the 4-H Study of Positive Youth Development. *International Journal of Behavioral Development, vol. 31: pp. 263-273.*

Klein, J.D., Sabaratnam, P., Auerbach, M.M., Smith, S.M., Kodjo, C., Lewis, K., Ryan, S., and Dandino, C. (2006). Development and factor structure of a brief instrument to assess the impact of community programs on Positive Youth Development: The Rochester Evaluation of Asset Development for Youth (READY) Tool. *Journal of Adolescent Health, 39: pp. 252-260.*

Mahoney, J.L., Vandell, D.L., Simpkins, S., & Zarrett, N. (2009). Adolescent out-of-school activities. In R.M. Lerner & L. Steinberg (Eds.), Handbook of Adolescent Psychology (3rd ed.) (Vol. 2, pp. 228-267).

Sherer, M., Maddux, J.E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., and Rogers, *R.W.* (1982). The Self-efficacy Scale: Construction and validation. *Psychological Reports, 51: pp. 663-671.*

Contact: Scott VanderWey, Washington State University, vanderwey@wsu.edu ; (253) 445-4581

Exploring an Emerging Line of Research: Brain Wave Activity and Outdoor Experiences

Brad Daniel, Montreat College
Brad Faircloth, Montreat College

Background

Organized night walks include experiential sensory activities intended to increase participants' appreciation for the outdoors while they learn about the nocturnal world (Daniel & Knapp, 2014). Night walks are conducted regularly in programs offered at camps and environmental education centers (Daniel & Knapp, 2014) yet there has been very little research on the impact of organized night walks (Beeco, Hallo, Baldwin, & McGuire, 2011). Many of the studies that have been done include night walks as one of many components of broader experiences (Hunter, 2015; Mittelstaedt, Sanker, & VanderVeer, 1999). The purpose of this exploratory study was to understand the effect of an organized night walk experience on anxiety states as exhibited in brain wave activity before, during, and after the experience. The methods used constitute a new line of inquiry that uses brain wave activity to help explain the nature of outdoor experiences through the theoretical framework of neurobehavioral research.

Literature

Many benefits of being outside have been identified including nature's therapeutic effect (Berger & McLeod, 2006; Garst, Scheider, & Baker, 2001; Peel & Richards, 2005), and nature's ability to relieve stress (Cole & Hall, 2010), and restore attention (Cole & Hall, 2010; Kaplan & Kaplan, 1989; Kaplan, 2001). Research is sparse on the impact of nature on individuals at night. Beeco et al. (2011) conducted a phenomenological study on the experience of night walks for visitors to parks and protected areas. The study identified relevant characteristics of the night setting and described the lived experience of the night hikers including their motivations for the experience (Beeco et al., 2011, p. 72) but it did not utilize neurobiological tools such as Electroencephalograms (EEGs).

Electroencephalogram (EEGs) measure and record the electrical activity in the brain using electrodes that make contact with the scalp (Blackhart, Minnix, & Kline, 2006). EEGs have good *spatial* resolution due to direct contact with the scalp over the various regions of the brain. EEGs also have great *temporal* resolution because they measure and record continuous electrical activity in real time.

Few studies have used EEGs in outdoor and nature research. Aspinall, Mavros, Coyne, and Roe (2013) used Emotiv EPOC emotion detection hardware to distinguish between cortical signals recorded in participants that spent time in urban and green spaces. They found evidence of restorative effects of walking in green spaces compared to urban settings but the study did not include EEG raw data due to hardware limitations. The raw data would have shown what areas of the brain were most effected throughout the experience. Using Attention Restoration Theory (ART) as a theoretical framework, Chang, Hammitt, Chen, Machnik, and Su (2008) tested the restorative effects of viewing images of wildlands and found that physiological and restoration measures were linked. Their study, however, used photos instead of actual field experiences.

EEG techniques have been used in studies on anxiety. Cattell and Scheier (1961) described anxiety as an emotional state (particular experience) and/or a personality trait (genetic

predisposition to experience anxiety). Spielberger (1977) used Cattell and Scheier's construct to develop the State-Trait Anxiety Inventory for Adults. Studies on anxiety and darkness have found that darkness induced the startle response of participants (Grillon, Pellowski, Merikangas, & Davis, 1997) but these studies were conducted in laboratory settings. Muhlberger, Weiser, and Pauli (2007) tested darkness-enhanced startle response in a virtual reality tunnel simulation and found that participants with lower state anxiety had weaker startle responses but they did not use EEG measures.

EEG technology has been used to record brain wave patterns of individuals experiencing anxiety (Blackhart et al., 2006; Davidson, 2002) and walking in urban and green settings (Aspinall et al., 2013). State-Trait Anxiety has been measured in studies of darkness. This is the first study however to measure both EEG and State-Trait Anxiety in the context of an organized night walk.

Methods

Participants

All participants were Montreat College students that had never participated in an organized night walk (n=8). The sample was split between male and female students who ranged in age from 18-30.

Research Design

All participants signed informed consent forms prior to participation. Four Emotiv EEG helmets were used in the pilot study which was conducted in Fall 2014 after procuring IRB approval at Montreat College. Participants took the State-Trait Anxiety Inventory (STAI) for Adults (Spielberger, 1977) in order to establish baseline anxiety data just prior to a 1.5 hour night walk. Each participant wore an Emotiv EEG helmet (with 14 points of contact with the scalp) that was connected wirelessly to either a tablet or laptop in a small backpack to record brain wave frequency data in real time throughout the experience. Since only four helmets were available, two hikes were conducted. Students completed a series of sequenced activities on the night walk. Although the data was collected over two evenings with different groups, the same activities were done in the same sequence by the same facilitator.

Results

The STAI was scored to produce both state and trait anxiety scores. The male participants scored within the normal range on both state ($M = 36.25$, $SD = 4.33$) and trait ($M = 39.0$, $SD = 7.78$) anxiety for college males, while the female participants scored slightly below norms for college females on both their state ($F = 31.5$, $SD = 2.87$) and trait ($F = 32.5$, $SD = 3.93$) anxiety. Taken together, the results of the STAI indicate that the participants were not anxious just prior to the night walk. The EEG recordings of participants reveal that changes in brain wave patterns can be detected during the sequenced night walks, and that affective states changed across the solo portion of the night walk. In other words, participants were aroused during the solo portion and these changes in brain waves were detected by the EEG helmets.

Future Directions

In the upcoming main study, real time EEG data will be synchronized with a digital recorder that will record all dialog during the night walk. The purpose of this larger study will be to examine the relationship between participant anxiety, as measured by the STAI, and specific EEG patterns on participants of a night walk, as measured with Emotiv helmets.

References

Aspinall, P., Mavros, P., Coyne, R., & Roe, J. (2013). The urban brain: analyzing outdoor physical activity with mobile EEG. *British Journal of Sports Medicine*, 1-6.

Beeco, J. A., Hallo, J. C., Baldwin, E. D., & McGuire, F. A. (2011). An examination of the guided night hiking experience in parks and protected areas. *Journal of Park and Recreation Administration*, *51*(4), 72-88.

Berger, R., & McLeod, J. (2006). Incorporating nature into therapy: a framework for practice. *Journal of Systematic Therapies*, *25*(2), 80-94.

Blackhart, G. C., Minnix, J. A., & Kline, J. P. (2006). Can EEG asymmetry patterns predict future development of anxiety and depression?: A preliminary study. *Biological Psychology*, *72*(1), 46-50.

Cattell, R. B., & Scheier, I. H. (1961). The meaning and measurement of neuroticism and anxiety. Oxford, EN: Oxford.

Chang, C. Y., Hammitt, W. E., Chen, P. K., Machnik, L., & Su, W. C. (2008). Psychophysiological responses and restorative values of natural environments in Taiwan. *Landscape and Urban Planning*, *85*(2), 79-84.

Cole, D., & Hall, T. (2010). Experiencing the restorative components of wilderness environments: does congestion interfere and does length of exposure matter?. *Environment & Behavior*, *42*(6) doi: 10.1177/0013916509347248

Daniel, B., & Knapp, C. (2014). Nighttime adventures. In T. Grant & G. Littlejohn (Eds.), Teaching in the outdoors: A green teacher ebook, Toronto, ON: Green Teacher.

Davidson, R. J. (2002). Anxiety and affective style: role of prefrontal cortex and amygdala. *Biological Psychiatry*, *51*(1), 68-80.

Garst, B., Scheider, I., & Baker, D. (2001). Outdoor adventure program participation impacts on adolescent self-perception. *The Journal of Experiential Education*, *24*(1), 41-49.

Grillon, C., Pellowski, M., Merikangas, K. R., & Davis, M. (1997). Darkness facilitates the acoustic startle reflex in humans. *Biological Psychiatry*, *42*(6), 453-460.

Hunter, J. E. (2015). Intersubjective sensibilities: Memory, experience, and meaning in natural history interpretation. *The Qualitative Report*, *20*(7), 1046-1061.

Kaplan, S., & Kaplan, R. (1989). Cognition and environment: functioning in an understanding world. Ann Arbor, MI: Ulrich's.

Kaplan, S. (2001). Meditation, restoration, and the management of mental fatigue. *Environment and Behavior*, *33*(4), 480-506.

Mittelstaedt, R., Sanker, L., & VanderVeer, B. (1999). Impact of a week-long experiential education program on environmental attitude and awareness. *The Journal of Experiential Education*, *22*(3), 138-148.

Muhlberger, A., Weiser, M. J., Pauli, P. (2007). Darkness-enhanced startle responses in ecologically valid environments: a virtual tunnel driving experiment. *Journal of Biological Psychology*, *77*, 47–52.

Peel, J., & Richards, K. (2005). Outdoor cure. *Therapy Today*, *16*(10), 4-8.

Spielberger, C. D. (1977). The State-trait Anxiety Inventory for Adults. Mind Gardens, Inc.

Author contact: bdaniel@montreat.edu

Insects, Writing, and Art: Comparing Outcomes from Field Experience in Two Types of Entomology Classes

Lauren Fine, Telyn Peterson, Mat Duerden, Riley Nelson, and John Bennion
Brigham Young University

Background

For more than half a century scholars of pedagogy have explored the use of fieldwork in biology courses to increase content knowledge and enhance attitudes about the discipline (Study Group on Education and Field Biology, 1963; DfES, 2006). However, getting into the field with biology students is even more valuable as a means of showing how organisms interact in an ecological system (Lock and Tilling, 2002; Magntorn and Hellden, 2007); helping students practice interpreting data rather than just memorizing information (McLaughlin & Johnson, 2006); urging them to adopt a methodology (Eves et al., 2007); helping them collaborate with other students (Hammer, 2001; Boxerman, 2013); and, because field study is often interdisciplinary, showing them how to view data from various perspectives (Eves et al, 2007). In order to test the effectiveness of field work to enhance these goals, our study compared a standard entomology class taught on the campus of Brigham Young University with the same class taught as part of a field study course at Lytle Ranch, a research preserve (n=18 and 12 participants, respectively). The standard class (control group) included a couple of fieldtrips to local areas to collect insects, while the Lytle Ranch class (test group) lived, attended class, collected and curated insects, performed lab work, and researched on the ranch, located on the edge of the Mojave Desert, straddling Beaver Dam Wash. While both classes involved field study, the Lytle Ranch group had easier and more intensive experience in the field, with constant access to on-site laboratory equipment as well as regular exposure to desert, riparian, and water-dwelling insects. Additionally, the Lytle Ranch class was taught alongside a visual arts class and a writing class, and their curriculum included a shared group assignment of creating a field guide to insects in the Lytle Preserve.

Methods

We asked students in both the control and test groups to take pre- and post-tests of entomological knowledge, pre- and post-tests about writing and entomological self-efficacy, and a satisfaction survey. With the test group we also analyzed open-ended, written surveys containing questions specific to the field experience. We entered results from the content and self-efficacy tests into Excel spreadsheets and calculated average and change scores. Due to the small sample size the analysis focuses on descriptive rather than inferential statistics, so we just looked at means and standard deviation. We didn't run any inferential procedures. All survey response questions were transcribed and coded. As common themes emerged from the initial coding, codes were combined or divided to show distinctions and commonalities across questions. The main differences in the classes were the location as well as the correlation with other classes through a shared assignment (the field guide), so our analysis focused on the effects of those differences.

Quantitative Findings

Scores for participants and comparison group members were similar across most of the measures. The findings illustrate that students in the classroom tested better on average in their

entomology content post-test scores than did their field participant counterparts. The data also displays that participants in the control group on average increased their test score percentage more from pre- to post-scores than their field participant counterparts. Both participants and comparison group members indicated high levels of satisfaction with their course experiences. On average, members of the participant group rated their course slightly higher than did comparison group members. Participant group members experienced a greater positive change in their desire to continue studying entomology, their ability to gather ideas, and their ability to write in any environment. Comparison group members experienced greater increases in editing and proofreading, later stages of drafting, attitudes towards entomology, and general research skills. Caution should be taken when interpreting these findings due to the small sample size.

Qualitative Findings

The open-ended survey asked students to describe aspects of the field experience that were most important to them and that facilitated their learning. These were reflective writing and writing for the field guide; the opportunity to interact with the group; drawing and painting insects; constant application of what they were learning; having ready access to gear like microscopes; becoming specialists in certain insects; unscripted, out-of-class moments with Dr. Nelson (the biology teacher); the opportunity to observe or increased ability to observe; and being in a natural environment, which resulted in an increased appreciation for insects' role in a healthy ecosystem. They wrote that the interaction between entomology, writing, and art enabled them to see the connections between the subjects and the value of each. They wrote that the program encouraged flexible, out-of-the-box thinking that allowed them to see that "everything is connected and fluid" which "contributed to a related atmosphere and encouraged creativity." Codes related to self-actualization were mentioned frequently to explain *why* certain activities felt significant or useful to students. These activities encouraged them to reflect and learn moral or emotional lessons about themselves and the world.

Discussion

The pre- and post-test scores (quantitative data) proved to be less useful than the qualitative data because of the small sample size and response shift bias. The higher control group scores supported findings in studies showing that field classes are primarily effective at helping students integrate what they learn (Hart and Nolan, 1999; Kinchin, 1993; Lock and Tilling, 2002; Magntorn and Hellden, 2007). We conclude that classroom study might be better for some kinds of learning, such as memorizing complex material, and field study is better for other kinds of learning, such as developing an understanding of ecological connections. The qualitative data illustrated that the most meaningful parts of the course to the students were field-study specific, such as associating with others and being in a natural environment. The field study encouraged self-actualization; opportunities to work with the group, which encouraged learning from others; integrating the natural environment and art; and balance between subjects, which encouraged flexible thinking. Future programs hoping for similar learning experiences for students may want to consider including some of these elements.

References

Boxerman, Jonathan Zvi (2013). *Echoes from the Field: An Ethnographic Investigation of Outdoor Science Field Trips*. Northwestern University, ProQuest, UMI Dissertations Publishing. 3563696.

DfES (2006). *Learning Outside the Classroom*. Nottingham. UK: DfES. Economic and Social Research Council/Association for Science .

Eves, Robert L.; Davis, Larry E.; Brown, D. Gordon; and Lamberts, William L. (2007). Integration of field studies and undergraduate research into an interdisciplinary course: Natural history of tropical carbonate ecosystems. *Journal of College Science Teaching*, 36(6) 22-27.

Hammer, Samuel (2001). Enhancing biological understanding through undergraduate field research. *The Journal of General Education*, 50(3), 192-201.

Hart, P. and Nolan, K. (1999). A critical analysis of research in environmental education. *Studies in Science Education*. 34, 1-69.

Kinchin, I. M. (1993). Teaching Ecology in England and Wales – a survey of current practice. *Journal of Biological Education*. 27(1), 29-33.

Lindquist, J.L., Fay, P.K. and Nelson, J.E. (1989). Teaching weed identification at twenty U.S. universities. *Weed Technology*, 3, 186–188.

Lock R and Tilling S (2002). Ecology fieldwork in 16 to 19 biology. *School Science Review*. 84(307), 79-87.

McLaughlin, Jacqueline S. and Johnson, D. Kent (2006). Assessing the Field Course Experiential Learning Model: Transforming Collegiate Short-term Study Abroad Experiences into Rich Learning Environments. *Frontiers: The Interdisciplinary Journal of Study Abroad*, 13, 65-85.

Magntorn, O. and Hellden, G. (2007). Reading new environments: students' ability to generalise their understandings between different ecosystems. *International Journal of Science Education*. 29(1), 67-100.

Study Group on Education and Field Biology (1963). Science out of doors. London, UK: Longman.

