

Proceedings
of the
2016 Symposium on Experiential
Education Research



presented at the

**44nd Annual International
AEE Conference**



*Denise Mitten, Editor and Chair
Minneapolis, Minnesota, USA
October 27- 30, 2016*



Welcome to SEER

Welcome to the 16th Annual Symposium on Experiential Education Research (SEER). The purpose of this symposium is to provide a formal setting for the reporting of research in the broad areas of experiential education. Toward that end, all the research presentations submitted to SEER were blind reviewed by a panel of referees, and the scores tabulated by the SEER co-chairs before final decisions were made and themed sessions assembled. Whether accepted or not, the authors who submitted material should be congratulated for their efforts.

As in past years, we are pleased to host both oral presentations and a SEER poster session as venues to hear about the many quality proposals accepted this year. SEER oral presentations are presented during two large blocks of time (Thursday and Friday afternoons at the AEE Conference) made up sessions that include several papers. We also continue to include a key points and summary of potential research topics discussions to each of the SEER sessions. We are delighted to open the 16th SEER with a short message from the Recipient of the Distinguished Researcher in Experiential Education award.

Along with the researchers who submitted their work for review, we also wish to recognize other people for their efforts in making the symposium a reality. First, we would like to thank the AEE and staff members, including Caitlin Leahy, Dan Miller, and the 2016 Conference host team for their support and coordination of SEER, as well as the JEE editorial team and the AEE Council on Research and Evaluation (CORE) for ongoing support of SEER. We owe a great deal of gratitude to Lisa Brennan, Cirien Saadeh and Ryan Gagnon for editorial work with the abstracts. The scholars who graciously served as reviewers of the submitted abstracts are Drew Baily, Andrew Bobilya, Noël Cox Caniglia, Chiara D'Amore, Curt Davidson, Briget Eastep, Ryan Gagnon, Garrett Hutson, Pat Maher, Jillisa Overholt, James Patsalides, Alison Rheingold, Anita Tucker, Frank Vernon, and Tiffany Wynn.

We would like to especially thank all of you attendees of this year's Symposium. It is your interest that ultimately drives the research and practice relationship in the AEE. We prepare and host SEER because of the continued need for us to understand how and why experiential educational practices work to make a positive difference in people's lives.

Thanks to all of you for being a part of this year's SEER.

Denise Mitten, Chair



A Brief History of the Symposium on Experiential Education Research (SEER)

Keith Russell (SEER Co-Chair 2006-2008)

Stacy Taniguchi (SEER Co-Chair 2011-2014)

Denise Mitten (SEER Co-Chair 2012-Present)

The Symposium on Experiential Education Research (SEER) is a research symposium providing an outlet and venue for researchers in the fields that use experiential education to present, share, dialogue, and further develop their research ideas.

The first SEER took place at the Association for Experiential Education's (AEE) 2001 International Conference in Charleston, West Virginia. Fittingly, it was Dr. Alan Ewert of Indiana University who conceived of and led the effort to establish that first SEER. A widely published researcher and author in the field of adventure-based education, Dr. Ewert is also known for his distinguished career in academia, three decades as an Outward Bound instructor, as holder of the Patricia and Joel Meier Outdoor Leadership Chair, past editor of the *Journal of Experiential Education* (JEE), and as fellow and past president of the prestigious Academy of Leisure Sciences. In providing the leadership to launch SEER, Dr. Ewert gave back to the field he helped develop throughout his academic and professional career.

The symposium occurs concurrently with the International AEE Conference each year and involves the presentation of research papers from international scholars who use and research experiential education practices. The process by which papers are selected for SEER begins in the spring, when a call for papers is released by AEE in the *JEE*, on listservs, and other outlets, asking researchers, graduate students, and research/practitioners to submit abstracts to a blind, peer-reviewed process facilitated by the co-chairs of SEER. Abstracts are sent out for blind review to a panel of scholars/researchers. Abstracts are reviewed for relevance to experiential education theory and practice, research methodology, and logic and clarity in writing. The papers are ranked, and the top abstracts are selected for oral or poster presentations at the annual International AEE Conference. In addition to the presentations, the abstracts are published as a proceedings booklet, which is distributed at the conference (since 2013 via electronic media). Currently, AEE publishes the abstracts online. For about 10 years, the spring edition of the *Journal of Experiential Education* published these abstracts as a way to make them available to a wider readership. Reading these abstracts is a great way to glimpse current research interests and innovative research methodologies used for experiential education research.

In Little Rock, Arkansas (2007), the SEER program was modified to 90-minute, theme-based sessions. Papers were grouped by topic in order to better promote SEER to practitioners and other conference attendees so they could attend sessions of interest. Each presenter was, and continues to be, allotted 20 minutes to present her/his research, which typically includes an introduction, a description of the methods employed, and the results and conclusions developed from the research. In addition to the papers presented, discussant remarks have been offered each year by leading scholars and practitioners in experiential education theory and practice. This has provided an opportunity for the initiation of substantive dialogue around current research.

Beginning in 2008, SEER partnered with the Council on Research and Evaluation (CORE) to explore ways to support the needs of AEE members and expand research about experiential



education. As the use of experiential education philosophy and methodologies continue to grow and evolve in social, political, and economic contexts, research can play a vital role in helping maintain and further the mission of experiential education in helping children, youth, families, and communities. To this end, research in educational, therapeutic, recreational, and other experiential learning settings are all welcome in SEER.

In 2011, SEER Co-chairs Jayson Seaman and Alan Ewert initiated a research poster session for those important research studies that needed to be disseminated, but could not fit into the oral presentation schedule of SEER.

At the 12th Annual SEER held in Madison, WI, Co-chairs Alan Ewert and Stacy Taniguchi replaced the summary discussant at the end of each session with an open discussion concerning the relative nature of the studies presented and questions for further research. Graduate students were invited to lead these discussions.

In 2012, SEER welcomed Dr. Denise Mitten as a Co-chair with Dr. Taniguchi. Dr. Mitten's long dedicated service to AEE and experiential education research was a valuable asset to increasing the visibility of the SEER call for proposals and the number of submissions.

At the 13th and 14th SEER, Co-chairs Dr. Mitten and Dr. Taniguchi continued with the SEER format of previous year and re-introduced the SEER poster session. They decided to go totally digital for the *Proceedings of the Symposium of Experiential Education Research* for the SEER and to make past abstracts available online through AEE's website. Attendees now access the SEER Abstract Booklet only on line.

At the 15th Annual SEER, Dr. Mitten worked with Dr. Taniguchi to create a method to review proposals that addressed conceptual topics, in order to complement those about empirical research.

Beginning in 2011 the AEE award committee named an annual Distinguished Researcher Awardee. The recipient of the Distinguished Researcher Award offers an opening address before the first SEER session. Awardees include 2011 Mike Gass, 2012 Keith Russell, 2013 Alan Ewert, 2015 Denise Mitten, and 2016 Anita Tucker. It is our hope that SEER continues to be one of the many mechanisms to help further AEE's mission in the years to come.

In the continuation of furthering our understanding of the positive impact of engaging the philosophy of experiential education and many methods that use this philosophy, this year's 16th SEER should be engaging and inspiring for researchers and practitioners alike.