Contact:
John Bennion, 4125 JFSB, BYU, Provo, Utah 84602; john_bennion@byu.edu; 801-422-3419

Outdoor Orientation Programs as Idioculture: Changing Beloved Organizations

Brent J. Bell, University of New Hampshire & Christa Ricker, Tufts University

Outdoor orientation programs work with small groups of first-year college students to aid in the transition to college (Bell, Holmes, & Williams, 2010). Participants report these programs as having a positive impact (Starbuck, 2012; Bell & Holmes, 2011). In this study, we believe the impacts are influenced by the program's idioculture: "A system of knowledge, beliefs, behaviors, and customs shared by members of an interacting group" (Fine, 1979, p.734). This phenomenological study examines three college outdoor orientation programs' idioculture during a process of change. College administrators initiated changes to "improve" program practices. This was considered phenomenological because student resistance to change was reported as highly emotionally charged and at a level perplexing to administrators. Students cared deeply about the programs and believed change would negatively impact the existing "ideal" experience. Using interviews, this study investigated the experience of students and program directors over a multi-year period. The researchers assessed the programs' idioculture to understand the resistance to change, aiming to understand how a program may transition to a more successful orientation program.

Design

This phenomenological study involved interviewing student leaders and program directors at each program. Interviews were semi-structured and were conducted and recorded via Skype. Interviews were transcribed and uploaded to Dedoose, an online qualitative software program. The analysis consisted of coding interviews for common themes and language, then analyzing those themes to build a narrative of change based upon the interview data.

Findings

All three programs identified themselves as largely student-run, and a major change to all programs was the introduction of professional staff members hired by the administration to provide oversight. Each of the three programs had a triggering event — a newspaper expose or staff turnover — which led to heightened attention and questions by the college administration.

Although two programs had some administrative oversight in the past, new leadership put at risk the "finding out" of some practices students believed were essential to positive outcomes yet would be misunderstood by administration. Students stated a key principle of success of each program was student control and hiring new directors threatened this "essential" component of the program.

As one leader stated, *"When I was a freshman, skinny-dipping was like a huge part of the trip…we all felt it was a huge bonding moment for us. A lot of people talked about how it really helped their self image and that they had never done something like that before…it really expanded their confront zone and allowed them to view their body in a different way and kinda break free of the societal norm in a way…in the United States nudity is a really scary thing for people*."

This highlights key themes found in this study: a) Leaders demonstrating a confidence in the practices and curriculum, developed over years of informal practice and experimentation, as being developmental, skinny dipping being just one example; b) peer leaders believing they understood best what students needed; and c) adult administrators (or in this quote "Americans") not understanding the program because of being beholden to societal norms.

Students perceived curricular practices as being unique to their programs. One leader interviewed expressed concern that increasing administrative oversight would diminish unique aspects of that program "and it would become just like every other program." Being like another program was to be avoided, fueling some of the resistance to collaborate or seek information from other outdoor orientation programs.

Yet the researchers found far more structural and curricular similarities — including duration, group size, and discussion topics — between the programs than differences. Even programs' attempts to set the stage for a unique experience with leaders dressed and behaving wildly was shared among the three programs. Each program had practices combining two goals, 1) to be what one student described as "to let loose and be a little crazy and be a little wild with each other", which seemed to be defined as breaking some cultural norms and taboos, and 2) to provide an opportunity to facilitate a supportive and trusting experience.

With their strong belief in the benefits of their program and its practices, student leaders often viewed themselves as an important resource for the first-years. This is not unique to their programs; Starbuck (2013) reported in his study of outdoor orientation leaders they had a strong sense of responsibility to teach students about life on campus.

Unique to these programs was the lack of trust in the institutional messaging. Students reported a confidence in better understanding of the needs of students than the "administration." As one leader said, "Hey, they are old and out of touch. They don't understand our generation. Like they don't get what we are trying to do here. Like they are 20 years past where we are. Like they have warped perspectives. They don't get it."

One cautionary impact of this belief concerns discussions with first-years about drugs and alcohol. Because the leaders believed strongly that information about drugs and alcohol was legitimized by age, rather than by the level of professional training. Leaders were not opposed to receiving information and guidance from campus experts in discussing drinking and drugging, but seemed to believe they understood the issues better than college staff.

The researchers identified a problematic tension between college administrators and student program leaders. Students reported strongly that the current idioculture produced healthy and desirable bonding rituals, yet administrators were not always sensitive to this unique culture, identifying some important aspects of that culture as problematic and needing to be changed. Further, despite stating that they desired a productive relationship with the student leaders, administrators' messages hinted at their ability to force compliance, subtly asserting the power they held to end programs altogether. At issue is how to synchronize the practices of a college program with the values of the institution.

In the end, at all organizations, new professional program directors negotiated a change process with the leader community. These new directors helped to provide clarity on the mission, improved training, and facilitated discussions on program practices. Within a year most of the program changes occurred, and within three years a new set of norms were established. What helped the programs change were discussions focused on the principles of the program, primarily helping first-year students transition to college,, Other positive change agents were providing new skills and more effective practices to the peer leaders that demonstrated some of the positive changes to the program (such as better technical skills training) and development of trust. When student leaders openly shared their practices and curriculum and the administration listened to the leaders' concerns, the resulting trust facilitated change.

References:

Bell, B.J. & Holmes, M.R. (2011). Important factors leading to outdoor orientation program outcomes: A qualitative exploration of survey results. *Journal of Outdoor Recreation, Education, and Leadership*, Vol. 3(1), 26-39.

Bell, B. J., Holmes, M. R. & Williams, B. G. (2010). A Census of Outdoor Orientation Programs at Four-Year Colleges in the United States. *Journal of Experiential Education*. *33*(1), 1-18.

Fine, G.A. (1979). Small Groups and Culture Creation: The Idioculture of Little League Baseball Teams. American Sociological Review 44(5), 733-745.

Starbuck, J. D. (2013). *Developing competence: A qualitative inquiry of college student leadership in university outdoor orientation programs* (Unpublished dissertation). University of New Hampshire, Durham.

Teaching and Learning Servant Leadership in the Outdoors

Sydney L. Sklar, Jerome W. Gabriel and Jessica Monu
University of St. Francis

Background

Research on best practices in outdoor leadership education is a growing body of literature, though it has been slow to take off. Sugerman (1999) documented that at the time there was no clear consensus on outdoor leadership training in higher education settings. According to Berman and Berman (2009), "…The field of outdoor education lacks an empirically-based method for organizing curriculum" (p. 3). Most studies on curricular development were conducted in the 1980s and were focused on professional competencies. (Buell, 1981; Green, 1981; Priest, 1984; Priest, 1986; Swiderski, 1981). Since that time, additional competencies and outcomes have been addressed (Berman & Berman, 2009; Martin, Cashel, Wagstaff, & Breunig, 2006; Raiola & Sugerman, 1999; Holladay and Sklar, 2013; Gabriel 2015); however, as Pelchat and Karp (2012) suggested, little research has been conducted on how competencies are integrated into curricular, instructional, and assessment design, as well as application. Specifically, the literature lacks research on best practices to foster leadership competencies through curricula.

The current study explores how students responded to leadership competency training during an outdoor leadership course. The curriculum utilized a servant leadership conceptual framework (Greenleaf, 2002; Page and Wong, 2000). The servant leadership model was chosen because it values qualities such as empathy, listening, stewardship, commitment to growth of others, and community building, all of which are attributes suited to an outdoor leadership curriculum. Although servant leadership has been a popular concept in business as it relates to repertoire of leadership style, limited evidence-based support from empirical research exists (Russell and Stone, 2002; Paris and Peachey, 2013). Furthermore, the model has not been addressed in the outdoor leadership literature. Thus, the primary purpose of the research is to describe how students construct knowledge and meaning from the overall outdoor leadership course as taught within a servant leadership framework.

Methods

The current study utilized a collaborative action research framework to explore the experiences of seven-students enrolled in an outdoor leadership course. In a call for research on outdoor leadership curricular development, Pelchat and Karp (2012), advocated the advancement of action research, a method which engages participants as researchers and uses formative evaluation to improve instructional resources and curricula. Action research is particularly adaptable to outdoor leadership education programs which offer prolonged engagement, opportunities for persistent observation multiple methods of triangulation, debriefing, and diverse case analysis (Stringer, 2007; Pelchat and Karp, 2012).

Additionally, the interpretive paradigm of naturalistic inquiry (Henderson, 1991; Lincoln & Guba, 1985) guided this research. Within the naturalistic paradigm, a case study method was used to research how the participants constructed meaning surrounding the concept of servant leadership, both during and upon conclusion of the course. The method was further used to examine how instructors might adapt the experience to address students' needs and how the student learning experience surrounding servant leadership education in the outdoors might be improved.

The study involved seven students and two instructor-researchers enrolled in an outdoor leadership course in which a servant leadership model (Page and Wong, 2000) was taught, and reinforced by the instructors throughout the experience. The course occurred in three phases: pre-trip; field; and post-trip. The pre-trip phase involved twenty-one hours of curricular class-room education, experiential team-building activities, and trip preparation activities. The field phase was an eight-day backcountry canoe trip in the Boundary Waters Canoe Area Wilderness. The post-trip phase required students to write and submit a course reflection paper, online, within one week of return from the field.

Formative and summative data sources were used to evaluate student responses to the curriculum. These sources included pre-trip student reflection papers on servant leadership, student field journals, and post-trip reflection papers. Using *NVivo 11*, data were analyzed using the constant comparative approach until saturation was achieved. Investigator triangulation, member checks, and comparison of results with existing literature was performed throughout the data analysis, to enhance the trustworthiness of the data.

Results

Data analysis resulted in saturation of five major themes. ***Interpersonal dynamics*** emerged from student reflections on empathy, trust, compassion, patience, communication, conflict resolution and sense of community. The theme ***personal development*** focused mainly on the individual. This theme began with students taking a step back to observe others, and reflecting on themselves as they became more aware of their strengths, limitations, goals, and aspirations, and their individual sense of place/roles within the larger group. ***Sense of peace in the natural world*** focused on the environment, and included elements such as appreciation of nature, separation from technology, and connection to the natural world. ***Learning process*** was a theme that emerged from students' desire to learn, as well observing others' skill development, reflecting on one's experience, learning from mistakes, and applying new hard skills and soft skills. The theme ***servant leadership*** was evident as students took opportunities to perform and reflect on servant leadership practices such as listening, empathy, awareness, foresight, stewardship, and building community. Instructor facilitated reflections on the servant leadership model indicated students were able to articulate the model's components, apply its principles to their leadership practice in the field, evaluate their own performance, and transfer the learning to future practice. The major themes were interconnected and surrounded delivery of the course.

Discussion

The results suggest an outdoor leadership course curriculum delivered within a servant leadership framework effectively produced a meaningful educational experience among the students. Students incorporated servant leadership principles into practice. They further applied these principles to personal and group development and their overall educational experience. Additionally, the pristine environment was supportive of student learning and reflection. These five themes can be used as an overarching framework for course design in the future, and instructors should emphasize learning opportunities surrounding these concepts.

Furthermore, as a method of evaluating outdoor leadership course delivery, an action research approach was effective, and this method could be adopted by future investigators looking to evaluate similar courses. Through a formative data collection approach, and by engaging participants in the research process, outdoor leadership instructor-researchers can gain valuable insights into what is working in their courses, and what elements need improvement.

References

Berman, D., & Berman, J. (2009). Dimensions underlying an outdoor leadership curriculum. *Journal of Outdoor Recreation, Education, and Leadership, 1*(1), 3-14.

Buell, L. H. (1981). *The identification of outdoor adventure leadership competencies for entry-level and experienced-level personnel* (Unpublished doctoral dissertation). University of Massachusetts, Amherst.

Gabriel, J. (2015). *Situational leadership awareness development in student outdoor leaders through training versus experience.* (Electronic Thesis or Dissertation). Retrieved from https://etd.ohiolink.edu/

Green, P. (1981). *The content of a college-level outdoor leadership course for land-based outdoor pursuits in the Pacific Northwest: A Delphi consensus* (Unpublished doctoral dissertation). University of Oregon, Eugene.

Greenleaf, R. (2002). *Servant leadership: A journey into the nature of legitimate power and greatness.* Mahwah, NJ: Paulist Press.

Henderson, K. A. (1991). *Dimensions of choice: A qualitative approach to recreation, parks, and leisure research.* State College, PA: Venture Publishing.

Holladay, P. & Sklar, S. L. (2012). An exploratory study of learning outcomes from an undergraduate wilderness camping and outdoor leadership experience. *Abstracts from the Coalition for Education in the Outdoors Eleventh Biennial Research Symposium.* Cortland, NY: Coalition for Education in the Outdoors.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills: Sage Publications.

Martin, B., Cashel, C., Wagstaff, M., & Breunig, M. (2006). *Outdoor leadership.* Champaign, IL: Human Kinetics.

Pelchat, C., & Goc Karp, G. (2012). A historical review of outdoor leadership curricular development and the future with action research. *Schole, 27*(2), 1-13.

Page, D., & Wong, P. T. P. (2000). A conceptual framework for measuring servant leadership. In S. Adjibolosoo (Ed.), *The human factor in shaping the course of history and development* (pp. 69-110). Lanham, MD: University Press of America.

Paris, D. L. & Peachey, J. W. (2013). A systematic literature review of servant leadership theory in organizational contexts. *Journal of Business Ethics, 113,* 377-399.

Priest, S. (1986). *Outdoor leadership preparation in five nations* (Unpublished doctoral dissertation). University of Oregon, Eugene.

Priest, S. (1987). *Preparing effective outdoor pursuit leaders.* Eugene, OR: Institute of Recreation Research and Service.

Raiola, E., & Sugerman, D. (1999). Outdoor leadership curricula. In J. Miles & S. Priest (Eds.), *Adventure programming* (pp. 241-245). State College, PA: Venture.

Russell, R., & Stone, G. (2002). A review of servant leadership attributes: developing a practical model. *Leadership & Organization Development, 23*(3), 145-157.

Stringer, E. (2007). *Action research.* Thousand Oaks, CA: Sage.

Sugerman, D. (1999). Outdoor leadership education: The past, present, and future. *ICORE '98: Proceedings from the International Conference on Outdoor Recreation and Education.* Eric Document Reproduction Services. (No. ED427926).

Swiderski, M. (1981). *Outdoor leadership competencies identified by outdoor leaders in five western regions* (Unpublished doctoral dissertation). University of Oregon, Eugene.

The Development of Judgment and Decision Making in Outdoor Leaders: An Actor-oriented Transfer Perspective

Hunter Holland, Clemson University
Bruce Martin, Ohio University

Background

Judgment and decision-making (JDM) is widely considered to be an essential competency in outdoor leadership (Drury, Bonney, Berman, & Wagstaff, 2005; Martin, Cashel, Wagstaff, & Breunig, 2006; Priest & Gass, 2005). Shooter and Furman indicate that JDM has been regarded as "influencing every aspect of … leadership skill implementation" (2011, p. 190). As such, those who train professional outdoor leaders have the responsibility to search for training methods that best facilitate the progression of leaders from novice to expert levels of judgment and decision-making.

Martin, Schmid, and Parker (2009) suggest that dual-process models of judgment and decision-making offer a useful framework for considering the progression of leaders from novice to expert levels of judgment and decision-making. Dual-process models consider both rational thought and intuition to be instrumental in the decision-making process. Depending on the circumstances, individuals may make decisions based on intuition, analytical thought, or some combination of the two. One example of a dual-process model of judgment and decision-making is Fuzzy Trace Theory (Reyna and Brainerd, 1998). Reyna argues that Fuzzy-Trace Theory differs from other dual process models in that "it places intuition at the apex of development" (2004, p. 61). As Evans notes, "experts acquire gist knowledge that allows them to make intuitive responses that are automatic, rapid, and effective, whereas novices need to rely on explicit analytical reasoning" (p. 267).

Phillips, Klein, and Sieck (2004) define expertise as exceptional skill in a given domain and suggest that the breadth and depth of knowledge that experts possess in a given domain enables them to use heuristics and mental shortcuts characteristic of expert level decision-making in those domains. Novices, on the other hand, lack this breadth and depth of knowledge—the heuristics—necessary for expert level decision-making in a given domain. Drury and Bonney (2012) argue that traditional, rational decision-making (RDM) models serve as the most effective means by which to facilitate the development of these decision-making heuristics in novice outdoor leaders.

The researchers used the Actor-Oriented Transfer (AOT) perspective (Lobato, 2012) to develop a better understanding of the development of judgment and decision-making among outdoor leaders. In contrast to traditional cognitivist approaches to transfer of learning (e.g., Gass, 1999), the AOT perspective focuses on how students interpret transfer situations, the socially situated nature of transfer processes, and the role of contextual sensitivity in transfer of learning (Lobato, 2012). As Lobato states: "the AOT perspective emphasizes the interpretative nature of knowing, relinquishes a predetermined standard for judging what counts as transfer and draws upon inductive qualitative methods" (2012, p. 243). The researchers sought to explore the interpretative nature of the process used to develop decision-making heuristics among novice outdoor leaders participating in an outdoor leadership development course.

Methods

The researchers used qualitative research methods to examine the development of judgment and decision-making among 12 students enrolled in an intensive 26-day outdoor leadership course designed to help students develop the knowledge, skills and dispositions needed for effective outdoor leadership. Though the participants in the study possessed varying levels of competency in wilderness living and travel, they were all novice outdoor leaders. Lobato (2012) states: "novices are likely to demonstrate greater variety in their interpretations of learning environments than experts; thus making them a desirable object of research from the AOT perspective" (p. 235).

The researchers relied on three primary sources of data: participant observation, audio recordings of daily group debriefs, and participant journals. Both the daily debriefs and student journal entries were guided by a set of open-ended questions adapted from a survey developed by Sibthorp et al. (2011) to identify mechanisms of learning transfer in adventure education. Each day, participants were asked to answer the following five questions:

1. Identify and describe the most important decision made by the LOD, today.
2. Of the things you learned from this decision-point, which one, in your opinion, is the most valuable to you in making decisions of your own as a leader in the future?
3. Why is this (answer to question 2) more valuable than lessons learned from other lessons learned from this experience?
4. Please complete the following sentence: If it had not been for … during my course, I probably would not have learned (the lesson described in my answer to question 2).
5. Why was this (answer to question 4) important to your learning about the process of judgment and decision making among outdoor leaders?

All field notes, audio recordings, and journal entries were transcribed into Microsoft Word documents, resulting in 476 pages of transcribed data. The data were then entered into NVivo 9 for analysis. Following the transcription of the data, the principle investigator developed a series of vignettes illustrating each LOD experience and key lessons that emerged from each LOD experience. Once the vignettes were developed, the researchers conducted a cross-case analysis to identify the extent to which lessons transferred across LOD experiences.

Results & Discussion

The researchers used the Actor-Oriented Transfer perspective (Lobato, 2012) to develop a better understanding of the development of judgment and decision-making among participants in an outdoor leadership course. Two primary results emerged in the study that illustrate the value of the AOT perspective as a basis for understanding the process by which students within the context of this outdoor leadership course develop heuristics characteristic of more advanced levels of judgment and decision-making. First, students engaged in a constructivist approach to learning in which they continually reflected on the lessons from each LOD experience as well as ways in which these lessons informed new but similar decision-making situations in which they found themselves. Second, the decisions that students made during their LOD experiences demonstrated that they were generalizing or expanding on lessons learned beyond the conditions of initial learning. The results of this study indicate that the AOT perspective has the potential to fill methodological gaps when viewed as a pedagogical tool in facilitating leadership

development. As Luckner & Nadler (1997) state, the "better we understand the factors that influence learning and the processes that underlie it, the better we can design experiences that will benefit individuals" (p. xvi).

References

Drury, J. K., & Bonney, B. F. (2012). It's natural to be rational. In B. Martin & M. Wagstaff (Eds.), *Controversial issues in adventure programming* (pp. 275-279). Champaign, IL: Human Kinetics.

Drury, J. K., Bonney, B. F., Berman, D., & Wagstaff, M. (2005). *The backcountry classroom* (2nd ed.). Guilford, CT: Globe Pequot Press.

Evans, J. (2008). Dual-processing accounts of reasoning, judgment, and social cognition. *Annual Review of Psychology, 59*, 255-278.

Gass, M. (1999). Transfer of learning in adventure programming. In J. C. Miles & S. Priest (Eds.), *Adventure programming* (pp. 227-234). State College, PA: Venture Publishing.

Lobato, J. (2012). The actor-oriented transfer perspective and its contributions to educational research and practice. *Educational Psychologist, 47*(3), 232-247.

Luckner, J. L., & Nadler, R. S. (1997). *Processing the experience: Strategies to enhance and generalize learning*. Dubuque, IA: Kendall/Hunt Publishing.

Martin, B., Cashel, C., Wagstaff, M., & Breunig, M. (2006). *Outdoor leadership: Theory & practice.* Champaign, IL: Human Kinetics.

Martin, B., Schmid, D., & Parker, M. (2009). An exploration of judgment and decision-making among novice outdoor leaders: A dual-processes approach. *Journal of Outdoor Recreation, Education, and Leadership, 1*(1), 38- 54.

Phillips, J. K., Klein, G., & Sieck, W. R. (2004). Expertise in judgment and decision-making: A case for training intuitive decision skills. In D. J. Koehler and N. Harvey (Eds.), *Blackwell handbook of judgment and decision-making* (pp. 297-315). Oxford: Blackwell Publishing.

Reyna, V. F. (2004). How people make decisions that involve risk: A dual-processes approach. *Current Directions in Psychological Science, 13*(2), 60-66.

Reyna, V. F., & Brainerd, C. J. (1998). Fuzzy-trace theory and false memory: New frontiers. *Journal of Experimental Child Psychology, 71*(2), 194-209.

Priest, S., & Gass, M. (2005). *Effective leadership in adventure programming* (2nd ed.). Champaign, IL: Human Kinetics.

Shooter, W., & Furman, N. (2011). Contextualizing recent judgment and decision-making concepts for outdoor leadership research. *Journal of Outdoor Recreation, Education, and Leadership, 3*(3), 189-203.

Sibthorp, J., Furman, N., Paisley, K., Gookin, J., & Schumann, S. (2011). Mechanisms of learning transfer in adventure education: Qualitative results from the NOLS transfer survey. *Journal of Experiential Education, 34*(2), 109-126.

Lead Author's Contact Information:

W. Hunter Holland
(828) 447-5191
williamhunterholland@gmail.com

Outdoor Orientation Leader Trust and Perceived Alcohol Use

Brent J. Bell, University of New Hampshire

Peer leadership among college students can be a double-edged sword. Although peer leaders may have great influence upon the positive aspects of college adjustment, they may also reinforce negative campus stereotypes. For example, some peer leaders admit to exaggerating their own rates of personal alcohol use to gain acceptance or impress new students. A key finding in this study is a negative correlation (as one variable gets higher the other gets lower) between the participants' perception of the rate their outdoor orientation peer leaders use alcohol and rate of trust the participants report for those leaders.

Outdoor orientation programs use adventure experiences such as backpacking trips to aid in a first-year student's transition to college. Over 80% of these programs use peer leaders (Bell, 2015) and first-year students report these peer leaders have a powerful influence on their lives (Starbuck, 2013). Research of 14 different outdoor orientation programs also demonstrates students report high levels of trust among their leaders (Bell, 2015). This is likely a reason why peer leaders have been shown to be an important source of influence on campus norms (Oliver, 2010).

The theoretical framework guiding this research is Baumeister & Leary's theory of belongingness (1995) and specifically the influence of perceived social norms upon belonging. The desire to belong may result in sensitivity to social norms influencing student behavior.

Methods

Links to the Outdoor Orientation Benchmarking Survey (Bell, 2015) were sent to 20 directors of outdoor orientation programs in the United States and two in Canada. The link was sent to students after at least six weeks of college had passed, post-program, to assess students when they were more likely to have experienced academic and social challenges.

The survey, developed at the University of New Hampshire, is composed of multiple measures, but for the purposes of this study focused on two measures: the Behavioral Trust Inventory (BTI) (Gillespie, 2003), and a social norming question. The BTI was adapted with permission from its corporate language into an outdoor education context (changing the term supervisor to leader). The BTI was a good fit for this research because it utilized a definition of trust that differentiated between reliable trust (will you show up on time?) and disclosure trust (can I tell you a secret?). It is theorized that disclosure trust is important for college students. The social norming question asked "How many alcoholic drinks, if any, do you typically drink in an average week?" and "How many alcoholic drinks, if any, do you think your orientation leaders drink in an average week?" Similar questions were asked pertaining to the outdoor orientation group as a whole and the average college student at their school.

Results

A total of 880 first-semester college students at 14 colleges in the United States participated in the survey. Of this group, 40.6% reported they were abstainers of alcohol during their first semester of college. These reports of abstaining are above a U.S. national average of

33% (O'Malley & Johnston, 2002). When the number of abstainers was combined with the students reporting between 0 or 1 alcoholic drinks in an average week, the size of the group of students reporting little or no drinking behavior (relative abstainers) was 48%.

The group of relative abstainers (0-1 drinks per week) report decreasing levels of trust of leaders as perceptions of their leader drinking increases. Among this 48% of outdoor orientation participants there is a significant negative correlation, $r = -.205$, $p < .001$, $n = 265$. The negative correlation was also evident between peers, as the perception of peer alcohol consumption increased, overall trust of peers decreased, $r = -.191$, $p < .004$, $n = 263$. This pattern did not emerge among the students reporting higher levels of weekly alcohol use; for these non-abstainers there was no significant impact on trust.

Discussion

The number of students who drink alcohol may consistently be over-estimated. Pluralistic ignorance is known to have an impact on student behavior resulting in increased drinking (Prentice & Miller, 1996), but it may also have an impact on the perception of trust.

The assumption that leaders who are perceived as frequent drinkers would be associated with being admired did not emerge in the data. The results showed the opposite at 11 of the 14 colleges in the study—the leaders who were perceived as drinking alcohol were also perceived as being less trustworthy. At three of the colleges this effect was not apparent.

In general, the myth of the "cool college leader" who drinks a lot and can hold it all together is not what may be perceived by low-drinking or abstaining students. The perception of how many alcoholic drinks a person has on average may impact the trustworthiness of the person in forming a relationship with students. With 48% of students in this study reporting a small, but negative correlation between trust and perceptions of alcohol use, it may be important for outdoor orientation leaders to consider how they discuss alcohol with incoming students.

References

Bell, B. (2015). The outdoor orientation benchmarking survey, unpublished raw data. University of NH, Durham, NH.

Bell, B. (2015). The census of outdoor orientation programs, unpublished raw data. University of NH, Durham, NH.

Gillespie, N. (2003). Measuring trust in working relationships: the behavioral trust inventory. In Academy of Management Conference, Seattle, WA.

Oliver, B. (2010). Talking about alcohol: Outcomes of a social norms training for outdoor orientation program leaders. Unpublished Masters Thesis, University of N.H., Durham.

Prentice, D.A. & Miller, D.T. (1996). Pluralistic ignorance and the perception of social norms by unwitting actors. Advances in Experimental Social Psychology, vol, 28, p. 161-209

Starbuck, J. D. (2013). Developing competence: A Qualitative inquiry of college student leadership in university outdoor orientation programs. Unpublished Dissertation, University of New Hampshire, Durham.

Taking Stock: Assessing Six Years of Programming for Sense of Community in an Outdoor Orientation Program

Timothy S. O'Connell, Brock University, Ryan A. Howard, Lakehead University, & Anna H. Lathrop, Brock University

Background

Transitioning to university from high school is often a stressful situation for many students (Chambliss & Takacs, 2014). When students do not successfully enter into this new environment socially or academically, they may lose motivation to remain in school, become depressed, or feel lonely (Chambliss & Takacs, 2014). Many universities implement first-year or pre-term orientation programs to help students with this transition with the intent of enhancing student success and promoting student retention. This is particularly important as some statistics indicate that over 20% of students who enter university fail to finish their respective programs of study (Finnie & Qiu, 2009). The goals of these orientation programs include such things as providing information about on-campus support services (e.g., student development services, counseling support, etc.), giving an overview of the "nuts and bolts" of university life such as getting an ID card and registering for courses, and introducing students to useful skills such as time management, study strategies, and tips on using the library effectively. Historically, these programs have been delivered as classroom-based, theory-oriented courses, seminars and/or support group interventions (Lamothe et al., 1995; Tinto, 1997).

Since 1935, many universities have adopted an approach to orientation program delivery that includes a wilderness or outdoor adventure component designed to promote positive peer relationships (Gass et al., 2003), enhance academic performance (Oldmixon, 2007), and increase retention rates (Wolfe & Kay, 2011), among others (Association for Experiential Education, 2011). Barefoot and Koch (2011) report that over 20% of the colleges and universities they surveyed offered orientation programs with a wilderness or outdoor education component. Outdoor orientation programs are distinguished from other orientation activities by three characteristics, including groups of 15 or fewer people, participants spend at least one night camping away from the university or college, and students participate in one or more adventure experiences such as canoeing, hiking or rock climbing (Bell, Gass, Nafziger & Starbuck, 2014). One important outcome of outdoor orientation programs that affects both social and academic life is the development of a positive psychological sense of community among participants (Lathrop, O'Connell, & Howard, 2012).

Community has been conceptualized in two distinct ways. In one sense, community refers to a geographic location that has territorial connotations, such as a neighbourhood or campus (Heller, 1989). In another way, community is considered as primarily relational, with a focus on interpersonal interaction, social cohesion, and emotional connectivity (Halamova, 2001). Sarason refers to the latter as a "psychological sense of community" (1974). Within this relational interpretation of community, McMillan and Chavis (1986), offer a helpful model of four components that serves as the theoretical framework for this study. The first component, membership, is characterized by an individual's feeling that he or she has made an investment in the group and therefore has a right to belong (McMillan & Chavis, 1986). The second component, influence, is the impact a group member is able to exert on a group and at the same time, is the impact a group has on the individual (McMillan & Chavis, 1986). The third component, integration and fulfilment of needs, is related to the bolstering of behaviours in a

group. Ultimately, this provides the individual with some type of benefit through the give-and-take nature of contributing to the group and getting support from the group (McMillan & Chavis, 1986). The last component is a shared emotional connection. This is cultivated by continuous, positive group exchanges, the successful accomplishment of group tasks, and the esprit de corps that suggests a feeling of loyalty. For the purposes of this study, McMillan and Chavis' (1986, p. 9) definition of sense of community will be used: "Sense of community is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together." The purpose of this study is to explore the impact of participation in an outdoor orientation program on students' perceptions of psychological sense of community.

Methods

Research participants were recruited from students who engaged in an outdoor orientation program at a mid-sized university during the past six years (2010 to 2015). Participants took part in one of the following experiences: a three-day rock climbing trip, a five-day canoe trip, or a five-day backpacking trip. In addition to learning technical skills related to the specific outdoor adventure activity, participants were exposed to a "curriculum" facilitated by two upper-year student peer leaders that included specific discussion topics focused on the "ins-and-outs" of student life and transitioning to university from high school. The group engaged in chats about networking with others in the university community, study skills, time management, the importance of work/school/life balance, and where to go for help on campus. Formal topics addressed by the student leaders included group dynamics/leadership; undergraduate life; diversity and positive interpersonal relationships; living away from home; and health/well-being. The outdoor orientation program was designed to promote academic success, build community, and increase personal competencies such as self-confidence, among others. The *Brief Sense of Community Index* (BSCI) was used to measure feelings of belonging and mutual dependence within a group (Long & Perkins, 2003), and was administered the first morning of students' trips and immediately on completion of their outdoor orientation experience. The *Brief Sense of Community Index* is comprised of 8 items, uses a 5-point scale (1=not at all true to 5=completely true) and contains three subscales (Social Connections, Mutual Concern, and Community Values) as well as a global item to measure sense of community. Demographic data were also collected on the first morning.

Results

A total of 98 students participated in the pre-test and post-test portions of this study. Data were analyzed using a general linear model repeated measures procedure to determine if there were differences in overall sense of community and each of the three subscales between men and women, and trip length (3-day versus 5-day). Results indicate there were significant differences in overall sense of community, Social Connections, Mutual Concern, and Community Values from pre-trip to post-trip regardless of gender or length of trip.

Discussion & Conclusion

While outdoor orientation programs have been one of the more widely studied aspects of outdoor adventure education (Association for Experiential Education, 2011), psychological sense of community is only briefly mentioned in the related literature. This study adds to the understanding of the impacts on students' participation in outdoor orientation programs by

providing an initial glimpse into the changes in sense of community that have been shown to have a crucial impact on students' capacity to successfully enter and stay in university (Chambliss & Takacs, 2014). Further discussion and implications for both practice and research will be reported in January.

References

Association for Experiential Education (2011). *Wilderness orientation programs*. White Paper retrieved from www.aee.org/whitepapers

Barefoot, B., & Koch, D. (2011). *Preliminary findings from a national survey of efforts to improve undergraduate student success and retention, Gardner Institute for Excellence in Undergraduate Education*. Paper presented at the 31st Annual First-Year Experience Conference, Atlanta, Georgia.

Bell, B. J., Gass, M. A., Nafziger, C. S., & Starbuck, J. D. (2014). The state of knowledge of outdoor orientation programs: Current practices, research, and theory. *Journal of Experiential Education, 37*(1), 31-45.

Chambliss, D. F., & Takacs, C. G. (2014). *How college works*. Cambridge, MA: Harvard University Press.

Finnie, R., & T. Qiu. (2009). *Moving through, moving on: Persistence in postsecondary education in Atlantic Canada, evidence from the PSIS*. Statistics Canada. Culture Tourism and the Centre for Education Statistics – Research Papers, Catalogue no. 81-595-M – No. 072.