Keith Russell is an Associate Professor at Western Washington University, Bellingham, Washington, USA. Email: keith.russell@wwu.edu

Stacy Taniguchi is an Associate Professor at Brigham Young University, Provo, Utah, USA. Email: stacy_taniguchi@byu.edu

Denise Mitten is a Professor at Prescott College, Prescott, AZ, USA. Email: dmiten@prescott.edu



TABLE OF CONTENTS

Welcome Letter _____		2
A Brief History of SEER _____		3-4
Table of Contents _____		5-6
Schedule of SEER Sessions _____		7-9
Abstracts by SEER Session _____		10-72
Session 1	<i>Racial Diversity in Academic Outdoor Programs at U.S. Colleges and Universities.</i> Jayson Seaman, Nate Trauntvein, & Brent J. Bell	10-13
	<i>Two Ways to Count Your Change: An Exploratory Investigation of Retrospective Pre and True Pre.</i> W. Brad Faircloth & Andrew J. Bobilya	13-17
Session 2	<i>Exploring an Emerging Line of Research: Brain Wave Activity and Outdoor Experience</i> Brad Daniel & Brad Faircloth	17-20
	<i>Positive Relationship Outcomes between Parents and Adolescent Children following a Therapeutic Wilderness Program for Struggling Teens.</i> Christine Norton & Katie Liermann	21-24
	<i>Engaging At-Risk Populations Outdoors, Digitally: Researching Youth Attitudes, Confidence, and Interest in Technology and the Outdoors.</i> Justin Hougham Marc Nutter, Alex Nussbaum, Taylor Riedl, & Sarah Burgess	25-27
Session 3	<i>Emotional Intelligence, Personality and Leadership in Outdoor Adventure Education Facilitators - A Three Dimensional Model.</i> Jule Hildmann & Pete Higgins	28-31
	<i>Learning Transfer of Recreational Rock Climbers: An Exploratory Model.</i> Andrew Bailey & Eric Hungenberg	32-34
	<i>The Nature of Satisfaction and the Conditions Under Which Students Thrive.</i> Sarah Jillings	35-37
	<i>Qualities of the Adventure Education Experience.</i> Benjamin Ingman	38-40
Session 4	<i>The Sacred, Divine, and Spiritual in Experiential Education: A Conceptual Model for Relation of the Non-Rational.</i> Glenn Middleton	41-44
	<i>Engineers in the Wilderness: Bridging Science and Reality.</i> Chris Saulnier, Aikaterini Bagiati & J.G. Brisson	45-48
	<i>The Heaviness of the Air You Breathe: Writing the Lived Experience of Air Pollution.</i> Chris Zajchowski & Jeff Rose	49-52
Poster Session	<i>Lasting Impact: The Path from Experience back to the Classroom.</i> Jocelyn Glazier	53-56



<i>Cultural Coalescence in Adventure Education.</i> Benjamin Ingman	57-60
<i>The Mentor Mentee Relationship, Character, and Experiential Education: a Conceptual Model for Future Research.</i> Glenn Middleton	61-64
<i>Why They Do What They Do: Leadership and Facilitation of Bush Adventure Therapy Team Leaders.</i> James Newton	65-67
<i>Motivations and Trends of Active Older Adult Users and How They Influence Outdoor Adventure Program Opportunities.</i> Gregory Petry & Ken Gilberston	68-72



SCHEDULE OF SEER SESSIONS

SESSION 1: Thursday, October 27, 2016 (2:00 PM – 3:30 PM)

2:00P-2:05P = Welcome to the Symposium on Experiential Education Research (SEER)

2:05P-2:25P = Opening Address by the Recipient of the Distinguished Researcher in Experiential Education Award Dr. Anita Tucker

SEER Session 1 Speakers

- 2:30P-2:50P = Jayson Seaman, *Racial Diversity in Academic Outdoor Programs at U.S. Colleges and Universities*.
 - Nate Trauntvein & Brent J. Bell, co-authors
- 2:55P-3:15P = W. Brad Faircloth, *Two Ways to Count Your Change: An Exploratory Investigation of Retrospective Pre and True Pre*.
 - Andrew J. Bobilya, co-author

3:20P-3:30P = Key Points and Research/Practice Implications, Chaired by Bobbi Beal

(10-minute intermission)

SESSION 2: Thursday, October 27, 2016 (3:40 PM – 5:15 PM)

3:40P-3:50P = Session Introductions Chaired by Christine Brice

SEER Session 2 Speakers

- 3:50P-4:10P = Brad Daniel, *Exploring an Emerging Line of Research: Brain Wave Activity and Outdoor Experience*.
 - Brad Faircloth, co-author
- 4:15P-4:35P = Christine Norton, *Positive Relationship Outcomes between Parents and Adolescent Children following a Therapeutic Wilderness Program for Struggling Teens*.
 - Katie Liermann, co-author
- 4:40P-5:00P = Justin Hougham, *Engaging At-Risk Populations Outdoors, Digitally: Researching Youth Attitudes, Confidence, and Interest in Technology and the Outdoors*.
 - Marc Nutter, Alex Nussbaum, Taylor Riedl, and Sarah Burgess, co-authors

5:05P-5:15P = Key Points and Research/Practice Implications, Chaired by Mary Breunig



POSTER SESSION: Thursday, October 27, 2016 (5:00 PM – 7:00 PM)

- Jocelyn Glazier, *Lasting Impact: The Path from Experience back to the Classroom.*
- Benjamin Ingman, *Cultural Coalescence in Adventure Education.*
- Glenn Middleton, *The Mentor Mentee Relationship, Character, and Experiential Education: a Conceptual Model for Future Research.*
- James Newton, *Why They Do What They Do: Leadership and Facilitation of Bush Adventure Therapy Team Leaders.*
- Gregory Petry, *Motivations and Trends of Active Older Adult Users and How They Influence Outdoor Adventure Program Opportunities.* Ken Gilberston, co-author

SESSION 3: Friday, October 28, 2016 (1:30 PM – 3:30 PM)

1:30P-1:35P = Session Introductions Chaired by Samantha Smith

SEER Session 3 Speakers:

- 1:40P-2:00P = Jule Hildmann, *Emotional Intelligence, Personality and Leadership in Outdoor Adventure Education Facilitators - A Three Dimensional Model.*
 - Pete Higgins, co-author
- 2:05P-2:25P = Andrew Bailey, *Learning Transfer of Recreational Rock Climbers: An Exploratory Model.*
 - Eric Hungenberg, co-author
- 2:30P-2:50P = Sarah Jillings, *The Nature of Satisfaction and the Conditions Under Which Students Thrive.*
- 2:55 – 3:15 = Benjamin Ingman, *Qualities of the Adventure Education Experience.*

3:15P-3:25P = Key Points and Research/Practice Implications, Chaired by Karen Warren

(5-minute intermission)

SESSION 4: Friday, October 23, 2015 (3:30 PM – 5:00 PM)

3:30P-3:35P = Session Introductions Chaired by Jule Hildmann

SEER Session 4 Speakers:

- 3:35P-3:55P = Glenn Middleton, *The Sacred, Divine, and Spiritual in Experiential Education: A Conceptual Model for Relation of the Non-Rational.*



- 4:00P-4:20P = Chris Saulnier, *Engineers in the Wilderness: Bridging Science and Reality*.
 - Aikaterini Bagiati and J.G. Brisson, co-authors
-
- 4:25P-4:45P = Chris Zajchowski, *The Heaviness of the Air You Breathe: Writing the Lived Experience of Air Pollution*.
 - Jeff Rose, co-author