Gass, M. A., Garvey, D. E., & Sugarman, D. A. (2003). The long-term effects of a first-year student wilderness orientation program. *Journal of Experiential Education, 26*(1), 34-40.

Halamova, J. (2001). Psychological sense of community: Examining McMillan-Chavis' and Peck's concepts. *Studia Psychologica, 43*, 137-148.

Lamothe, D., Currie, F., Alisat, S., Sullivan, T., Pratt, M., Pancer, S., & Humsberger, B. (1995). Impact of a social support intervention on the transition to university. *Canadian Journal of Community Mental Health, 14*, 167-180.

Lathrop, A., O'Connell, T. S., & Howard, R. (2012). The impact of a wilderness orientation program on first year student perceptions of life effectiveness and campus integration. *Collected Essays on Learning and Teaching (CELT), V*, 92-97.

Long, D. A., & Perkins, D. D. (2003). Confirmatory factor analysis of the sense of community index and development of a brief SCI. *Journal of Community Psychology, 31*(3), 279-296.

McMillan, D., & Chavis, D. (1986). Sense of community: A definition and theory. *Journal of Community Psychology, 14*, 6-23.

Oldmixon, M. (2007). The great outdoors: Campus and individual benefits of outdoor adventure programming. *The Bulletin of the Association of College Unions International, 75*(2), 382-385.

Sarason, S.B. (1974). *The psychological sense of community: Perspectives for community psychology*. San Francisco: Jossey-Bass.

Tinto, V. (1997). Classrooms as communities: Exploring the educational character of student persistence. *Journal of Higher Education, 68* (6), 599-623.

Wolfe, B. D., & Kay, G. (2011). Perceived impact of an outdoor orientation program for first-year university students. *Journal of Experiential Education, 34*(1), 19-34.

Contact Information

Dr. Tim O'Connell – Phone: (905) 688-5550 x5014, Email: tim.oconnell@brocku.ca

The Impact of an Outdoor Orientation Program on Student Persistence

Tom Quinn
University of Wisconsin-Stevens Point

Introduction

Student retention and persistence continues to be a struggle for most public universities (Burkholder et al., 2013; Hoover, March 9, 2015; Hu, 2011). Outdoor orientation programs exist to aid in the transition from secondary to post-secondary education, establish community, build trust, and nurture relationships for new first year students. Tinto (2012) states that student departure is a direct outcome of a lack of social and academic integration. Students who integrate into academic and social aspects of a university are more likely to become committed to that university (Beil, Reisen, Zea, & Caplan, 1999). Previous research on student characteristics including social integration, academic integration, and institutional commitment can lead to student persistence, and therefore, increase retention (Beil et al., 1999; Woosley & Miller, 2009). Little is known of the perceived relationship between outdoor orientation programs, student persistence, institutional commitment, and social and academic integration. This study explored the impact of a credited outdoor orientation program on student retention and on student perceptions of factors that influence persistence. The theoretical framework that grounded this study is that of student involvement as developed by Astin (1999). The theory guides a model of student retention posited by Bean and Eaton (2001).

At the researched institution, students have participated in outdoor orientation programs for over 12 years. One such program offers week long hiking, backpacking, or canoeing excursions in the wilderness. Another program offers three days of outdoor adventure programming prior to the beginning of the first fall term. Both programs facilitate discussion on interpersonal skills and challenges, and both offer a one-credit course following the experience in the fall term. These courses engage students through social integration and educate them about the university, its student organizations, and its academic and social resources. The goal of both courses is to foster academic integration, social integration, and institutional commitment. For the purpose of this study, the two programs are referred to as *Orientation to Campus Life*.

Methods

A convergent mixed methods approach was utilized in this study to gather and analyze quantitative data on retention and persistence of 299 participants in Orientation to Campus Life compared to non-participants. Further, it determined to what extent background characteristics including gender, ethnicity, and high school GPA contributed to retention. Student retention was measured quantitatively through institutional retention data from the first to second semester and subsequent semesters. Persistence was measured quantitatively using summative results of retention data. An institutional survey called MapWorks was used to gather student perceptions of commitment to the institution, social integration, and academic integration. The MapWorks survey was deployed four weeks after the beginning of the first semester and again eight weeks after the beginning of the first semester. Finally, an Orientation to Campus Life online survey was deployed to collect qualitative data about the Orientation to Campus Life participants' perceptions of the impact the program had on their academic integration, social integration, and institutional commitment. The qualitative data collected supplemented the quantitative data with

a more specific lens on the relationship between academic integration, social integration, and institutional commitment on retention.

Results

Results showed that participation in an outdoor orientation program had a significant impact on retention of students at the 4th and 6th semester. Persistence of Orientation to Campus Life participants compared to non-participants was also significant, and remained statistically significant after accounting for gender, ethnicity, and high school GPA. To measure persistence, students in the sample who were either still currently enrolled or who had successfully graduated from the institution were considered persistent.

MapWorks surveys were distributed to participants at the four week mark and eighth week mark of the first semester of college. Early measurements of student perceptions on academic integration, social integration, and institutional commitment from the MapWorks survey were not significant, but Orientation to Campus Life survey results indicated a significant impact on these factors when measured later in their college career. Respondents perceived the greatest impact on their social integration. When analyzing survey data, the most common theme was "Making friends" with 48 references from the 136 respondents. For many, the ability to participate in an outdoor orientation program prior to the beginning of the first semester had a major impact, for students were able to create friendships with peers immediately.

Discussion

From the quantitative results, participation in Orientation to Campus Life had a significant impact on both retention and persistence. Both the quantitative and qualitative results suggest that Orientation to Campus Life influences social integration, academic integration, and institutional commitment. Overwhelmingly, respondents perceived that Orientation to Campus Life had the greatest impact on their social integration. Similar to other outdoor orientation programs (Austin, Martin, Mittlestaedt, Schanning & Ogle, 2009; Bell & Williams, 2006; Bobilya, Akey & Mitchell, 2011; Gass, Garvey & Sugerman, 2003; Persing & Baldwin, 2004; Wolfe & Kay, 2011), participants felt the program positively increased their ability to meet friends and establish social relationships, and in turn, impacted their persistence at the researched university. Participants also indicated that Orientation to Campus Life helped them develop a connection to the university, confirmed their choice of school, and helped them establish a sense of community. These responses align with research supporting an association between participation in an outdoor orientation program and institutional commitment (Bell & Williams, 2006; Hausmann, Ye, Schofeld & Wood, 2009; Wolfe & Kay, 2011). As Woosley and Miller (2009) indicate, institutional commitment may be an outcome of social integration. Social integration and institutional commitment may not be able to be measured as variables in tandem. The variables may need further research to investigate a causal relationship, as demonstrated in previous research (Beil et al., 1999; Hausmann et al., 2009). Outdoor orientation program leaders may look to capitalize on social integration in their programming. Colleges and universities may look to implement or expand outdoor orientation programs to increase student retention and persistence.

References

Astin, A. W. (1999). Student involvement: A developmental theory for higher education. *Journal of College Student Development, 40*(5), 518-518-529.

Austin, M. L., Martin, B., Mittelstaedt, R., Schanning, K., & Ogle, D. (2009). Outdoor orientation program effects: Sense of place and social benefits. *The Journal of Experiential Education, 31*(3), 435-439.

Bean, J., & Eaton, S. B. (2001). The psychology underlying successful retention practices. *Journal of College Student Retention, 3*(1), 73-89.

Beil, C., Reisen, C. A., Zea, M. C., & Caplan, R. C. (1999). A longitudinal study of the effects of academic and social integration and commitment on retention. *NASPA Journal, 37*(1), 376.

Bell, B. J., & Williams, B. G. (2006). Learning from first-year fears: An analysis of the Harvard first-year outdoor program's "Fear in a hat" exercise. *Journal of College Student Orientation and Transition, 14*(1), 47-47–61.

Bobilya, A. J., Akey, L. D., & Mitchell, Jr., D. (2011). Outcomes of a spiritually focused wilderness orientation program. *Journal of Experiential Education, 33*(4), 301-322. doi:10.5193/JEE33.4.301

Burkholder, G. J., Lenio, J., Holland, N., Seidman, A., Neal, D., Middlebrook, J., & Jobe, R. (2013). An institutional approach to developing a culture of student persistence. *Higher Learning Research Communications, 3*(3), 16-39.

Gass, M. A., Garvey, D. E., & Sugerman, D. A. (2003). The long-term effects of a first-year student wilderness orientation program. *The Journal of Experiential Education, 26*(1), 34.

Hausmann, L. R. M., Ye, F., Schofield, J. W., & Woods, R. L. (2009). Sense of belonging and persistence in White and African American first-year students. *Research in Higher Education, 50*(7), 649-669. doi:http://dx.doi.org/10.1007/s11162-009-9137-8Persing, J. R., & Baldwin, C. K. (2004). Building a program theory: A descriptive analysis of leader beliefs and participants' experience. *The Journal of Experiential Education, 26*(3), 206-207.

Hoover, E. (March 9, 2015). Spotlight on retention: Students can't graduate if they don't return - the trends report - the chronicle of higher education. Retrieved from http://chronicle.com/article/Spotlight-on-retention-/228173/

Hu, S. (2011). Reconsidering the relationship between student engagement and persistence in college. *Innovative Higher Education, 36*(2), 97-106. doi:http://dx.doi.org/10.1007/s10755-010-9158-4

Tinto, V. (2012). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago, Ill.: University of Chicago Press.

Wolfe, B. D., & Kay, G. (2011). Perceived impact of an outdoor orientation program for first-year university students. *The Journal of Experiential Education, 34*(1), 19-34.

Woosley, S. A., & Miller, A. L. (2009). Integration and institutional commitment as predictors of college student transition: Are third week indicators significant? *College Student Journal, 43*(4), 1260-1271.

Contact: Dr. Tom Quinn
University of Wisconsin-Stevens Point
Central Wisconsin Environmental Station
10186 County Road MM
Amherst Junction, WI 54407
tquinn@uwsp.edu, 715-346-2705

Outdoor Adventure Education and Thriving: The Relationship between Outdoor Orientation and College Student Well-being

Wally J. Rude, Ambrose University, Andrew J. Bobilya, Western Carolina University, Brent J. Bell, University of New Hampshire

Background

Since WWII, student success outcomes in higher education have gravitated from a broad focus on holistic student development to a narrow focus on academic performance and graduation rates (Yazedjian, Toews, Sevin, & Purswell, 2008). The notion of student thriving is animating recent holistic student development reform efforts by encouraging campus practices and research that enhance student well-being (Schreiner, 2010). Outdoor orientation programming is a promising pedagogical practice with a potential pathway to contribute to college student thriving.

This study was informed by the theoretical framework of student thriving which is conceptualized as a state of optimal college-student functioning in the academic, social, and psychological domains (Schreiner, 2010). Student thriving was created in reference to concepts originating within positive psychology (Seligman, 2011) and flourishing (Keyes & Haidt, 2003). Thriving consists of the following five scales: (a) Academic Determination; ability to regulate one's own learning and make the appropriate effort to succeed, (b) Engaged Learning; capacity to deeply process and make sense of course material, (c) Positive Perspective; ability to view challenges with an optimistic perspective, (d) Diverse Citizenship; desire to make a meaningful contribution to community while being open to diverse others and perspectives, and (e) Social Connectedness; capacity to cultivate healthy interdependent relationships (Schreiner, 2010). Although the burgeoning research on thriving has explored how some factors such as psychological sense of community (McMillan & Chavis, 1986) contribute to thriving (Schreiner, 2013), no study to date has investigated the effectiveness of an outdoor orientation program on college student thriving.

Outdoor orientation is "defined as orientation or pre-orientation experiences for small groups (15 or fewer) of first-year students that use adventure experiences and include at least one overnight in a wilderness setting" (Bell, Holmes, & Williams, 2010, p. 3). Outdoor orientation programming, underpinned by the practices of Outward Bound (Hahn, 1960), and the components of the Walsh and Golins' (1976) model offers a promising pathway for the enhancement of student thriving. Although the first outdoor orientation program was launched at Dartmouth College in 1935, the most significant program growth has occurred more recently. In 2006, 164 four-year, higher education institutions in the United States operated outdoor programs with 17, 547 participants. That number has grown to 191 institutions across the United States and Canada by 2012 with over 25,000 participants (Bell, Gass, Nafziger, & Starbuck, 2014).

Just as outdoor orientation programming has recently grown, so too has the field of research illuminating the efficacy of these experiences (Bell et al., 2014). Most of the research on outdoor orientation has focused on the social and relational benefits of these programs (Bell & Holmes, 2011; Delvin, 1996; Wolfe & Key, 2011), with more limited research on outcomes such

as persistence rates (Gass, 1987), students' reports of spiritual growth (Bobilya, Akey, & Mitchell, 2011, adaptation to college (Ribbe, 2011), grade-point average (Gass, 1987), and self-efficacy (Viti, 2014). The current study utilizes a holistic well-being measure, filling a scholarship gap in both the thriving and outdoor orientation literature by exploring the role of outdoor orientation programs in first-year students' thriving. Therefore, the purpose of this study was to investigate the contribution of participation in an outdoor orientation program to thriving among undergraduate college students, after controlling for race, gender, high school grades, major certainty, first choice at enrollment, living on campus, and institutional selectivity.

Methods

Data were collected from three institutions offering outdoor orientation programs: (a) a research institution in western Canada, (c) a faith-based private college from the Midwestern United States, and (c) a private college from Midwestern United States. The three participating institutions offered outdoor orientation programs that ranged from a three-day camp-based experience to an 18-day Outward Bound-style program. Participants included 295 students who were predominantly female (66.8%) and White (66.4%). The Thriving Quotient (TQ; Schreiner, 2014), a valid and reliable instrument, was administered to first-year college students in the fall of 2014. To explore the direct, indirect, and total effects of the variables proposed in the hypothesized models of this study, structural equation modeling (SEM) was utilized, and was a helpful methodology because it allows researchers to explore several regression equations simultaneously (Byrne, 2010). This study is the first identified outdoor orientation research project utilizing SEM.

Results and Discussion

The thriving model was tested using SEM and indicated an initial poor fit; therefore, an alternative model was created that evidenced a very good fit: [$\chi 2 = 136.161$ ($df = 88$, $p < .001$), CFI = .939, RMSEA = .044]. Although the predictive importance of outdoor orientation was modest ($\beta = .048$), it contributed significantly to the model that explained 72.8% of the variance in thriving levels. Outdoor orientation was found to directly predict campus involvement ($\beta = .246$), student involvement directly predicted psychological sense of community ($\beta = .241$), and psychological sense of community directly predicted thriving ($\beta = .739$).

The most salient finding in this study elucidated an indirect pathway between an outdoor orientation experience and college student thriving in the first semester. Student participation in an outdoor orientation program appears to set in motion a propensity for students to become more involved in campus life, which cultivates greater sense of community, culminating in thriving. The connection between outdoor orientation programming and student involvement may likely be attributed to the enhancement of self-efficacy and the positive influence of instructors and peer leaders. The important connection illuminated in this study between outdoor orientation and student involvement extends the research on student involvement (Astin, 1999). Recommendations for practice include: (a) enhance a psychological sense of community (O'Connell, 2014) and (b) create opportunities for commuter student participation (Hintz, 2011). Future research should include an experimental design or a longitudinal methodology to evaluate the longer-term effects of outdoor orientation programming on student thriving. These findings may be helpful for outdoor orientation program managers and student affairs professionals who continue to seek effective methods for assisting students in their holistic development.

References

Astin, A. W. (1999). Student involvement: A development theory for higher education. *Journal of College Student Development*, *40*(5), 518-529.

Bell, B. J., Gass, M. A., Nafziger, C. S., & Starbuck, D. J. (2014). The state of knowledge of outdoor orientation programs: Current practices, research, and theory. *Journal of Experiential Education, 37*(1), 31-45.

Bell, B. J., & Holmes, M. R. (2011). Important factors leading to outdoor orientation program outcomes: A qualitative exploration of survey results. *Journal of Outdoor Recreation, Education, and Leadership, 3*(1), 26-39.

Bell, B. J., Holmes, M., & Williams, B. (2010). A census of outdoor orientation programs at four-year colleges in the United States. *Journal of Experiential Education, 33* (1), 1-18.

Bobilya, A. J., Akey, L., & Mitchell, D., Jr. (2011). Outcomes of a spiritually focused wilderness orientation program. *Journal of Experiential Education, 33*(4), 301-322.

Byrne, B. (2010). Structural equation modeling with AMOS: Basic concepts, applications, and programming. New York, NY: Routledge.

Delvin, A. S. (1996). Survival skills training during freshman orientation: Its role in college adjustment. *Journal of College Student* Development, *37*(3), 324-334.

Gass, M. A. (1987). The effects of a wilderness orientation program on college students. *The Journal of Experiential Education, 10*(2), 30-33.

Hahn, K. (1960, July 20). Outward Bound. Address at the annual meeting of the Outward Bound Trust, United Kingdom.

Hintz, J. R. (2011). Peer educators responding to an institutional challenge: Off-campus student services. *New Directions for Student Services, 133*(113), 87-95.

Keyes, C. L. M., & Haidt, J. (Eds.). (2003). Flourishing: Positive psychology and the life well-lived. Washington, DC: American Psychological Association.

McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology, 14*(1), 6-23.

O'Connell, T. S. (2014). Research on interpersonal outcomes. In A. W. Ewert & M. J. Sibthorp (Eds.), Outdoor adventure education (p. 170). Champaign, IL: Human Kinetics.

Ribbe, R. (2011). Understanding the effects of adventure-based orientation programs on identity formation and the adaptation college (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3486059)

Schreiner, L. A. (2010). The "Thriving Quotient": A new vision for student success. *About Campus, 15*(2), 2-10.

Schreiner, L. A. (2013). Thriving in college. *New Directions for Student Services, 143*, 41-52.

Schreiner, L. A. (2014). The Thriving Quotient TM [instrument]. Unpublished instrument. (Copy on file with author)

Seligman, M. E. P. (2011). Flourish: A visionary new understanding of happiness and well-being. New York, NY: Free Press.

Viti, R. M. (2014). The psychological effects of preorientation wilderness programs in first-year students entering four-year institutions (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3613467)

Walsh, V., & Golins, G. (1976). The exploration of the Outward Bound process. Denver, CO: Colorado Outward Bound School.

Wolfe, B. D., & Kay, G. (2011). Perceived impact of an outdoor orientation program for first-year university students. *Journal of Experiential Education, 34*(1), 19-34

Yazedjian, A., Toews, M. L., Sevin, T., & Purswell, K.E. (2008). "It's a whole new world": A qualitative exploration of college students' definition of and strategies for college success. *Journal of College Student Development, 49*(2), 141-154.

Authors' Contact Information: Dr. Wally J. Rude can be reached at wrude@ambrose.edu

Holding On to Childhood Memories; The Impact of Childhood Collecting in Nature

Jed Brensinger[1], Kristi Lekies[1], and Thomas Beery[2]
[1]The Ohio State University School of Environment and Natural Resources
[2]Man and Biosphere Health, Kristianstad University, Sweden

Background

While there has been an increasing amount of research regarding children's interactions with the natural world, little is known about what they may quite literally take from these experiences. Collecting items from nature is a topic which saw an early research interest nearly a century ago (Acher, 1910; Burk, 1900; Whitley, 1929), but has garnered little attention recently (Lekies & Beery, 2013). Despite the lack of research on the subject, what research does exist has found that collecting items from nature appears to be widespread, with collectors often having vivid memories of items collected, the places where they collected, and the uses of items in play. They also reported higher levels of connectedness to nature as young adults as well as gender differences in items collected (Lekies & Beery, 2013). Furthermore, collecting of natural items has been related to biodiversity knowledge (Chipeniuk, 1995).

A greater understanding of the relationship between childhood nature collecting activities and later life outcomes related to outdoor experiences is needed. Past research has found a significant relationship between childhood experiences in nature and adult outdoor recreation experiences, feelings of connectedness to nature, and concern for the environment (Chawla & Derr, 2012; Ewert, Place, & Sibthorp, 2005; Wells & Lekies, 2006). Childhood collecting has implications for outdoor recreation, environmental education, and preschool and elementary-aged programs, particularly as greater efforts are made to encourage children to spend time outdoors. Building upon this knowledge, this research examines the experience of collecting items from nature in childhood and its impact on adult levels of outdoor recreation, outdoor knowledge, environmental connectedness, and feelings of comfort in nature.

Method

Participants consisted of a random sample of undergraduate students at a Swedish university who received an email invitation to participate in a survey in 2014 that focused on early life outdoor experiences. The survey was conducted in English with a Swedish version available upon request. Participants represented a wide variety of majors and ranged in age from 18 to over 45. Approximately 70% were female and 30% were male. They were asked to reflect back upon their childhood collecting activities regarding what, where, when, and with whom they collected items as well as current level of outdoor recreational activity (1 item), perceived outdoor knowledge (4 items, alpha = 0.79), wayfinding skills (1 item), comfort in the outdoors (4 items, alpha = 0.71), and environmental connectedness (3 items, alpha = 0.75). Responses included multiple choice and Likert scale items.

The study utilized descriptive statistics to understand past collecting activities while growing up. It also used multiple regression to examine the impact of childhood collecting and foraging on adult levels of outdoor recreation, outdoor knowledge, wayfinding skills, feelings of comfort in nature, and environmental connectedness.

Results

Of the 380 survey respondents, over 82% said they collected items from nature occasionally or more often, with only 2.5% stating that they had never collected any items from

nature. Children's collecting behaviors began in early childhood and peaked between ages six and eight, before declining and reaching a low point in adolescence. Approximately one-third of participants reported that they still were collecting items. Popular items collected from nature included rocks, leaves, shells, and sticks. Over 60% indicated they foraged berries or mushrooms with family members. Popular places for collecting included the home yard, parks and nature reserves within walking distance of home and further from home, and places during travel. They often collected with others, particularly friends and siblings.

Five regression models that included age, gender, one's level of childhood collecting, and family foraging as independent variables were used to predict current outdoor recreation participation, outdoor knowledge, wayfinding skills, comfort outdoors, and environmental connectedness. All five models were significant ($p < .001$). In each model, collecting and foraging were significant, and were generally the strongest predictors. Gender was significant when predicting outdoor comfort and wayfinding, with female gender negatively related to these variables. Age was significant in predicting outdoor knowledge, comfort, and environmental connectedness, with increased age positively related to these variables. Overall explained variance in the models ranged from 0.10 to 0.25.

Discussion

As with previous research conducted in the United States, the Swedish students indicated a high level of collecting behavior while growing up, particularly in the early elementary years. The results lend support to a life course approach to human-nature interactions, with childhood collecting experiences positively related to self-reported levels of recreational participation, knowledge, skills, comfort, and environmental connectedness in adulthood. While further research is needed to better understand the appeal and interest of natural items throughout the childhood lifespan and beyond, the study expands the current level of knowledge and encourages future work in this area. Retrospective studies provide a starting point; however, studies that examine childhood experiences during childhood are needed. Of interest is the way in which lifelong interests in the outdoors are facilitated and fostered. This study suggests that collecting and foraging may have a role.

Implications exist for outdoor educators and program planners. They can encourage children to learn from their collections, share knowledge with others, and experience fascination with the natural world. This research suggests there is more to be learned from childhood nature collecting and that there may be value for its encouragement in both formal and informal educational settings. At the same time, these results raise questions for which answers have not yet been sought, such as when is nature collecting appropriate or inappropriate? Encouraging the sense of wonder yet respecting the environment is critical so that fragile habitats and species are protected and nature retains its collectable parts. Additionally, children's need to explore and learn independently, to develop a relationship with the natural environment, and to have accessible natural areas are also important.

References

Acher, R. A. (1910). Spontaneous constructions and primitive activities of children analogous to those of primitive man. *The American Journal of Psychology*, *21*(1), 114–150.

Burk, C. F. (1900). The collecting instinct. *The Pedagogical Seminary*, *7*(2), 179–207. doi: 10.1080/08919402.1900.10532994

Chawla, L., & Derr, V. (2012). The development of childhood behaviors in childhood and youth, In *The Oxford handbook of environmental and conservation psycholog, S. D. Clayton (Ed.),* pp. 527-555. New York: Oxford University Press.

Chipeniuk, R. (1995). Childhood foraging as a means of acquiring competent human cognition about biodiversity. *Environment and Behavior, 27(4),* 490-512. doi: 10.1177/0013916595274003

Ewert, A., Place, G., & Sibthorp, J. (2005). Early-life outdoor experiences and an individual's environmental attitudes. *Leisure Sciences 27*, 225-239. doi:10.1080/01490400590930853

Lekies, K. S., & Beery, T. (2013). Everyone needs a rock: Collecting items from nature in childhood. *Children, Youth and Environments*, *23*(3), 66–88.

Wells, N. M., & Lekies, K. S. (2006). Nature and the life course: Pathways from childhood nature experiences to adult environmentalism. *10.7721 Children Youth and Environments*, *16*(1), 1–24.

Whitley, M. T. (1929). Children's interest in collecting. *Journal of Educational Psychology*, *20*(4), 249–261. doi:10.1037/h0071424

Author Contact:
Jed Brensinger
School of Environment & Natural Resources
210 Kottman Hall
2021 Coffey Rd.
Columbus, OH 43210
(570)640-5521
Brensinger.2@osu.edu

Leave More Trace

Chris Loynes
University of Cumbria

The North American approach of 'leave no trace' has crossed the Atlantic to the UK and to some other Europe wide programmes, especially those with US provenance or influence. In the USA the organisation sets out to promote the ethic that will minimise human impact on public lands (Lntorg, 2015). The seven principles of the organisation focus on human behaviour during a visit to public land. It can be argued that this intention, whilst well meaning, ignores the many impacts that are the result of human behaviour when not visiting public lands, the ecological and, especially, the carbon footprint (Chambers et al; 2000) of everyday life and of travel to public land (see, for example, and Allison & Higgins, 2002 and Orr, 2004 for an education perspective). Arguably these impacts are far more significant on the health of the ecosystems of public lands and elsewhere. This opens the 'leave no trace' concept to criticism. For example packing out rubbish from an area, whilst laudable, is a small contribution when the carbon footprint of your travel to visit the area is ramping up climate change that is a significantly larger threat to the land by several orders of magnitude (Rawles, 2013).

Of course the 'leave no trace' approach has value in fragile 'wilderness' settings. However, in Europe the areas that can truly be called wild land are few and far between (Agnoletti, 2006). Despite this the 'leave no trace' ethic is becoming widespread and sometimes, I would suggest, an unhelpful approach. Most of our ecosystems have developed with humans as one of, and often the most influential species. This has led to centuries of co-existence e.g. coppiced woodlands and flower rich meadows, some of the most bio-diverse habitats in the temperate zone. Even our uplands and the Arctic tundra have been grazed extensively leading to the current bio-diverse balance between people and other species. As agricultural practices change these habitats can be abandoned or overrun by industrialised agriculture. In these cases the response might be 'leave more trace' in order to protect and sustain the habitats and the wildlife we have come to value as part of our culture.

I argue that 'leave no trace' has another more pervasive consequence in that it strengthens the modern view of humans as separate from nature (Bonnett, 2004; Rawles, 2010). This is reinforced by the objective 'leave no trace' which is necessarily predicated on the idea that humans are apart from nature and not a part of nature. Arguably the concept of separation, a consequence of the ongoing enlightenment project supported in practice by industrialisation and urbanisation, is an important part of the environmental problem. Perceived as apart from nature it therefore 'matters' less, we care less and we can trash it more. What matters is connection, relationship and engagement (Higgins & Loynes, 1996).

Outdoor education already has forms of practice that are congruent with this view. Bushcraft (Lowimpactorg, 2015) and conservation projects in environmental education leave material traces. Friluftsliv (Henderson & Vikander, 2007) extends the traces to cultural impacts whilst advocacy (Asfeldt et al; 2010) and some placed-based approaches (Wattchow & Brown; 2011) aspire to leaving political traces with the participants.

So, to open this up to debate, I offer the maxim of 'leave more trace' i.e. that humans are a part of nature and that we inevitably leave a trace. What matters is what this trace is. I suggest it is more about leaving the right trace than none at all. Sometimes a bigger trace could be the better ethical decision. This acknowledges that traces are inevitable and encourages a debate about what traces are reasonable, proportional and ethical; and what are not. Perhaps what humans should be seeking is an education that takes the restorative approach of living landscapes (Steiner, 2008) in which we intervene in order to promote the flourishing of humans and other than humans alike (Wattchow et al; 2013).

References

Agnoletti, M. (Ed). (2006). *The conservation of cultural landscapes.* England: CAB International.

Allison, P., & Higgins, P. (2002). Ethical adventures: Can we justify overseas youth expeditions in the name of education? *Australian Journal of Outdoor Education*. 6(2).

Asfeldt, M., Hvenegaard, G., & Urberg, I. (2010). Expeditions and liberal arts university education. In Beames, S. *Understanding educational expeditions.* Rotterdam: Sense Publishing.

Bonnett, M. (2004). *Retrieving nature: Education for a post-humanist age.* England: Blackwell Publishing.

Chambers, N., Simmons, C., & Wackernagel, M. (2000). *Sharing nature's interest: Ecological footprints as an indicator of sustainability.* New York: Earthscan.

Henderson, B., & Vikander, N. (2007). *Nature first: Outdoor life the friluftsliv way.* Ontario, Canada: Natural Heritage Books.

Higgins, P., & Loynes, C. (1996). Towards consensus on the nature of outdoor education. *Journal of Adventure Education and Outdoor Leadership.* 13(4).

Lntorg. (2015). *Lntorg*. Retrieved 15 November, 2015, from https://lnt.org

Lowimpactorg. (2015). *Lowimpactorg*. Retrieved 15 November, 2015, from http://www.lowimpact.org/bushcraft/

Orr, D. (2004). *Earth in mind.* Washington DC: First Island Press.

Rawles, K. (2010). A Copernican revolution in ethics. In Moore, K. D., & Nelson, M. P. (Eds) *Moral ground: Ethical action for a planet in peril.* San Antonio, Texas: Trinity University Press.

Rawles, K. (2013). Outdoor adventure in a carbon light era. In Pike, E.C. J., & Beames, S. (Eds), *Outdoor adventure and social theory.* New York: Routledge.

Steiner, F. (2008). *Living landscapes: An ecological approach to landscape planning.* Washington DC: Island Press.

Wattchow, B., & Brown, M. (2011). *Pedagogy of place: Outdoor education in a changing world.* Australia: Monash University Publishing.

Wattchow, B., Jeanes, R., & Alfrey, L. (2013). *The socioecological educator: A 21st century renewal of physical, health environment and outdoor education*. Springer.

Dr. Chris Loynes, University of Cumbria, Ambleside, Cumbria LA22 9BB, UK
chris.loynes@cumbria.ac.uk

Outdoor Ethics through the Lens of the Four Component Model

Christine D. McCart
Black Hills State University

Nearly 50 percent of Americans ages six and older participate in outdoor activities, and the number of participants is expected to increase (Outdoor Foundation, 2014). Many natural areas suffer from overuse and abuse that degrades both natural environments and the aesthetic experiences of visitors (Cordell, Green, & Bentz, 2009). Agencies have sought to improve outdoor behavior through regulations and enforcement (Simon & Alagona, 2009). However, there is general agreement that external enforcement alone will not solve problems of recreational impact, and that users must police themselves and their own behavior. Education is seen as a solution. Many impacts could be avoided or minimized if more visitors used low-impact practices (Marion & Reid, 2007). *Outdoor ethics* describes ethical behavioral choices related to outdoor recreation activities and encompasses both people and the land (Matthews & Riley, 1997). Numerous outdoor ethics education programs have been developed across various outdoor pursuits such as hunting, fishing, birding, backcountry travel, and motorized recreation.

In order to plan appropriate educational interventions, educators need to understand the processes of outdoor ethics decision making. In their 2002 review, Vining and Ebro identified over 30 theoretical frameworks used to study conservation behavior. No moral development frameworks were included. Kahn (2006) contends that research in this area has been "poorly served by its emphasis on behavior, prediction, and simple causal linkages" (pg. 465). He proposed that researchers employ moral development frameworks.

One widely used tool to measure moral reasoning, also termed judgment, is the Defining Issues Test (Rest & Narvaez, 1998). This test identifies three styles, or schemas, of moral reasoning: Personal Interest reasoning is primarily concerned with direct advantages to self and maintaining approval. Maintaining Norms reasoning is based on following the rules and norms of society. Post Conventional reasoning is based on principles and fairness.

Most outdoor ethics studies that employ moral development theories focus primarily on moral judgment (McCart, 2014) as defined by Gilligan (1982) or Kohlberg (1984). However, researchers in the field of moral education have found that ethical decision making typically consists of broader processes (Gibbs, 2013); it has been long established that judgement alone does not lead to action (Blasi, 1980). The Four Component Model (Narvaez, 2006) suggests that ethical decision making consists of not only *judgment*, but also *sensitivity*, *motivation*, and *character*. Figure 1 illustrates this model:

Figure 1. Resolution of an Ethical Issue: Four Component Process Model

This presentation reports on some of the results of the author's dissertation research, completed in 2014. The study explored outdoor ethics decision making through the lens of the Four Component Model. It employed a sequential explanatory mixed methods design (Creswell & Clark, 2011). The first, quantitative phase used surveys (Rest & Narvaez, 1998 & Daniels & Marion, 2005) to explore the ability of Personal Interest, Maintaining Norms, or Post

Conventional reasoning schemas to predict Leave No Trace (LNT) ethics and self-report behaviors in 51 college students. The second, qualitative phase identified aspects of the Four Component Model (sensitivity, judgment, motivation, character) that were evident in the outdoor ethics decision making of nine purposely selected cases. The third, mixed phase used qualitative findings to explain and expand upon the quantitative results.