4:50P-5:00P = Key Points and Research/Practice Implications, Jayson Seaman

ON THE NEXT PAGES, ABSTRACTS IN THE ORDER PRESENTED WITH ORAL PRESENTATIONS FIRST FOLLOWED BY POSTERS PRESENTATIONS

RACIAL DIVERSITY IN ACADEMIC OUTDOOR PROGRAMS AT U.S. COLLEGES AND UNIVERSITIES

Jayson Seaman, Ph.D., University of New Hampshire (jayson.seaman@unh.edu)

Nate Trauntvein, Ph.D., University of New Hampshire

Brent J. Bell, Ph.D., University of New Hampshire

Introduction

Colleges and universities awarding undergraduate and graduate degrees to emerging professionals in outdoor education and recreation fields are unavoidably influenced by broader societal trends (Attarian, 2001; Bobilya, Holman, Lindley, & McAvoy, 2010). Such programs now exist in a context of increasing racial diversity among outdoor users and in the United States (U.S.) population more broadly. The majority of outdoor enthusiasts are white (Johnson, Bowker, Green, & Cordell, 2007; Mills, 2014), however involvement by people of color will continue to increase as the U.S. population shifts to “majority minority” over the coming three decades (Frey, 2014). Unless student enrollment more closely tracks the diversity of the wider population in the coming years, academic programs training future professionals in outdoor fields risk deviating from demographic trends. This could threaten program viability and possibly erode the “relevance and ethical justification” (Gress, 2015, p. 1) of outdoor programs and interventions (see Rose & Paisley, 2012; Warren, Roberts, Breunig, & Alvarez, 2014).

This abstract reports on data collected during a 2016 study of enrollment trends at degree-granting outdoor programs at U.S. colleges and universities, for comparison across characteristics of interest such as geographic region, size, and Carnegie classification. For this presentation, data was selected that addresses the question: *To what extent does enrollment in academic outdoor programs reflect broader demographic and outdoor participation trends?*

Literature Review

Since 2010, minority groups have accounted for 93% of overall U.S. population gain. By 2044 no single racial group will be the majority and by 2060 white people will comprise only 44% of the U.S. population (Johnson, 2014). This trend is being driven by “natural increase”; 79% of all deaths will occur in the white population compared to only 50% of all births. Between now and 2060, each generation of youth in the U.S. will be more diverse than the last; these changes will not be limited to urban areas (Johnson, Schaefer, Lichter, & Rogers, 2014). Commensurate with these trends, a report by the Outdoor Foundation (2015) shows steady overall participation rates in the general population but white populations declining as a percentage of overall users, from 77% in 2007 to 70% in 2014. In contrast, African Americans, Asians, and Hispanics together comprised 19% of all participants in 2007 and 27% in 2014.

Youth and emerging adults ages 13-30 report wanting to spend time outdoors but express a desire for reduced cost and easier access and suggest ‘rebranding’ the outdoors beyond wilderness and extreme sports (Outdoor Foundation, 2010). Metcalf, Burns, and Graefe (2013) point to different outdoor experience preferences and constraints among Asian-American, Latino, and African-American respondents, which can shape activity provision, marketing, and management decisions (Bixler & Floyd, 1997). Some studies have found leader ethnicity and group composition to influence youth program outcomes (Rodriguez & Roberts, 2005; Seaman, Beightol, Shirilla, & Crawford, 2010), suggesting that the meanings and values members of different groups hold toward outdoor experiences could bear on program staffing, design, management, and facilitation, and core curricular areas in many academic programs.

Research Methods

An initial list of 81 academic outdoor programs was created using www.outdoored.com, internet search engines, and personal knowledge of the authors. An online survey was sent via Qualtrics to these programs and to mailing lists provided by the Association for Experiential Education and the Association for Outdoor Recreation and Education. In total, 96 institutions were invited to complete the survey, on which faculty were asked to enter demographic information and indicate enrollment changes over the past decade. Research assistants entered public information such as geographic location, Carnegie type (public/private) and size.

Results

After data cleaning, 55 programs were included in the analyses reported here, for a response rate of 57%. Table 1 shows type and size of institutions, and concentration of programs in different geographic regions.

Table 1: Characteristics of participating institutions

Carnegie Type		Carnegie size classification		Geographic regions ¹	
Public	37 (67%)	Very Small (<1000)	6 (10%)	West	17 (31%)
Private	18 (33%)	Small (1,000-2,999)	15 (27%)	Midwest	9 (16%)
		Medium (3,000-9,999)	15 (27%)	Northeast	15 (27%)
		Large (>10,000)	19 (35%)	South	14 (26%)

Reported gender composition within academic programs was 57% male, 42% female, and 1% transgender/ questioning. Table 2 shows the percentage of students representing different racial categories, compared to general enrollments at their institutions, diversity of outdoor users, and overall population trends. An ANOVA found no significant differences across institutional type, size, or region for either race or gender.

Table 2: Comparison of racial groups by mean (and standard deviation, if available)

	White	African American	Latino/a	Asian	Other
Outdoor program enrollment	90% (15.3)	2% (3.8)	4% (10.0)	2% (4.7)	2% (4.4)
General institutional enrollment ²	73% (12.8)	5% (4.6)	7% (8.1)	3% (4.0)	14% (5.7)
Outdoor users ³	70%	10%	10%	7%	3%
Overall population ⁴	60%	13%	19%	5%	4%

To assess whether program homogeneity might be attributable to a lack of institutional diversity, a two-step cluster analysis was used to categorize cases based on general institutional enrollment. This enabled us to compare outdoor program enrollments against different levels of diversity in the broader student body as well as variables of interest for each group. The resulting three profile groups met the criteria for good fit. We labeled the groups (1) *most diverse*, (2) *more diverse*, and (3) *less diverse*. Enrollment percentages are shown in Table 3.

¹ According to U.S. Census Bureau designations. See: http://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf

² Enrollment figures retrieved April 15, 2015 from the U.S. Department of Education's College Scorecard: <http://www.collegescorecard.com>

³ The Outdoor Foundation. (2015). *Outdoor recreation participation topline report*. Retrieved from Boulder, CO: <http://www.outdoorfoundation.org/pdf/ResearchParticipation2015Topline.pdf>

⁴ Johnson, K. M. (2014). *New population projections reflect slower growth and increasing diversity*. Durham, NH: Carsey School of Public Policy. Retrieved from: <http://scholars.unh.edu/cgi/viewcontent.cgi?article=1231&context=carsey>

Table 3: Diversity profiles of groups by student population mean (and standard deviation)

	White	African American	Latino/a	Asian	Other/ unspecified
1. Most diverse institutions (n=2)					
Overall student body	25% (.71)	5% (0.0)	39% (20.5)	15% (19.8)	19% (0.0)
Outdoor academic programs	20% (0.0)	3% (2.8)	45% (35.4)	17% (12.0)	16% (20.5)
2. More diverse institutions (n=13)					
Overall student body	62% (5.0)	8% (7.1)	10% (6.6)	3% (2.1)	19% (7.3)
Outdoor academic programs	94% (7.0)	1% (2.0)	2% (3.2)	1% (3.1)	1% (3.1)
3. Less diverse institutions (n=40)					
Overall student body	78% (5.5)	5% (3.3)	5% (3.2)	2% (1.7)	12% (3.8)
Outdoor academic programs	93% (5.8)	3% (4.3)	2% (2.5)	2% (3.0)	1% (2.5)

An independent samples t-test was used to compare enrollment diversity in groups 2 and 3 (group 1 was omitted due to size). No significant difference was found in any category. Next, chi square tests were used to assess the relationship between (a) profile group membership, region, and Carnegie classifications, to see if one type of institution or one area was overrepresented in any group, and (b) profile group membership and enrollment trends based on the questions: “Have student demographics in your program changed in the past 10 years/do you anticipate them changing in the next 10 years?” (see Table 4). No significant differences were found between groups for any Carnegie classification, region, or question about enrollment trends.

Table 4: Enrollment trends for institutions in profile groups

Group	Changes in past 10 years?		Changes in next 10 years?	
	Yes	No	Yes	No
1. Most diverse (n=1)	0	1	0	1
2. More diverse (n=12)	6	6	9	3
3. Less diverse (n=39)	16	23	24	15

Discussion

This study examined diversity of outdoor academic program enrollments in the context of wider campus, demographic, and outdoor recreation trends. Aggregate results show an overrepresentation of white students in programs by a substantial margin compared to their wider institutions, the overall U.S. population, and outdoor users more broadly. Except in the two most diverse schools, racial homogeneity in academic outdoor programs does not appear to be attributable to a lack of campus diversity; the racial composition of programs in groups 2 and 3 was nearly identical. Moreover, higher institutional diversity appeared to be unrelated to enrollment trends, although in open-ended comments, respondents indicate hope that this might change as their broader campuses diversify and as more people of color use the outdoors.

If racial disparities persist in programs that train future outdoor professionals, a number of impacts may be expected. First, continuing to enroll mostly white students is unlikely to meet the needs of employers increasingly concerned with inclusion and representation (see e.g., Johnson, 2013). Second, curricula that omit representation and modes of outdoor experience meaningful to people of color could alienate potential students (see Finney, 2015), possibly creating a cycle of underrepresentation that could affect long-term viability. Future research could assess the curricula and strategies that have been successful in the most diverse programs. Although the present study was descriptive in nature, it points to the importance of continuing to discuss strategies for diversifying the programs that train professionals to work in educational and recreational programs in the outdoors.

References

- Attarian, A. (2001). Trends in outdoor adventure education. *Journal of Experiential Education*, 24(3), 141-149.
- Bixler, R. D., & Floyd, M. F. (1997). Nature is scary, disgusting, and uncomfortable. *Environment and Behavior*, 29(4), 443-467.
- Bobilya, A. J., Holman, T., Lindley, B., & McAvoy, L. H. (2010). Developing trends and issues in U.S. outdoor and adventure-based programming. *Journal of Outdoor Recreation, Education, and Leadership*, 2(3), 301-321.
- Finney, C. (2015). *Black faces, white spaces: Reimagining the relationship of African Americans to the great outdoors*. Charlotte, NC: The University of North Carolina Press.
- Frey, W. H. (2014). *Diversity explosion: How new racial demographics are remaking America*. Washington DC: Brookings Institution Press.
- Gress, S. (2015). *Diversity in the outdoors: Student attitudes about wilderness in NOLS*. (Master of Science), Oregon State University, Corvallis, OR.
- Johnson, C. Y., Bowker, J., Green, G. T., & Cordell, H. (2007). "Provide it... but will they come?" A look at African American and Hispanic visits to federal recreation areas. *Journal of Forestry*, 105, 257-265.
- Johnson, K. (2013, Sept. 5). National parks try to appeal to minorities. *New York Times*. Available at: <http://www.nytimes.com/2013/09/06/us/national-parks-try-to-appeal-to-minorities.html>
- Johnson, K. M. (2014). *New population projections reflect slower growth and increasing diversity*. Durham, NH: Carsey School of Public Policy. Retrieved from: <http://scholars.unh.edu/cgi/viewcontent.cgi?article=1231&context=carsey>
- Johnson, K. M., Schaefer, A., Lichter, D. T., & Rogers, L. T. (2014). *The increasing diversity of America's youth: Children lead the way to a new era*. Durham, NH: Carsey School of Public Policy. Retrieved from: <http://scholars.unh.edu/cgi/viewcontent.cgi?article=1211&context=carsey>
- Metcalf, E. C., Burns, R. C., & Graefe, A. R. (2013). Understanding non-traditional forest recreation: The role of constraints and negotiation strategies among racial and ethnic minorities. *Journal of Outdoor Recreation and Tourism*, 1(2), 29-39.
- Mills, J. E. (2014). *The adventure gap: Changing the face of the outdoors*. Seattle, WA: Mountaineers Books.
- Outdoor Foundation. (2010). *Outdoor nation special report: Barriers to the outdoors*. Retrieved from Boulder, CO: <http://www.outdoorfoundation.org/research.outdoornation.barriers.html>
- Rodriguez, D. A., & Roberts, N. S. (2005). Understanding the influence of gender and ethnicity on evaluations of outdoor leader effectiveness. *World Leisure*, 47(1), 32-44.
- Rose, J., & Paisley, K. (2012). White privilege in experiential education: A critical reflection. *Leisure Sciences*, 34(2), 136-154.
- Seaman, J., Beightol, J., Shirilla, P., & Crawford, B. (2010). Contact theory as a framework for experiential activities as diversity education: An exploratory study. *Journal of Experiential Education*, 32(1), 207-225.
- Warren, K., Roberts, N. S., Breunig, M., & Alvarez, M. A. T. G. (2014). Social justice in outdoor experiential education: A state of knowledge review. *Journal of Experiential Education*, 37(1), 89-103.

TWO WAYS TO COUNT YOUR CHANGE: AN EXPLORATORY INVESTIGATION OF RETROSPECTIVE PRE AND TRUE PRE

W. Brad Faircloth, Montreat College (bfaircloth@montreat.edu)
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. The then operational Outward Bound Research Advisory Committee was charged by OB administration to develop a comprehensive questionnaire to assess the outcomes of character development, leadership, and environmental service. This new Outward Bound Outcomes Instrument (OBOI) was initially field-tested in 2008 and included all or most of Outward Bound's course areas and student populations (Ewert & Frankel, 2009). This effort utilized a pre (course start) and post (last day of the course) format. Luo (2011) established construct validity and outcome model validation for this original, newly developed OBOI measuring the 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 (NCOBCIS). A psychometric analysis demonstrated that the NCOBCIS was a valid and reliable measure (Faircloth & Bobilya, 2013; Faircloth, Bobilya, & Ewert, in press). 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 *a priori*, 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 first purpose of this exploratory 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 ($\mu = 38.0$, $SD = 11.38$) and true ($\mu = 43.6$, $SD = 5.98$) pre CD scores; $t(4) = -2.19$, $p = .09$, significant differences between the retro ($\mu = 57.4$, $SD = 4.5$) and true ($\mu = 67.0$, $SD = 2.55$) pre LS scores; $t(4) = -4.04$, $p = .02$, and significant differences between the retro ($\mu = 15.8$, $SD = 1.1$) and true ($\mu = 19.2$, $SD = 1.1$) 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 exploratory 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.
- Ewert, A., & Frankel, J. (2009). Linking goals with outcomes: Outward Bound, findings, and confounding variables. *Abstracts of the 2009 NRPA Leisure Research Symposium*. Salt Lake City, UT, Oct. 13-16.
- 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](https://doi.org/10.7768/1948-5123.1207)
- Faircloth, W. B., Bobilya, A. J., & Ewert, A. (in press). The North Carolina Outward Bound School Course Impression Survey: A Psychometric Investigation. *Research in Outdoor Education*.
- 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*.