Results

The first, quantitative phase explored the ability of moral reasoning to predict LNT Ethics and Behavior. The only significant results were for Maintaining Norms, which was negatively associated with LNT Ethics, and Post Conventional reasoning, which was negatively associated with LNT Behaviors.

In the second, qualitative phase, nine students were purposefully selected; three who scored high in Personal Interest, three who scored high in Maintaining Norms, and three who scored high in Post Conventional reasoning. Using Stake's multiple case study methodology (2005), this phase employed semi-structured interviews and writing assignments designed to elicit responses related to all Four Components of sensitivity, judgment, motivation, and character related to LNT Ethics and Behaviors. Following are illustrative examples of the ethical decision making of participants scoring high in each of the judgment categories:

Outdoor Leader Dilemma: You and your group are cold and wet. The group wants to build a fire. This violates LNT. Would you let them?	
Post-Conventional	"It depends….if…nature won't be impacted…and if we made a small fire…sure, I would…..fires are natural and don't hurt nature."
Maintaining Norms	"No, I would not violate LNT [rules]."
Personal Interest	"If we are all miserable…. [then yes] and because [if I said no] they'd be all mad at me…."

The qualitative phase examined the nine individual cases for indications of each of the Four Components. Overall, the results supported the Four Component Model; an ethical failure in Sensitivity, Motivation, or Character could lead to a failure to act ethically. Also, results showed that students who scored high in Personal Interest and Maintaining Norms were capable of acting in an ethical manner, although they often did so for different reasons than their Post-Conventional reasoning peers.

The final, mixed portion of the study used the qualitative findings from the second half of the study to explain the quantitative findings from the first part of the study. In the first, quantitative phase, it was anticipated that students scoring high in Personal Interest reasoning would score low in LNT Ethics and Behaviors. However, this was not supported. In the qualitative study, Personal Interest students indicated that they acted based on anticipated reward or punishment or approval. Since the interviewer was also their instructor, they may not have been as forthcoming with ethics or behaviors that did not cast them in a positive light.

It was also anticipated that students scoring high in Maintaining Norms would, on average, score higher in LNT Ethics and Behavior. Instead, those scoring higher in Maintaining Norms actually scored lower on LNT Ethics, on average, and there was no significant correlation between Maintaining Norms reasoning with LNT Behaviors. In the qualitative study, many maintaining norms students describing LNT as "new." Therefore, LNT Ethics may feel outside the commonly held norms for this region and therefore less accepted by those scoring high in Maintaining Norms reasoning. In addition, many Maintaining Norms reasoning students held values about nature that were anthropocentric, or human centered. In other words, in their region that is still focused on farming, logging, and mining, "normal" may be a more utilitarian view of nature. In addition, the respondents differentiated between pristine and impacted environments; they were less motivated to act ethical in less "natural" settings.

Finally, it was anticipated that students scoring higher in Post Conventional reasoning would score higher in LNT Ethics, however, this result was not supported. In addition, these higher Post Conventional reasoners actually scored lower in LNT Behaviors, on average. In the qualitative results, Post Conventionally reasoning students often held an interpretation of LNT as a "guideline" and not as rules to be followed. They also considered many more variables, including ecological considerations. Thus, in their reasoning, sometimes LNT did not need to be followed because they were following a greater good such as safety or because they calculated the actual ecological impact as negligible. They viewed LNT as "simplistic."

References

Blasi, A. (1980). Bridging moral cognition and moral action: A critical review of the literature. *Psychological Bulletin, 88*(1), 1-45.

Cordell, H. K., Green, G. T., Bentz, C. J. (2009). *Long-term national trends in outdoor recreation activity participation – 1980 to now*. http://warnell.forestry.uga.edu/nrrt/nsre/IRISRec/IRISRec12rpt.pdf.

Creswell, J. W., & Clark, V. L. P. (2011). *Designing and conducting mixed methods research (2nd ed.)*. Los Angeles: Sage.

Daniels, M. L., & Marion, J. L. (2005). Communicating Leave No Trace ethics and practices: Efficacy of two-day trainer courses. *Journal of Park and Recreation Administration, 23*(4), 1-19.

Gibbs, J. C. (2013). *Moral development and reality: Beyond the theories of Kohlberg, Hoffman, and Haidt (3rd Edition)*. New York: Oxford University Press.

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development.* Cambridge, MA: Harvard University Press.

Kahn, P. H. (2006). Nature and moral development. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development.* (pp. 461-480). Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.

Kohlberg, L. (1984). *The psychology of moral development: The nature and validity of moral stages*. San Francisco, CA: Harper and Row.

Matthews, B. K., & Riley, C. K. (1995). *Teaching and evaluating outdoor ethics education programs.* Vienna, VA: National Wildlife Federation.

McCart, C. (2014). *Exploring outdoor ethics through the lens of the Four Component Model: A mixed methods study* (unpublished Doctoral dissertation, University of New Hampshire).

Narvaez, D. (2006). Integrative ethical education *Handbook of Moral Development* (pp. 703-733). Mahwah, NJ: Erlbaum.

The Outdoor Foundation. (2014). Outdoor participation report. http://www.outdoorfoundation.org/pdf/ResearchParticipation2014.pdf.

Rest, J. R., & Narvaez, D. (1998). Defining issues test. Minneapolis, MN: University of Minnesota Center for the Study of Ethical Development.

Stake, R. E. (2005). *Multiple Case Study Analysis*. New York: The Guilford Press.

Vining, J., & Ebreo, A. (2002). Emerging theoretical and methodological perspectives on conservation behavior. In A. C. R. Bechtel (Ed.), *New handbook of environmental psychology* (pp. 541-558). New York:: Wiley.

Chris McCart, Ph.D., Assistant Professor of Outdoor Education, Black Hills State University, 1200 University Street #9401, Spearfish, SD 57799, Christine.McCart@BHSU.edu, 605.642.6027, www.bhsu.edu/chrismccart/.

The Impact of Being Outdoors on Human Well-being: A State of the Research and Theories in Connection to Sustainability

Denise Mitten, Prescott College

This abstract represents a conceptual submission that examines current thinking in the area of human / nature relationships, including how this relationship interfaces with sustainability. This topic contributes to supporting and furthering outdoor education and its goals.

When I was at CEO in the mid 1990s I asked who had heard of biophilia (Fromm, 1964; popularized by Wilson, 1984). No one raised a hand and no one responded. Today by biophilia, biophobia, and other terms about humans' relationship to nature are common. Richard Louv (2008/2011) popularized the perception of disconnection from nature, naming that children may suffer from nature deficit disorder. Ecopsychology, terrapsychology, conservation psychology, environmental psychology, and other fields have evolved to study and comment on humans' relationship with nature. Ewert, Mitten, and Overholt (2014) offered a book that summarized a great deal of the research and theories about the natural environment and human health. They talked about intentionally designed experiences to enhance some of the benefits of being in nature, which, of course, is not new to outdoor practitioners.

Now, most professionals in the outdoors have heard of many of these terms. In fact outdoor practitioners and researchers are likely delighted with the focus that the human and nature relationship is receiving. There is a buzz to get people, especially children, back to the outdoors to connect with nature.

This interest in reconnecting humans with the natural environment is not without critique (Malone, 2015). What does it mean to focus on reconnection from a romanticized white middle-class 1950s history? Some theorists question the implication of a nature culture split (Brown, 1997; Barad, 2007). Authors have critiqued this nature culture binary in outdoor recreation and education (Beery, 2014; Clarke & Mcphie, 2014). Post-humanistic and post-anthropocentric theoretical approaches can be used to deconstruct humans' superior position to nature.

A nature culture split implies that humans are not nature. If humans are not nature they could be superior to or dominant over nature, which are common views in Western cultures. A Cartesian viewpoint allows for dualities. Dualities or binaries allow for 'othering', in which one of the things on the binary is seen as better, more powerful, or dominant over the other. The nature culture split allows humans to discount and disrespect nature or as some call it 'the more-than-human world' (Abram, 1997). This split allows outdoor educators to *use* nature in programming.

By questioning the nature culture binary, we also question the concept of humans' disconnection from nature. There is a perception of disconnection from nature; however, humans depend on nature and are connected to nature as much as ever in the past. Humans are deeply impacted by drought, fire, floods, and earthquakes, which causes many people to fear nature and be harmed by nature. Ecopsychology talks about the deep psychological connection people have with the more-than-human world, with the idea that the health of people is

inherently linked to the health of the natural environment. Humans are connected to nature, even if in a dysfunctional relationship.

Perceiving a nature culture difference or binary allows humans to essentially discount nature. This includes using nature as a resource and a garbage can. Some theorists connect ill health in humans to the destruction and dominance over the more-than-human world (Plumwood, 2002). Borrowing from ecofeminism, eco-psychology, and friluftsliv we can conceive of nature as literally part of our psyche, our soul, and our bones. Nature is us and we are nature. We can examine what nature is beneficial to which people, and at what time as well as how much nature might be beneficial.

Researchers measure people's perceived connection to the environment. Cartwright and Mitten (in press) examined and evaluated 17 conservation psychology indicators used to provide insight on how people think and feel about nature and their environments by exploring the concept of identity and measurement of views, attitudes, and psychological attributes regarding conservation and the environment. Outdoor educators are positioned well to influence identity and these measurements.

Sustainability implies a sustainable relationship with nature

Outdoor education and sustainability education are related and complementary. A classic definition of sustainability is that actions of today "meet the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987). Currently there is debate about pedagogy, including how people 'ought' to relate to the natural environment during outdoor and adventure programs (Mitten, 2009; Ross, Christie, Nicol, & Higgins, 2014; Quay, 2013; Wattchow & Brown, 2011). Educators are beginning to explore how outdoor education might be positioned with issues about the more-than-human world and sustainability. Outdoor education programs in which participants examine relationships with each other, the leader, and the-more-than-human world can contribute to healthy and positive human and nature interactions and thereby contribute to sustainability.

Our attitudes about the more-than-human world impact the health of the planet and everything it contains. Outdoor leaders can support participants exploring and repairing their relationship with the more-than-human world. Benefits include increases in positive ecological identity and pro-environmental behaviors. Participants may spend more time outdoors after engaging in outdoor programs. This increased engagement can result in long-term health benefits, which can reduce medical expenditures (Mitten, 2010). Outdoor education experiences can help people change environmentally destructive narratives to life affirming narratives. Prevalent dominance and fear of nature in Western cultures can be moved towards respect, acceptance, and awe. Instead of seeing the more-than-human world is something to be controlled, as participants learned about it they may see it as part of themselves.

We will examine how outdoor experiences encourage benefits from exposure to nature to three pathways of influence on health, physical activity, social contacts, and stress mitigation as well as benefits from a sustainable relationship with nature. Potential research tracks will be discussed.

References

Abram, D. (1997). *The spell of the sensuous: Perception and language in a more-than-human world*. NY, NY: Vintage.

Beery, T. (2014). People in nature: relational discourse for outdoor educators. *Research in Outdoor Education*, *12*(1), 1-14.

Beery, T. H., & Wolf-Watz, D. (2014). Nature to place: Rethinking the environmental connectedness perspective. *Journal of Environmental Psychology*, *40*, 198-205.

Barad, K. (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning*. Durham, NC: Duke University Press.

Brown, W. (1997). The Impossibility of Women's Studies. *Differences: A Journal of Feminist Cultural Studies*, 9(3), 79-101.

Brundtland, G. H. (1987). *Report of the World Commission on environment and development:" our common future."*. UN.

Cartwright, K. & Mitten, D. (in press) Applications and attributes of conservation psychological indicators.

Clarke, D. A., & Mcphie, J. (2014). Becoming animate in education: immanent materiality and outdoor learning for sustainability. *Journal of Adventure Education & Outdoor Learning*, *14*(3), 198-216.

Ewert, A. W., Mitten, D. S., & Overholt, J. R. (2014). *Natural Environments and Human Health*. Wallingford, UK: Cabi Publishing.

Fromm, E. (1964). *The heart of man*. NY, NY: Harper & Row.

Louv, R. (2008). *Last child in the woods: Saving our children from nature-deficit disorder*. Chapel Hill, NC: Algonquin Books.

Louv, R. (2011). *The nature principle: Human restoration and the end of nature-deficit disorder*. Chapel Hill, NC: Algonquin Books.

Malone, K. (2015). Theorizing a child–dog encounter in the slums of La Paz using post-humanistic approaches in order to disrupt universalisms in current 'child in nature'debates. *Children's Geographies*, (ahead-of-print), 1-18.

Mitten, D., (2009). Under our Noses: The Healing power of nature, *Taproot Journal* 19(1), 20-26. http://wupcenter.mtu.edu/community/no_child_left_indoors/under_your_noses.html

Mitten, D., (2010). Friluftsliv and the Healing Power of Nature: The need for nature for human health, development, and wellbeing. *Norwegian Journal of Friluftsliv* (http://norwegianjournaloffriluftsliv.com/doc/122010.pdf).

Plumwood, V. (2002) *Environmental Culture: The Ecological Crisis of Reason*. NY, NY: Routledge.

Quay, J. (2013). More than relations between self, others and nature: Outdoor education and aesthetic experience. *Journal of adventure education & outdoor learning*, *13*(2), 142-157.

Ross, H., Christie, B., Nicol, R., & Higgins, P. (2014). Space, place and sustainability and the role of outdoor education. *Journal of Adventure Education & Outdoor Learning*, *14*(3), 191-197.

Wattchow, B., & Brown, M. (2011). *A pedagogy of place: Outdoor education for a changing world*. AU: Monash University Publishing.

Wilson, E. O. (1984). *Biophilia*. Cambridge, MA: Harvard University Press.

Denise Mitten can be reached at dmitten@prescott.edu or mitten53@yahoo.com.

Outdoor Adventure Therapy to Increase Physical Activity in Young Adult Cancer Survivors

Elizabeth Gill,[1] Marni Goldenberg,[2] Heather Starnes,[1] Suzanne Phelan[1]
[1]California Polytechnic State University, San Luis Obispo, Kinesiology Department
[2]California Polytechnic State University, San Luis Obispo, Recreation, Parks, and Tourism Administration Department

Background

Physical activity (PA) has numerous health benefits for cancer survivors, but limited research exists on PA interventions in young adult cancer survivors. Although PA has the potential to improve cancer health outcomes in older adults ranging from prolonging lifespan to improving quality of life, little research has been done in this area among young adults (Basen-Enquist et al., 2013; Broderick et al., 2014; Kroenke, Holmes, Feskanich, Chen, & Colditz, 2005; Moore et al., 2012; Pinto, Papandonatos, Goldstein, Marcus, & Farrell, 2013; Pinto, Rabin, & Dunsiger, 2009; Rabin, Horowitz, & Marcus, 2013; Rogers et al., 2009; Sellar et al., 2014; Schmitz et al., 2010). Many young adult cancer survivors fail to meet public health guidelines for PA because PA levels tend to decline both after cancer diagnosis and during treatment, and rarely return to pre-diagnosis levels (Bélanger, Plotnikoff, Clark, & Courneya, 2011; Doyle et al., 2006). Outdoor adventure therapy is a potential method of increasing PA in this demographic. In cancer survivors, outdoor adventure therapy has been shown to improve body image, self-compassion and self-esteem, to reduce depressive symptoms and perceptions of alienation, and to improve rehabilitation (Rosenberg, Lange, Zebrack, Moulton, & Kosslyn, 2014; Stevens et al., 2004). However, no study to date has examined the effects of outdoor adventure therapy on increasing short or long-term PA in young adult cancer survivors. This study used a two-group parallel design to examine the effects of a 7-day outdoor adventure camp vs. waitlist control on PA levels among young adult cancer survivors. Secondary aims examined camp effects on sedentary behavior and correlates of PA, including PA variety, exercise and environmental change self-efficacy, barriers to exercise, and PA enjoyment.

Methods

Sixty-six control and 50 camp participants were assessed at baseline, during camp, and at a 3-month follow-up. Participants were recruited from First Descents, a non-profit organization providing free, weeklong outdoor adventure therapy camps to young adult cancer survivors. First Descents recruited "intervention" participants from two rock climbing camps (one in Moab, Utah, and one in Estes Park, Colorado), two surfing camps (in Santa Barbara, CA), and two whitewater kayaking camps (in Jackson, Wyoming) in August/ September of 2013. The organization recruited waitlist controls from their list of national applicants who met program eligibility but were waitlisted because their desired camp (of 36 total programs) was full for the 2013 season. Eligibility criteria into First Descents (and the current study) included 18-39 year olds, male or female, with a prior diagnosis of cancer of any type, who were in remission or currently receiving cancer treatment. Participants could enroll with various medical conditions, including mobility impairments, amputees, vision impairments, seizure disorders, or with special treatment or diet needs, unless medical conditions prevented safe travel to or participation in the camps. Repeated measures multivariate analysis of variance (RMANOVA) was used to compare group changes over time between the camp participant group and the waitlist control group.