EXPLORING AN EMERGING LINE OF RESEARCH: BRAIN WAVE ACTIVITY AND OUTDOOR EXPERIENCES

*Brad Daniel, Ph.D., Chair, Outdoor Education Department, Montreat College
(bdaniel@montreat.edu)*

Brad Faircloth, Ph.D., Chair, Psychology and Human Services Department, 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 Review

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 affected 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 equally 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 that 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 were analyzed following procedures outlined by Yuvaraj et al. (2014). Specifically, all EEG analyses were performed using MATLAB (version 9.0.0.341360, R2016a). The raw EEG data was filtered for the following four EEG frequency ranges: delta (1 – 4 Hz), theta (4 – 8 Hz), alpha (8 – 13 Hz), and beta (13 – 30 Hz). In addition to analyzing these four frequency bands for change across time, inter- and intra-hemispheric power asymmetry were also assessed. EEG analyses 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.
- Yuvaraj, R., Murugappan, M., Ibrahim, N. M., Omar, M. I., Sundaraj, K., Mohamad, K., ... & Satiyan, M. (2014). On the analysis of EEG power, frequency and asymmetry in Parkinson's disease during emotion processing. *Behavioral and Brain Functions*, 10(1), 1-12.

POSITIVE RELATIONSHIP OUTCOMES BETWEEN PARENTS AND ADOLESCENT CHILDREN FOLLOWING A THERAPEUTIC WILDERNESS PROGRAM FOR STRUGGLING TEENS

Christine Lynn Norton, PhD, LCSW, OBHRC Research Scientist (cn19@txstate.edu)
Katie Liermann, MSW, Texas State University

Literature Review

The family system is an integral part of adolescents' "social, emotional and behavioral well-being" (Harper & Cooley, 2007, p. 393). The health and functioning of the family system can play an important role in an adolescent's development into adulthood (Coady & Lehmann, 2008). According to a seminal study by Resnick et al. (1997), strong family connectedness can be a protective factor that promotes youth functioning. However, when youth experience negative family dynamics, such as poor communication, anger, and distrust, they can experience problems in family functioning (Steinberg, 2001). When this occurs, families may require intervention through family therapy.

Though a wide range of systemic family therapy interventions exist (Cottrell & Boston, 2002), research has shown that therapeutic wilderness programs can improve both youth and family functioning (Harper & Cooley, 2007; Harper & Russell, 2008). According to Norton (2007), there is a continuum of therapeutic wilderness interventions, from experience-based wilderness programs, which include non-clinical staff, to Outdoor Behavioral Healthcare, which involves clinical staff administering therapeutic interventions, specifically targeting a client's treatment plan. Regardless of the level of clinical services provided, most therapeutic wilderness programs utilize adventure-based activities in the outdoors to implement therapeutic interventions for adolescents who are struggling with behavior issues, as seen by parents, schools and/or the courts (Berman & Davis-Berman, 2008).

Traditionally, it has been thought that these programs only treat the adolescent who attends the wilderness program (Harper & Cooley, 2007). In fact, it was not until the late 1980's that wilderness programs saw the opportunity to involve the family in the adolescent's recovery (Bandoroff & Scherer, 1994). However, research on therapeutic wilderness programs has begun to show the need for "more intentional and direct involvement of families in the change process...to help families address issues preventing effective family functioning" (Harper et al., 2007, p.126). Therefore, more wilderness programs are involving the entire family system, such as Outward Bound's Intercept program for struggling teens, which incorporates the family into the adolescent's experience (Outward Bound, 2013).

Research Question

The Voyageur Outward Bound School's Intercept Program is a 28-day therapeutic wilderness program for struggling teens and their families. Pre-program data collected show that families participate in this program because they are concerned about the loss of trust, poor communication, and/or other high-risk behaviors they are experiencing with their children. Though significant research demonstrates the positive impact of therapeutic wilderness interventions on youth functioning (Norton, et al, 2014), more research is needed on the impact on the parent/child relationship and how families are functioning once they leave a program. The purpose of this study was to determine what positive relationship outcomes emerged between parent(s) and their adolescent child after participation in the Outward Bound Intercept program.

Methods

A phenomenological, qualitative approach was used in this study in order to gain in depth, descriptive information regarding the lived experiences of families who participate in the Intercept program. Twenty families were invited to participate in this study by an Outward Bound staff member, over the phone or via email. A convenience sample of nine families agreed to be in the study; however, given the depth of the phenomenological approach, the sample size was deemed to be appropriate for this level of inquiry (Groenewald, 2004). The sample included families of primarily Caucasian background, middle to upper class socioeconomic status, and mixed family structures (i.e. adopted children, married, divorced, raised by grandparents). Because one of the researchers in this study was involved in working directly with families in the Outward Bound Intercept program, a different Outward Bound staff member informed the families of the consent process via phone. The IRB at San Jose State University approved this study, and informed consent was gained in writing from families who agreed to be in the study. Consent forms explained the research topic, what was expected of them through their participation (i.e. survey, interviews, time commitment, etc.). Information about the identity of the families participating in the study has been kept highly confidential and for this reason, family demographics are not provided.

The nine families in this sample completed open-ended pre-post course questionnaires one-month prior and 6 months after the program, as well as in-depth phone interviews with parents, conducted 3 months post-program. Both the questionnaires and the interviews sought to answer the following research questions:

1. How has the parent/child relationship been impacted since participating in the Intercept course?
2. What, if any, aspects of the Outward Bound Intercept curriculum made a positive impact on the parent/child relationship?

The open-ended questions utilized in the questionnaire and in the qualitative interviews focused on how the parent-adolescent relationship has changed since the Intercept course in particular, especially in regards to communication, trust and connectedness. Questions asked also examined what aspects of the Intercept course were beneficial in improving the parent-adolescent relationship, with a focus on the specific skills the family has used since participating in the program. The following are a sample of the interview questions asked to the parents who participated in the Outward Bound Intercept course.

1. What can you tell me about the improvement in your relationship with your son/daughter in regards to connectedness, trust and communication?
2. What can you tell me about the frustrations that exist in your relationship with your son/daughter in regards to connectedness, trust and communication?
3. What parts of the Intercept curriculum did you find useful?
4. What components of the parent/guardian seminar have been helpful in improving the relationship with your son/daughter?

Data Analysis

All of the parent qualitative survey questions were administered as part of the online questionnaire using SJSU Qualtrics survey software. The survey data was coded and analyzed thematically using a constant comparative method of sequential coding (Strauss and Corbin, 1990). The interview responses were recorded (with consent), transcribed, coded and thematic analyzed and categorized using open, axial and then selective coding methods. Throughout this process, the researcher became immersed in the data in order to effectively interpret and understand the meaning of participants' experiences. To minimize bias, the second researcher,

who had no contact with the families, also examined the data to assure consistent interpretations across analysts.

Findings

Qualitative data gained from open-ended survey questions and in-depth phone interviews yielded promising findings in family functioning, in particular, with regard to improved communication. Families reported having learned concrete pro-social communication skills, such as the use of time-outs, active listening, and other assertive communication tools, such as healthy ways of resolving conflict. Families reported that the parent workbook (homework given to parents to complete while their child is on course) and the parent/child conference were the most helpful aspects of the Intercept curriculum for improving the parent/child relationship.

Implications for the field

There is a strong desire among families seeking services to improve communication and trust between parents and teens. However, families in crisis lack concrete behavioral skills for communicating and resolving conflict. This makes treatment planning difficult for mental health professionals because often families are not on the same page. This is a critical area of programming that therapeutic wilderness programs must include, as the research shows that resolving potential conflicts between parents and youth by finding common treatment goals may have utility in increasing treatment retention (Gopalan, et al, 2010). Improvements in family functioning lead to more sustained treatment outcomes (Schleider, et al, 2014). Other important implications of this study show that parents need to learn concrete behavioral skills, along with their adolescent child, and that providing parents with homework assignments while the child is out in the wilderness phase of treatment, can help keep them engaged in the treatment process. Furthermore, therapeutic wilderness programs need to find direct ways for families to be involved in the treatment process, and promote opportunities for therapeutic conversations between parents and children to practice new communication skills.

Limitations & Future Considerations

It is important to note that these findings are limited due to the small sample size and non-experimental research design. As such, they may not be reflective of all therapeutic wilderness programs. Though the qualitative data gained in this phenomenological study is not generalizable, it does point to the need for therapeutic wilderness programs to prioritize family functioning as an important treatment goal. Future research is needed to assess the impact that these types of programs have on family functioning on a larger scale. Current work is being done in this area with the Family Assessment Device and outdoor behavioral healthcare programs; however, there is a need for additional qualitative research to explore other aspects of these types of programs beyond family functioning, including examining negative or dissatisfied parents' experiences, parent/caregiver stress/anxiety, the impact of sending an adolescent to wilderness on the entire family system, and the financial strain of engaging with private pay systems.

References

- Bandoroff, S., & Scherer, D. G. (1994). Wilderness family therapy: An innovative treatment approach for problem youth. *Journal of Child and Family Studies*, 3(2), 175–191. doi:[10.1007/BF02234066](https://doi.org/10.1007/BF02234066).
- Berman, D., & Davis-Berman, J. (2008). *The promise of wilderness therapy*. Boulder, CO: Association for Experiential Education.
- Coady, N., & Lehmann, P. (Eds.). (2008). *Theoretical perspectives for direct social work practice*. New York, NY: Springer Publishing Company.

- Cottrell, D., & Boston, P. (2002). Practitioner review: The effectiveness of systemic family therapy for children and adolescents. *Journal of Child Psychology and Psychiatry*, 43(5), 573–586. doi:[10.1111/1469-7610.00047](https://doi.org/10.1111/1469-7610.00047).
- Gopalan, G., Goldstein, L., Klingenstein, K., Sicher, C., Blake, C., & McKay, M. M. (2010). Engaging families into child mental health treatment: Updates and special considerations. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 19(3), 182.
- Groenewald, T. (2004) A phenomenological research design illustrated. *International Journal of Qualitative Methods*, 3, 1–26. <http://hdl.handle.net/10500/2573>.
- Harper, N., & Cooley, R. (2007). Parental reports of adolescent and family well-being following a wilderness therapy intervention: An exploratory look at systemic change. *Journal of Experiential Education*, 29(3), 393–396. doi:[10.1177/105382590702900314](https://doi.org/10.1177/105382590702900314).CrossRef
- Harper, N., Russell, K. C., Cooley, R., & Cupples, J. (2007). Catherine Freer wilderness therapy expeditions: An exploratory case study of adolescent wilderness therapy, family functioning, and the maintenance of change. *Child & Youth Care Forum*, 36, 111–129.
- Harper, N. J., & Russell, K. C. (2008). Family involvement and outcome in adolescent wilderness treatment: A mixed-methods evaluation. *International Journal of Child & Family Welfare*, 1, 19–36.
- Norton, C. L. (2007). Understanding the impact of wilderness therapy on adolescent depression and psychosocial development. *Dissertation abstracts international: Section A. Humanities and Social Sciences*, 68(4-A), 1661.
- Norton, C. L., Tucker, A., Russell, K. C., Bettmann, J. E., Gass, M. A., & Behrens, E. (2014). Adventure therapy with youth. *Journal of Experiential Education*, 37(1), 46-59.
- Outward Bound. (2013). What is an Outward Bound course? Retrieved December 7, 2013, from <http://www.outwardbound.org/wilderness-expeditions/outdoor-trips/outdoor-education-courses/>.
- Resnick, M., Bearman, P., & Blum, B. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *Journal of the American Medical Association*, 278, 823–832. doi:[10.1001/jama.1997.03550100049038](https://doi.org/10.1001/jama.1997.03550100049038).
- Schleider, J. L., Ginsburg, G. S., Keeton, C. P., Weisz, J. R., Birmaher, B., Kendall, P. C., Piacentini, J., Sherrill, J., & Walkup, J. T. (2014, September 15). Parental psychopathology and treatment outcomes for anxious youth: Roles of family functioning and caregiver strain. *Journal of Consulting and Clinical Psychology*. Advance online publication: <http://dx.doi.org/10.1037/a0037935>
- Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence*, 11(1), 1–19. doi:[10.1111/1532-7795.00001](https://doi.org/10.1111/1532-7795.00001).
- Strauss, A. L., & Corbin, J. M. (1990). *Basics of qualitative research* (Vol. 15). Newbury Park, CA: Sage.

ENGAGING AT-RISK POPULATIONS OUTDOORS, DIGITALLY: RESEARCHING YOUTH ATTITUDES, CONFIDENCE, AND INTEREST IN TECHNOLOGY AND THE OUTDOORS

R. Justin Hougham,¹ (justin.hougham@ces.uwex.edu)

Marc Nutter¹, Alex Nussbaum¹, Taylor Riedl¹, and Sarah Burgess¹ at ¹University of Wisconsin-Extension, Department of Youth Development and Upham Woods Outdoor Learning Center

Review of Literature

Best education practices suggest educators to, “identify underserved student populations related to environmental literacy and sustainability” (Wisconsin Department of Public Instruction, 2011). Environmental education professionals suggest educators pursue projects that include access to environmental education for communities that do not have access to environmental education programs or resources (Greenwood & Hougham, 2015; National Environmental Education Advisory Council, 2015). Underserved student populations may be lacking effective environmental education programs, but the ubiquity of mobile technology persists in most youth populations (Lenhart & Pew Research Center, 2015). Furthermore, youth maturing in the digital age are technologically advanced; educators need to adapt to the students’ changing learning styles (Prensky, 2001b). The shift in emphasis towards electronic usage is a key characteristic of the digital native youth generation who have been raised with ubiquitous mobile technology (Prensky, 2006). How do collaborators in environmental and sustainability education reach youth that are increasingly ‘plugged in’ to electronics, but who would benefit greatly by being ‘unplugged’ in nature? The call to invent new digital native methodologies across all subjects has been made over a decade ago (Prensky, 2001a). Educators are engaging youth to help invent these new methodologies. Research and evaluation is needed to hone the most effective practices in education in the digital age.

To engage learners at a visceral level, educators first need to see the subject material from the student’s perspective and understand how students process information (Visser & Visser-Valfrey, 2008). Project EARPOD has met the needs of digital natives by providing an opportunity to engage with nature through the lens of new mobile technologies as well as place-based education while assisting digital immigrant educators navigate this new, digital landscape of today’s youth. The influence of technology on student attitudes is the focus in our research, studied through parallel lesson plans—one technology-based, implementing a Microsoft Surface Pro 3® tablet and applications, and the other with traditional education tools such as field guides and hand lenses.