Results

Participant retention was 88% at the end of camp and 71% at the 3-month assessment. Intent-to-treat analyses indicated that, relative to baseline, camp participants had significantly (p= .0001) greater increases in PA than controls during camp (+577 vs. +9 min/week) and 3 months post-camp (+133 vs. -75 min/week; p= .001). Camp participants also reported significantly greater improvement in TV viewing (p= .001), hours sitting (p= .001), PA variety (p= .0001), barriers to PA ("excuses" subscale; p= .007) and enjoyment of structured activities (p= .04) during camp but not at 3 months. No significant effects were observed for changes in exercise self-efficacy, environmental change self-efficacy, or the other subscales scores.

Conclusion

The main findings of this study supported the hypothesis that the camp increased PA levels and decreased sedentary behaviors and barriers; however, the impacts on other correlates of PA were less substantial. Despite being only one week in duration, the camp intervention appeared to have an enduring impact through 3 months of follow-up. At three months, camp participants remained 6 times more likely to meet ACSM guidelines than the control group, in analyses that adjusted for baseline PA. Nonetheless, while levels of PA remained high at 3 months, they were attenuated compared with the assessment immediately post camp, suggesting a weakening effect over time, which is also consistent with longer term follow-ups observed in other studies (Pinto et al., 2013). Future research should examine ways to increase and maintain PA and reduced sedentary behaviors after camp termination, including providing periodic "booster" weekend camps, and/or integrating strategies to enhance exercise and environmental change self-efficacy into regular camp activities. More than 7 hours TV viewing/week has been linked with greater cancer mortality (Matthews et al., 2012). Thus, future research should examine ways to maintain a decrease in TV viewing hours/week post-camp. Research in this understudied area of physical activity interventions in young adult cancer survivors is imperative given the magnitude of potential benefits in alleviating symptoms of treatment, reducing cancer reoccurrence, and prolonging lifespan of young adult cancer survivors.

References

Basen-Engquist, K., Carmack, C. L., Li, Y., Brown, J., Jhingran, A., Hughes, D. C., . . . Waters, A. (2013). Social-cognitive theory predictors of exercise behavior in endometrial cancer survivors. *Health Psychology, 32*(11), 1137-1148. doi: 10.1037/a0031712.

Bélanger, L. J., Plotnikoff, R. C., Clark, A., & Courneya, K. S. (2011). Physical activity and health-related quality of life in young adult cancer survivors: a Canadian provincial survey. *Journal of Cancer Survivorship, 5*(1), 44-53. doi: 10.1007/s11764-010-0146-6.

Broderick, J. M., Guinan, E., O' Donnell, D. M., Hussey, J., Tyrrell, E., & Normand, C. (2014). Calculating the costs of an 8-week, physiotherapy-led exercise intervention in deconditioned cancer survivors in the early survivorship period (the PEACH trial). *Physiotherapy, 100*(2), 182-184. doi: 10.1016/j.physio.2013.12.003.

Doyle, C., Kushi, L. H., Byers, T., Courneya, K. S., Demark-Wahnefried, W., Grant, B., . . . Society, A. C. (2006). Nutrition and physical activity during and after cancer treatment: an American Cancer Society guide for informed choices. *CA: A Cancer Journal for Clinicians, 56*(6), 323-353.

Kroenke, C., Holmes, M., Feskanich, D., Chen, W., Colditz, G. (2005) Physical activity and survival after breast cancer diagnosis. *Journal of the American Medical Association, 293*, 2479-2486.

Matthews, C. E., George, S. M., Moore, S. C., Bowles, H. R., Blair, A., Park, Y., . . . Schatzkin, A. (2012). Amount of time spent in sedentary behaviors and cause-specific mortality in US adults. *American Journal of Clinical Nutrition, 95*(2), 437-445. doi: 10.3945/ajcn.111.019620.

Moore, S. C., Patel, A. V., Matthews, C. E., Berrington de Gonzalez, A., Park, Y., Katki, H. A., et al. (2012). Leisure time physical activity of moderate to vigorous intensity and mortality: a large pooled cohort analysis. *PLoS Medicine, 9*(11), e1001335. doi: 10.1371/journal.pmed.1001335.

Pinto, B. M., Papandonatos, G. D., Goldstein, M. G., Marcus, B. H., & Farrell, N. (2013). Home-based physical activity intervention for colorectal cancer survivors. *Psychooncology, 22*(1), 54-64. doi: 10.1002/pon.2047.

Pinto, B. M., Rabin, C., & Dunsiger, S. (2009). Home-based exercise among cancer survivors: adherence and its predictors. *Psycho-Oncology, 18*(4), 369-376. doi: 10.1002/pon.1465.

Rabin, C., Horowitz, S., & Marcus, B. (2013). Recruiting young adult cancer survivors for behavioral research. *Journal of Clinical Psychology in Medical Settings, 20*(1), 33-36. doi: 10.1007/s10880-012-9317-0.

Rogers, L. Q., Hopkins-Price, P., Vicari, S., Pamenter, R., Courneya, K. S., Markwell, S., . . . Lowy, M. (2009). A randomized trial to increase physical activity in breast cancer survivors. *Medicine and Science in Sports and Exercise, 41*(4), 935-946. doi: 10.1249/MSS.0b013e31818e0e1b.

Rosenberg, R. S., Lange, W., Zebrack, B., Moulton, S., & Kosslyn, S. M. (2014). An outdoor adventure program for young adults with cancer: positive effects on body image and psychosocial functioning. *Journal of Psychosocial Oncology, 32*(5), 622-636. doi: 10.1080/07347332.2014.936652.

Schmitz, K., Courneya, K., Matthews, C., Demark-Wahnefried, W., Galvao, D., Pinto, B.M., Schwartz, A.L. (2010). American college of sports medicine roundtable on exercise guidelines for cancer survivors. *Medicine and Science in Sports and Exercise, 42*(7), 1409-1426.

Sellar, C. M., Bell, G. J., Haennel, R. G., Au, H. J., Chua, N., & Courneya, K. S. (2014). Feasibility and efficacy of a 12-week supervised exercise intervention for colorectal cancer survivors. *Applied Physiology Nutrition and Metabolism, 39*(6), 715-723. doi: 10.1139/apnm-2013-0367.

Stevens, B., Kagan, S., Yamada, J., Epstein, I., Beamer, M., Bilodeau, M., & Baruchel, S. (2004). Adventure therapy for adolescents with cancer. *Pediatric Blood & Cancer, 43*(3), 278-284. doi: 10.1002/pbc.20060.

Contact the author Elizabeth Gill at Elizabeth.c.gill@gmail.com

Identity Awareness through Outdoor Activities for Adolescents with Serious Illnesses

Ann Gillard, The Hole in the Wall Gang Camp

Recent research on youth, adolescent, and emerging adult identity in camps has found that camps can promote achievement and sense of accomplishment (Holman, McAvoy, Rynders, & Goldenbe, 2003), positive identity (Henderson, Whitaker, Bialeschki, Scanlin, & Thurber, 2007; Thurber, Scanlin, Scheuler, & Henderson, 2006), identity-supportive interactions (Dahl, Sethre-Hofstad, & Salomon, 2013), and identity development (Johnson, Goldman, Garey, Britner, & Weaver, 2010). Research on adolescent wilderness and outdoor programs has found identity-related outcomes such as increased self-confidence and new self-perceptions (among others; Duerden, Taniguchi, & Widmer, 2012), self-exploration and self-development (Kaly & Heesacker, 2003), and positive sense of identity and purpose in life (Norton, Wisner, Krugh, & Penn, 2014). However, identity awareness in the specific population of adolescents with serious illnesses is rarely examined in research on outdoor-based youth programs.

The conceptual framework for this study was identity development (e.g., Arnett, 2006; 2012). One major task in adolescence and emerging adulthood is forming a stable and viable identity with which to make commitments to markers of adulthood such as career, romantic relationships, and family (Schwartz, Côté, & Arnett, 2005). While much of the active "work" of identity development occurs during emerging adulthood, adolescence is a distinct time for identity awareness and exploration (Arnett, 2006). Identity exploration can be described as a process of "sorting through various identity elements in an attempt to identify a set of goals, values, and beliefs to which one will commit" (Schwartz, Zamboanga, Weisskirch, & Rodriguez, 2009, p. 131). Youth programs can provide structure for identity awareness because they serve as a moratorium environment, which can facilitate the process of identity exploration (Erickson, 1968).

The purpose of this study was to (1) identify which activities in a seven-day outdoor-based program most related to adolescents' identity awareness and (2) investigate potential changes in participants' identity awareness.

Methods

The study setting was Hero's Journey (operated by The Hole in the Wall Gang Camp), a free outdoor adventure-based camp program for youth aged 16-18 living with serious illnesses such as hemophilia, sickle cell, HIV/AIDS, cancer, and metabolic disease. Major activities included training in wilderness first aid and search and rescue, teambuilding, backpacking, and outdoor living. Specific activities included personal challenges such as climbing a tower and ziplining at night, various self-awareness activities and ceremonies, journaling, and solo time. In 2015, Hero's Journey served 74 adolescents aged 16-18 with illnesses. Parents or caregivers provided study consent for all participants. Participants completed surveys on their last full day.

To examine which Hero's Journey activities related to participants' identity awareness, an open-ended question was included in the survey: "Identity is defined at The Hole in the Wall Gang Camp as 'discovering who I am.' Please describe a time at Hero's Journey when you discovered who you are." Data were coded by two people and then inductively analyzed through thematic coding and comparison.

To examine potential changes in participants' identity awareness, an identity scale was created. This 11-item scale included six adapted items from the Youth Experiences Survey 2.0 tool (YES 2.0; Hansen & Larson, 2005) and five adapted items from the Developmental Assets Profile (DAP; Search Institute, 2013). The stem to these items was "How much, if any, has this

session at Hero's Journey changed you?" Examples of items were "Trying new things," "Feeling good about myself," and "Thinking more about my future because of Hero's Journey." Data were analyzed with descriptive statistics, reliability assessments, and principal components analysis. This study applied an exploratory and concurrent mixed methods research approach (Creswell & Plano Clark, 2010) to explore the concept of identity awareness across both data types.

Results

The most frequently reported activity related to identity was the night climb and zipline (n = 24). Second, while not specific activities, participants reported identity awareness through personal reflection (n = 23) and through communication with other participants and counselors (n = 14). Other activities commonly reported were the nightly fire council (n = 10) and key ceremony (n = 9). One to four participants each described nine other activities. The night climb up a tower represented physical and emotional challenges faced in participants' daily lives for which there were no clear solutions. Upon reaching the top of the tower, participants ziplined into the dark "abyss," practicing the courage to move forward and leave 'things' behind. The fire council encouraged participants to share their answers to a meaningful question and reflect on the day. In the key ceremony, staff described positive attributes of each participant's character and provided a word or phrase that embodied the description. Notably, the three structured activities took place at night in which participants concentrated on what they thought about themselves and their experiences both in life and at Hero's Journey. Additionally, identity awareness was experienced through internal and external processing but not through specific activities. Certainly, the structured and unstructured activities of Hero's Journey allowed space for these types of processing to occur, but this theme seemed to transcend specific activities.

Principle component analysis was conducted on the 11 items with orthogonal rotation (varimax). One component comprising all 11 items explained 50.47% of variance, with all items loading above .40. The identity scale had high reliability (α = .893). The mean score for all participants was 2.23 (SD: .68) on a scale of -1 (decreased) to 3 (increased a lot), indicating that identity awareness increased some or a lot for nearly all participants. Eighty-five percent or more participants reported increases for every scale item.

Discussion

Merging the results of the two data types, this study showed that participants' identity awareness increased and related not only to the specific activities of the night climb, fire council, and key ceremony, but also to self-reflection and interacting with others. This research contributes to the literature because of its inclusion of a population of adolescents with serious illnesses who increased their identity awareness in an intensive residential outdoor-based program. First, compared to their peers and because of health-related concerns, adolescents with serious illnesses typically have fewer opportunities for outdoor-based challenging experiences in which identity awareness can occur. In this study, participants were medically supported in their outdoor experiences, which facilitated identity awareness - an important developmental process. Second, this study provides theoretical links between activities and the developmental process of identity awareness. Finally, the study's identity scale can be used in other settings.

The night climb, fire council, and key ceremony were program activities that appeared to be major drivers of identity awareness. Program staff should continue these activities, consider how these activities contain essential program features that drive participants' identity awareness, and integrate similar features (e.g., emotional and physical safety, reflection) into other program activities. Structured and unstructured opportunities for internal and external processing can potentially magnify or serve as the main conduit for identity awareness. More

research is needed to better understand links between activities and youth outcomes, and to further explicate processes within identity development for similar populations in similar settings. Representative quotations, limitations and further implications for both research and practice will be discussed.

References

Arnett, J. J. (2006). Preface. In J. J. Arnett & J. L. Tanner (Eds.), *Emerging adults in America: Coming of age in the 21st century* (pp. 3-20). Washington, DC: American Psychological Association.

Arnett, J. J. (2012). *Adolescence and emerging adulthood (5th Ed.)* New York: Pearson.

Creswell, J. W., & Plano Clark, V. L. (2010). *Designing and conducting mixed methods research*. Thousand Oaks, CA: SAGE Publications.

Dahl, T. I., Sethre-Hofstad, L., & Salomon, G. (2013). Intentionally designed thinking and experience spaces: What we learned at summer camp. *Learning Environments Research, 16*(1), 91-112.

Duerden, M. D., Taniguchi, S., & Widmer, M. (2012). Antecedents of identity development in a structured recreation setting: A qualitative inquiry. *Journal of Adolescent Research, 27*(2), 183-202. doi:10.1177/0743558411417869

Erikson, E. H. (1968). *Identity: Youth and crisis.* New York: Norton.

Hansen, D. M., & Larson, R. (2005). *The Youth Experience Survey 2.0: Instrument Rvisions and Validity Testing*. Retrieved from http://youthdev.illinois.edu/?page_id=189

Henderson, K. A., Whitaker, L. S., Bialeschki, M. D., Scanlin, M. M., & Thurber, C. (2007). Summer camp experiences: Parental perceptions of youth development outcomes. *Journal of Family Issues, 28*(8), 987-1007. doi:10.1177/0192513x07301428

Holman, T., McAvoy, L., Rynders, J., & Goldenberg, M. (2003). Outcomes—consequences—values of an integrated wilderness adventure program. *Journal of Experiential Education, 25*(3), 353.

Johnson, S. K., Goldman, J. A., Garey, A. I., Britner, P. A., & Weaver, S. E. (2010). Emerging adults' identity exploration: Illustrations from inside the "camp bubble." *Journal of Adolescent Research, 26*(2), 258-295. doi:10.1177/0743558410376832

Kaly, P. W., & Heesacker, M. (2003). Effects of a ship-based adventure program on adolescent self-esteem and ego-identity development. *Journal of Experiential Education, 26*(2), 97-104.

Norton, C. L., Wisner, B. L., Krugh, M., & Penn, A. (2014). Helping youth transition into an alternative residential school setting: Exploring the effects of a wilderness orientation program on youth purpose and identity complexity. *Child & Adolescent Social Work Journal, 31*(5), 475-493. doi:10.1007/s10560-014-0331-y

Schwartz, S. J., Côté, J. E., & Arnett, J. J. (2005). Identity and agency in emerging adulthood: Two developmental routes in the individualization process. *Youth & Society, 37*(2), 201-229. doi:10.1177/0044118X05275965

Schwartz, S. J., Zamboanga, B. L., Weisskirch, R. S., & Rodriguez, L. (2009). The relationships of personal and ethnic identity exploration to indices of adaptive and maladaptive psychosocial functioning. *International Journal of Behavioural Development*, 33(2), 131-144.

The Search Institute. (2013). *Developmental Assets Profile: Technical Summary*. Retrieved from http://www.search-institute.org/surveys/DAP

Thurber, C. A., Scanlin, M. M., Scheuler, L., & Henderson, K. A. (2006). Youth development outcomes of the camp experience: Evidence for multidimensional growth. *J Youth Adolesc, 36*(3), 241-254. doi:10.1007/s10964-006-9142-6

Contact: Ann Gillard, Ph.D., Director of Research and Evaluation, The Hole in the Wall Gang Camp at anngillard@gmail.com or 860-429-3444, ext. 116.