Method

This study was a 90-minute program that expressed the importance of making scientific observations while being outdoors. Each lesson contained a 30-minute “non-technology” portion that used analog tools such as hand lenses and field guides, followed by 30 minutes of a “technology” portion that utilized digital microscopes and Microsoft Surface Pro 3® tablets with associated apps (Celestron MicroCapture Pro, and Corinth Micro Plant). The lessons were presented in such a way that the students developed their own inquiries to explore the environment, making science-focused observations with the resources that were provided in each portion. Each of the technology and non-technology portions concluded with the students producing a scientific sketch that included labelled drawings and notes of their observations.

Before the lesson, students were asked a series of 12 questions relating to their feelings of technology, environmental observation, and the role of technology in the outdoors. The researchers purposefully stated survey questions using a positive tone: “*I like to be outside*”, “*I*

like to use technology”, “Technology can be effectively used outside”, etc. Responses were collected on a 5-point Likert (1932) scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) for each question. After the lesson, we asked the students the same questions in order to quantify any differences in attitudes. We tracked individual responses by student ID number and compared individual responses before and after treatment.

Data were cleaned by omitting 1) student responses that did not have both a before and after response and 2) student responses that did not complete all questions. Central tendencies of student responses before and after the lesson were calculated with Microsoft Excel. Differences in mean, median, and mode for each question provided insight with respect to the level of interest in technology and the environment before and after EARPOD. With the cleaned data set, researchers performed paired t-tests to determine if the differences in means were statistically significant for each assessment question.

Results

Broad changes in students’ attitudes were noted. For one, there was an increased total number of students who “strongly agree” with many questions. With more students agreeing and strongly agreeing with the research questions, and with the research questions framed in positive ways, we conclude the project helped change students’ perspectives for the better. See Table 1 for the complete analysis of results.

Assessment Questions	Mean			Mode			T-Test p value
	Pre	Post	Diff.	Pre	Post	Diff.	
I know about different types of technologies*	3.81	4.15	0.34	4	5	1	<0.001
I like to be outside	4.39	4.48	0.09	5	5	0	0.236
I like to use technology*	4.25	4.46	0.21	5	5	0	0.017
I know how to use different technologies*	3.76	4.11	0.35	4	5	1	<0.001
I like to use technology outside*	3.40	3.99	0.59	3	5	2	<0.001
I can use technology to learn	4.33	4.44	0.11	5	5	0	0.12
I care about nature	4.57	4.52	-0.04	5	5	0	0.53
I use technology at home	4.38	4.51	0.13	5	5	0	0.098
I can use technology to have fun*	4.35	4.54	0.20	5	5	0	0.024
I like to look at birds*	3.53	3.87	0.34	3	5	2	<0.001
I like to look at plants*	3.57	3.97	0.40	5	5	0	<0.001
I want to learn more about technology	4.15	4.29	0.15	5	5	0	0.123

Table 1. Students were asked the above questions before and after the EARPOD lesson (N=136). Answers were collected on a five-point Likert scale from 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree. The mean and modal responses were calculated with the total paired student responses. Differences in the mean and mode between pre and post assessment were calculated and displayed. To test for significance, a paired t-test was calculated for each assessment question.

*Accepting a 95% confidence interval, questions that have statistically significantly different post assessments when compared to pre assessments are also labeled.

Discussion

By using technology to enhance outdoor observation, students have significantly more interest in the use of technology outdoors and interest in observing plants and birds. This study also increased student’s confidence in knowing about and using mobile technology. This study shows that incorporating technology in science education enhances student’s self-reported confidence and interest in digital tool use and observation.

Students in this study focused on scientific observation of plants but also reported an increase in their eagerness to look at and learn more about birds. This suggests that when scientific observation skills are taught to students, much more is learned than the subject of

observation. Instead, an attitude of curiosity is nurtured with careful and precise observation, resulting in students scrutinizing additional components of their environment more closely. This finding alone empowers outdoor educators everywhere to teach their students how to become better observers. Not how to name, memorize, or categorize, but to simply observe the minute details of at least one organism. The results of this study suggest that after a student practices scientific observation of one organism, they will increase their curiosity in other aspects of the natural world and, perhaps, their place within the whole environment.

Empowering youth with the tools and responsibility to examine their surroundings using mobile technologies should be incorporated by outdoor educators who aim to engage the next generation of students in scientific observation. By encouraging youth to take and use technology outside, educators can capitalize on their learner's existing way of thought while honing their observation skills in original ways.

References

- Greenwood, D.A. & Hougham, R.J. (2015) Mitigation and adaptation: Critical perspectives toward digital technologies in place-conscious environmental education. *Policy Futures in Education* 13 (1), 97-116.
- Lenhart, A. & Pew Research Center. (2015). Teen, Social Media and Technology Overview 2015.
- Likert, R. (1932). A Technique for the Measurement of Attitudes. *Archives of Psychology*, 140, 1-55.
- Prensky, M. (2001a). Digital Natives, Digital Immigrants. *On the Horizon*. Vol. 9 No. 5. MCB University Press.
- Prensky, M. (2001b). Digital Natives Digital Immigrants, Part II: Do They Really Think Differently? *On the Horizon*. Vol. 9 No. 6. MCB University Press.
- Prensky, M. (2006). Don't bother me mom – I'm learning! *On the Horizon*. St. Paul, MN: Paragon House.
- The National Environmental Education Advisory Council (2015). *2015 Report to the U.S. Environmental Protection Agency Administrator*. Web. 12 January 2016.
- Visser, J., & Visser-Valfrey, M. (2008). *Learners in a Changing Learning Landscape: Reflections from a dialogue on new roles and expectations*. Dordrecht, Netherlands: Springer Science.
- Wisconsin Department of Public Instruction. (2011). *Wisconsin's Plan to Advance Education for Environmental Literacy and Sustainability in PK-12 Schools*. Madison, WI: U.S. Bulletin No. 02040.

EMOTIONAL INTELLIGENCE, PERSONALITY AND LEADERSHIP IN OUTDOOR ADVENTURE EDUCATION FACILITATORS: A THREE DIMENSIONAL MODEL

Jule Hildmann, Ph.D., The University of Edinburgh (Jule.hildmann@ed.ac.uk)

Pete Higgins, Ph.D., The University of Edinburgh

Introduction

There are clear conceptions in the literature and practice on what traits and behaviours a "good" or "effective" outdoor leader should display (Martin, Cashel, Wagstaff, & Breunig, 2006; Priest & Gass, 2005; Shooter, Sibthorp, & Paisley, 2009). The most prominent compilation of these requirements form the *brick wall model* by Priest and Gass (1997; 2005) who introduced the terms *hard*, *soft*, and *meta skills*. This model and terminology has been widely in use since then. For a variety of reasons (e.g. the sources on which it is based, and the gender bias in the terminology), its contemporary relevance is questionable.