Summer Camp Experiences as a Vehicle for Fostering Psychological Capital among Adolescents Who Identify as LGBTQ

Marek Samblanet, Ohio University
Andrew Szolosi, Ohio University

Introduction

Adolescents who identify as Lesbian, Gay, Bisexual, Transgender, or Queer (LGBTQ) often confront a set of unique and demanding challenges in their everyday lives. These challenges can stem from living in a gender stereotyped and homophobic culture (Lucassen, 2013). In many cases, the stressors related to living within this sort of heteronormative society have led LGBTQ adolescents to experience feelings of isolation. Those feelings of isolation can often derive from experiences at school. Within these settings, LGBTQ adolescents have been victims of verbal abuse, ridicule, social exclusion, and acts of humiliation (Polluck, 2006). When confronted with such hardships, it is not uncommon for adolescents who identify as LGBTQ to suffer academically as well. The stressors of a school environment can at times be too overwhelming, leading some LGBTQ adolescents to have an increased number of absences, more disciplinary problems, and diminished levels of student engagement (Kosciw, Greytak, & Diaz, 2009). These examples of withdrawal can intensify when there is a lack of support from family and friends. In some instances, this can even result in an increased incidence of homelessness (Budge, Rossman, & Howard, 2014).

Drawing on the many social stressors that LGBTQ adolescents may confront, the psychological state of development for this population could be at risk. That is, adolescents who identify as LGBTQ may be at an increased risk for diminished psychological resources such as hope, optimism, self-efficacy, and resilience. Each of these factors comprises what certain researchers have termed psychological capital (Luthans, Youseff, & Avolio, 2007). As an extension to Bourdieu's (1986) notions on human resources (i.e., social capital, cultural capital) psychological capital addresses the importance that certain cognitive resources can have on a person's ability to effectively cope and overcome adversities in their present and future lives. In essence, being able to answer "Who am I" is equally important to "What I know" and "Who I know." One way to enhance the psychological capital of LGBTQ adolescents could be through summer camp experiences. Summer camps have historically been shown to offer a wide range of physical, emotional, and social benefits to those involved (Paquette, 2014). Within this context, campers are generally free of judgment and can often find opportunities for self-expression and safe socialization (Gillard, Buzuvis, & Bialeschki, 2014). Components such as these play a critical role in fostering positive PsyCap, which subsequently can reduce anxiety and feelings of depression; a common issue among many LGBTQ adolescents (Budge, 2014; Liu et al, 2013). Based on the presented literature, the purpose of this study was twofold. First, to understand the challenges associated with being an LGBTQ adolescent in a heteronormative society. Second, to explore the ways in which an LGBTQ summer camp may offer benefits to LGBTQ adolescents that support that groups' capacity to cope and overcome the challenges identified.

Methods

The following study employed a qualitative approach that involved conducting semi-structured interviews with teens attending an LGBTQ summer camp in the Southeastern part of the United States. Approaches of this sort have become increasingly valued among researchers

who aim to garner a more detailed understanding of the complexities of adolescent development (Bocarro & Witt, 2003; Galambos & Leabeater, 2000). In the present study, the research team set out to understand the benefits that LGBTQ adolescents derive from attending a weeklong summer camp that catered specifically to this population segment. To achieve this aim, the research team developed a set of global questions that focused on 3 main areas of interest. Those areas included:

1. Identifying challenges LGBTQ adolescents experience as a result of their sexual orientation, gender identity, or gender expression.
2. Identifying benefits that LGBTQ adolescents derive from attending an LGBTQ specific summer camp.
3. Understanding the ways in which the benefits ascribed by LGBTQ adolescents perhaps extend beyond the camp experience.

Following the transcription of all recorded interviews, the research team employed a deductive approach to the data analysis. That is, each researcher used open, axial, and selective coding to identify prominent concepts within the collection of interviews that aligned with the a priori themes (i.e., hope, optimism, self-efficacy, and resiliency). In addition, a review of the transcribed interviews revealed a number of emergent themes related to LGBTQ challenges or that offered perspectives unique to the psychological capital construct.

Findings and Discussion

The study comprised a sample of 11 respondents between the ages of 14 and 18. Interviews with respondents lasted between 5 and 50 minutes in length and occurred on the second to last day of a weeklong summer camp experience. Those involved in the study self-identified in a variety of sexual orientations and gender identities. These included, but were not limited to transgender, lesbian, bisexual, pansexual, panromantic, and questioning. Reviews of the data indicated that campers experienced a number of unique challenges as a result of identifying as a LGBTQ. Such challenges tended to reflect qualities that were either interpersonal or intrapersonal in nature. Interpersonal challenges largely revolved around experiences of prejudice, marginalization, and verbal harassment. The intrapersonal challenges articulated by respondents focused primarily on fears of rejection, self-esteem, and identity development. Experiences derived from the weeklong LGBTQ summer camp seemingly offered respondents a number of benefits. Deductive qualitative analysis of the data revealed that among the a priori themes, optimism and self-efficacy were the most evident. When asked about camp benefits, Gabby stated, "…in general being closer to queer people has also helped me with confidence. And that has really helped in everyday life, just not feeling like there's something wrong with me." In this instance, which is symbolic of others like it, the respondent highlighted how through the strong social support of campers like her, she gained confidence in her abilities. In addition, positive attributions such as this one are quintessential examples of optimism as psychological capital resource. Beyond the a priori themes, one notable emergent theme focused on the importance of self-expression as a camp benefit. Programmatically, the camp provided opportunities for respondents to express themselves through music. Respondents frequently articulated these opportunities as some of the most beneficial as they served as a valuable outlet to express their feelings, identities, and views. Given the emphasis psychological capital places on addressing "Who am I", camps that offer additional channels for these forms of self-expression may better serve LGBTQ adolescents.

References

Bocarro, J., & Witt, P. A. (2003). Relationship-based programming: The key to successful youth development in recreation settings. *Journal of Park and Recreation Administration,* 21(3), 75-99.

Bourdieu, P. (2011). The forms of capital.(1986). *Cultural theory: An anthology*, 81-93.

Budge, S. L., Rossman, H., & Howard, K. S. (June 2013) Anxiety and depression in transgender individuals. *Journal of Consulting and Clinical Psychology: American Psychological Association, 81*(3), 545-557.

Budge, S. L., Rossman, H., & Howard, K. S. (2014). Coping and psychological distress among genderqueer individuals: The moderating effect of social support. *Journal of LGBT Issues In Counseling, 8*(1), 95-117. doi:10.1080/15538605.2014.853641

Galambos, N. L., & Leabeater, B. J. (2000). Trends in adolescent research for the new millennium. *International Journal of Behavioral Development*, *24*(3), 289-294. doi:10.1080/01650250050118268=

Gillard, A., Buzuvis E., E., & Bialeschki, M. (2014). Supporting transgender and gender nonconforming youth at summer camp. *Journal of Park and Recreation Administration, 32*(3), 92-105.

Kosciw, J., Greytak, E., & Diaz, E. (2009). Who, what, when, and why: Demographic and ecological factors contributing to hostile school climate for lesbian, gay, bisexual, and transgender youth. *Youth Adolescence, 38*(7), 976-988. doi:10.1007/s10964-009-9412-1

Liu, L., Pang, R., & Sun, W. (2013). Functional social support, psychological capital, and depressive and anxiety symptoms among people living with HIV/AIDS employed full time. *BMC Psychiatry*, 13:324. doi:10.1186/1471-244X-13-324.

Lucassen, M., Hatcher, S., and Stasiak, K. (2013). The views of lesbian, gay, and bisexual youth regarding computerized self-help for depression: An exploratory study. *Advances in Mental Health*, *12*(1), 22-33. doi:10.5172/jamh.2013.12.1.22

Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). Psychological capital: Developing the human competitive edge. Oxford, UK: Oxford University Press.

Paquette, L., Brassard, A., Guérin, A., Fortin-Chevalier, J., & Tanguay-Beaudoin, L. (2014). Effects of a developmental adventure on the self-esteem of college students. *Journal Of Experiential Education*, *37*(3), 216-231. doi:10.1177/1053825913498372

Pollock, S. L. (2006). Counselor roles in dealing with bullies and their LGBT victims. *Middle School Journal*, *38*(2), 29-36.

Marek Samblanet; ms365809@ohio.edu; (970) 250-5491

Using Outdoor Adventure Education in College Pathway Programs: The Development and Retention of Non-Cognitive Factors

Dan Richmond and Jim Sibthorp – University of Utah
Shannon Rochelle, John Gookin, and Rachael Price – National Outdoor Leadership School

A college education is widely considered to be an important step toward greater personal, familial, and financial stability (Nagaoka et al., 2013; Roderick, Nagaoka, & Coca, 2009). As a result, college aspirations of high school students across all demographic groups have increased over the last two decades (Venezia & Jaeger, 2013). Yet there remains significant gaps in college enrollment, overall college readiness, and the attainment of a bachelor's degree between students from high and low socioeconomic status (SES) and between non-minority and minority students (Department of Education, 2014; Farrington et al., 2012). In an effort to address these gaps in educational attainment, multi-year college pathway programs work with students with low SES to develop academic, intrapersonal, and interpersonal competencies to succeed in school and the transition to college (Glennie, Dalton, & Knapp, 2014). These precollege programs provide academic support, access to experiential learning opportunities, and an opportunity to create a community of like-minded individuals with similar aspirations.

In recent years, educators and college pathway programs have recognized the importance of non-cognitive factors – the beliefs, mindsets, and behaviors that contribute to academic and personal success that cannot be measured by traditional academic assessments (Dweck, Walton, & Cohen, 2011; Farrington et al., 2012; Shechtman, DeBarger, Dornsife, Rosier, & Yarnall, 2013). Non-cognitive factors include self-efficacy beliefs, self-regulatory behaviors, sense of belonging, social skills, and other habits of mind that contribute to student motivation and performance. Farrington and colleagues (2012) reviewed years of educational research and argue that non-cognitive factors, specifically positive beliefs about one's ability to improve and succeed, are prerequisites to academic perseverance and the cultivation of necessary academic behaviors. Many non-cognitive factors can be developed through out-of-school-time (OST) activities that afford opportunities for challenge, hands-on experience, and interpersonal connections in ways that cannot be replicated in a classroom (Durlak, Weissberg, & Pachan, 2010). Unfortunately, students with low SES have less exposure to these experiences than their peers with more financial resources (Duncan & Murnane, 2011). Precollege programs use a variety of experiential approaches to develop non-cognitive factors and a few use outdoor adventure education (OAE) to push students out of their comfort zones, build self-confidence, learn problem solving techniques, and transform students' views about themselves and their potential. Many of the outcomes associated with OAE, including increased self-efficacy, improved self-confidence, social cohesion, and the ability to deal with difficult situations align with many key non-cognitive factors (Hattie, 2009; Sibthorp, Furman, Paisley, & Gookin, 2008). While the use of OAE experiences within college pathway programs shows potential for supporting student development, there is little research on the lasting effects of interventions, especially with an intact groups of participants where there is the potential to continue relationships and reinforce lessons after the OAE experience ends (Sibthorp & Jostad, 2014).

The purpose of this study is to understand how participation in OAE experiences within a college pathway program relates to the development of key non-cognitive factors and whether any gains persist months after the end of the outdoor adventure experience. This study will seek to answer the following research questions.

RQ1: How do student efficacy beliefs, mindsets, and sense of belonging change 3-4 months following an OAE experience?
RQ2: How do students view their OAE experience months after participation and what were some lasting lessons?
RQ3: In what ways do students transfer lessons from their OAE experience to school and other aspects of their lives?

Methods

This longitudinal study involves 150-200 students involved in the C5 college pathway program. C5 works with high achieving youth from families with low SES and other risk factors (C5 Foundation, 2015). In the third year of this five-year program, students participate in a weeklong summer backpacking course offered by the National Outdoor Leadership School (NOLS) that focuses on leadership, teamwork, personal responsibility, and dealing with challenge. The study is using a combination of quantitative instrumentation and semi-structured qualitative interviews to address the research questions. Quantitative and qualitative components will be used concurrently resulting in a mixed methods embedded design (Creswell, Hanson, Clark Plano, & Morales, 2007). The primary quantitative measure is a 41 item questionnaire that assesses non-cognitive factors including mindsets toward leadership and emotion regulation, sense of belonging at school and at C5, and self-efficacy beliefs related to dealing with challenge (e.g., perseverance, problem-solving) and self-efficacy in using help seeking behavior (e.g., reaching out to peers and/or adults). This set of measures has been collected twice, but will be collected three times by November 2015. Results will be compared across all three times using either multilevel models (MLMs) and repeated measures ANOVA depending on course level differences among the groups. A subset of 25-30 students is also participating in semi-structured interviews with the goal of having a sample that is representative of C5 students in terms of sex and geographic region. Interviews will be transcribed and analyzed using systematic qualitative coding techniques (Chamaz, 2014). Qualitative results from both post course and follow-up samples will be combined to construct an overarching narrative of the impact of the OAE experience. Data collection and analysis will be completed by the end of 2015.

Results and Possible Implications

The first part of the study looked at 168 matched pre and post course student questionnaires ($M_{age} = 14.9$ years, 56.5% Female) that examined changes to self-efficacy beliefs toward dealing with challenge (α=.86) and help-seeking behaviors (α=.89), mindsets toward leadership development and emotion regulation and sense of belonging at school and C5. The second part (3-4 months post course) will take place from October through December of 2015. Early analysis found significant increases in mean scores in student efficacy beliefs related to dealing with challenge ($p < .001$, *partial* $\eta^2 = .275$) and implementing help-seeking strategies ($p < .001$, *partial* $\eta^2 = .220$) from pre course to post course. Preliminary analysis of the post course qualitative data showed students reevaluated beliefs about their own capabilities and personal limits, deepened social connections with their college-bound peers, and appreciated the opportunity experience something new and novel – activities they once considered inaccessible or unwelcoming to people from their communities. Though individual experiences and outcomes varied, on balance students reported a modified sense of self related to their capacity to manage uncertainty, challenge, and unfamiliarity. By collecting matched data 3-4 months post course, we intend to see if realized gains are maintained or regress to pre course levels. In addition, we are interested in seeing how post course recollections accessed via the qualitative interviews compare. Do themes from the student interviews students vary from interviews conducted

immediately post course, and if so, how? Quantitative and qualitative findings from this follow-up study may provide more insight as to whether this increased self-efficacy is sustained over time, if mindset measures and measures of sense of belonging shift several months after the course, and how lessons from the OAE experience transfer to school and home environments. The study may also lead to a greater understanding of how a shared transfer environment may help OAE participants maintain positive course outcomes through cohort-wide reinforcement.

C5 Foundation. (2015). Target population. Retrieved March 10, 2015, from http://www.c5leaders.org/Target-Population

Chamaz, K. (2014). *Constructing grounded theory* (2nd ed.). Thousand Oaks, CA: SAGE Publications.

Creswell, J. W., Hanson, W. E., Clark Plano, V. L., & Morales, A. (2007). Qualitative research designs: Selection and implementation. *The Counseling Psychologist, 35*(2), 236–264. doi:10.1177/0011000006287390

Department of Education. (2014). *The condition of education 2014*. Washington, D.C.

Duncan, G. J., & Murnane, R. J. (2011). The American dream, then and now. In G. J. Duncan & R. J. Murnane (Eds.), *Whither opportunity? Rising inequality, schools, and children's life chances* (pp. 3–23). New York: Russell Sage Foundation.

Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology, 45*, 294–309. doi:10.1007/s10464-010-9300-6

Dweck, C. S., Walton, G. M., & Cohen, G. L. (2011). *Academic tenacity: Mindsets and skills that promote long-term learning*. Seattle, WA.

Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2012). *Teaching adolescents to become learners. The role of noncognitive factors in shaping school performance: A critical literature review*. Chicago, IL.

Glennie, E. J., Dalton, B. W., & Knapp, L. G. (2014). The influence of precollege access programs on postsecondary enrollment and persistence. *Educational Policy*, 1–21. doi:10.1177/0895904814531647

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. London: Routledge.

Nagaoka, J., Farrington, C. A., Roderick, M., Allensworth, E., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2013). Readiness for college: The role of noncognitive factors and context. *Voices in Urban Education*, 45–52.

Roderick, M., Nagaoka, J., & Coca, V. (2009). College readiness for all: The challenge for urban high schools. *Future of Children, 19*(1), 185–210. doi:10.1353/foc.0.0024

Shechtman, N., DeBarger, A. H., Dornsife, C., Rosier, S., & Yarnall, L. (2013). *Promoting grit, tenacity, and perseverance: Critical factors for success in the 21st century*. Washington, D.C.

Sibthorp, J., Furman, N., Paisley, K., & Gookin, J. (2008). Long-term impacts attributed to participation in adventure education: Preliminary findings from NOLS. *Research in Outdoor Education, 9*, 86–102.

Sibthorp, J., & Jostad, J. (2014). The social system in outdoor adventure education programs. *Journal of Experiential Education, 37*(1), 60–74. doi:10.1177/1053825913518897

Venezia, A., & Jaeger, L. (2013). Transitions from high school to college. *The Future of Children, 23*(1), 117–136. doi:10.1353/foc.2013.0004