Review of literature

There is a vast amount of literature investigating a range of aspects around outdoor leadership. Some authors such as Hobbs and Ewert (2008) present valid alternatives to the brick wall model. A scoping literature search was conducted in order to reveal which alternative terminology – avoiding the hard, soft, meta skill narrative – is used in the wider academic discussion for person-related factors in educators that are shown to promote personal and social competence in the learners (e.g., program participants, students, etc.). Across a range of disciplines, the factors most frequently reported on were personality, leadership, and emotional intelligence (EI). Other factors such as values and decision-making mechanisms were reported on less frequently (e.g., compare Martin et al. 2006; Priest & Gass, 2005).

Hobbs and Ewert (2008) raised the point that crucial terms such as "effectiveness" are difficult to define, are certainly not defined alike across all studies, and risk excluding legitimate parts of the field. So for feasibility reasons, and in response to a growing call for more rigour in outdoor adventure education (OAE) research (Baldwin, Persing, & Magnuson, 2004; Ewert & Sibthorp, 2014; Scrutton & Beames, 2015), this project narrows the focus in order to achieve more depth. The core research question then for the present study was to establish conceptual and statistical relationships between personality, leadership, and emotional intelligence in the context of outdoor education.

Method

The project comprised several elements, one of which is the systematic literature review presented here. All combinations of *leadership*, *personality*, and *emotional intelligence* were used as search terms in the online depositories of the following international journals in OAE:

- *Journal of Experiential Education*
- *Journal of Adventure Education and Outdoor Learning*
- *Australian Journal of Outdoor Education*
- *New Zealand Journal of Outdoor Education*
- *Journal of Outdoor Recreation, Education, and Leadership*.

The search terms were also entered in data-bases such as ERIC, APA PsycNet, SAGE Backfile, and Taylor & Francis online, where they produced thousands of 'hits'. Considering the limited resources available for this project, these were not automatically included in the

systematic review. Instead, the systematic method was complimented by a traditional review of academic literature within and outside the field of OAE.

General inclusion criterion for the data analysis was a 'hit' by the search terms in the journal data base. Exclusion criteria were apparent low academic standard of the source and the authors' judgment that the context of the article was out of date and/or irrelevant to the current intention.

Etic (predefined) themes were any connections of the main person-related factors (i.e. search terms) as well as effectiveness in teaching and/or (outdoor) leadership. Emic (emerging) themes were produced by studies' findings of connections between one of the main topics and other aspects of person-related competences or traits, such as decision-making.

Results

The thousands of results the search terms produced (duplications included), led to over 150 pieces of academic literature being included into the analysis. Several studies report a positive correlation between emotional intelligence and transformational leadership (e.g. Downey, Papageorgiou, & Stough, 2006; Hayashi & Ewert, 2006; Kerr, Garvin, Heaton, & Boyle, 2006; Mandell & Pherwani, 2003; Palmer, Walls, Burgess, & Stough, 2001). However, some authors' findings disagree with this (Føllesdal & Hagtvet, 2013). Studies disagree over which personality factors (neuroticism, extraversion, openness, agreeableness, and conscientiousness) correlate with – mainly transformational – leadership. However, overall, extraversion seems to be positively correlated with transformational leadership (Avolio & Bass, 2004; Bartone, Eid, Johnson, Laberg, & Snook, 2009), and neuroticism negatively. Connections between personality and emotional intelligence are reported with a range of measures for both constructs (e.g. McCrea, 2000; MHS, n.d.). Visuals and further details will be part of the SEER 2016 presentation.

Discussion

A three dimensional model of reported connections was generated along the three broad axes of leadership, personality, and emotional intelligence. Findings from the systematic search on outdoor educators are highlighted, while literature from other fields of leadership, education, etc. is incorporated to form a wider and more rigorous academic foundation for the model. The synthesis of the findings is mainly qualitative since a wide range of instruments were used in the reviewed papers, and title, description, and factor analyses of scales proved too varied to be accurately quantified. However, statistical data are included where applicable. Also, the literature discusses a range of leadership styles (e.g. transformational, transactional), none of which is universally accepted as the sole 'best' way to lead. This variation has been taken into consideration in the proposed model by presenting conceptual as well as statistical relations where applicable. Currently, *situational* leadership seems to be favoured, which means a change of style according to a given situational context (Eberly, Johnson, Hernandez, & Avolio, 2013; Hackman & Wageman, 2007).

The present model demonstrates the similarities and differences in OAE in comparison with wider educational and leadership research. We argue that this can be used to address research gaps in OAE more specifically, and that the gained insights can be implemented in training facilitators according to the findings, in order to refine their actions and attributes to promote more effective social and personal growth in OAE programme participants.

Some aspects of Priest and Gass' (1997) *brick wall model* are reflected in the data. The combination and connections between specific 'bricks' and elements however are questioned. While it is acknowledged that the current research has a more narrow focus on the personal and

social growth of participants than the Priest and Gass' model, common ground is used to suggest appropriate alterations to the model.

Limitations

There are a number of confounding factors pertinent to the present study. For example, the conception of which behaviours and personality traits constitute 'good' leadership varies between cultures (Ayman & Korabik, 2010; Bartone et al, 2009). Some psychometric measures in the reviewed studies reflect this in their standardisation and item/factor structure (e.g. Edwards, Schyns, Gill, & Higgs, 2012 for the leadership questionnaire MLQ 5X), which weakens the effect of comparing two studies or samples from different cultures. Equally, gender differences are reported in several studies (e.g. Mandell & Pherwani, 2003), that need to be taken into consideration and explored further.

Most psychometric measures reported on are not developed for the OAE context, and hence the validity of item structure and standardisation for this target group are questionable. This and further limitations will be presented in more detail.

Conclusions

There seem to be some clear and predictable relationships between leadership, personality and emotional intelligence in outdoor and other leaders, which we can be employed to train OAE facilitators (and perhaps others) in the most relevant areas.

The present study and model are not intended to replace the *brick wall model*, nor would it be able to. Nevertheless, it is a contribution towards updating our conception of what makes 'good' or 'effective' outdoor leaders in rigorous academic terms (Ewert & Sibthorp, 2014; Scrutton & Beames, 2015).

In order to review the robustness of the presented model in the light of the original question, i.e. which of the factors investigated contribute most positively and directly to the social and personal growth in OAE programme participants, a qualitative investigation with case studies from the sample is recommended. Also, further research is needed to determine the impact of cultural and gender variance in outdoor leaders.

Funding

This research is funded by the European Commission under the Marie-Skłodowska-Curie-Programme, Project Nr. 330385 (COMET).

References

- Avolio, B. J., & Bass, B. (2004). Multifactor Leadership Questionnaire. Manual and sample set. Third ed. Menlo Park, CA: Mind Garden.
- Ayman, R., & Korabik, K. (2010). Leadership. Why gender and culture matter. *American Psychologist*, 65(3), 157-170.
- Baldwin, C., Persing, J., & Magnuson, D. (2004). The role of theory, research, and evaluation in adventure education. *Journal of Experiential Education*, 26(3), 167-183.
- Bartone, P. T., Eid, J., Johnson, B. H., Laberg, J. C., & Snook, S. A. (2009). Big five personality factors, hardiness, and social judgment as predictors of leader performance. *Leadership & Organization Development Journal*, 30(6), 498-521.
- Downey, L. A., Papageorgiou, V., & Stough, C. (2006). Examining the relationship between leadership, emotional intelligence and intuition in senior female managers. *Leadership & Organization Development Journal*, 27(4), 250-264.

- Eberly, M. B., Johnson, M. D., Hernandez, M., & Avolio, B., J. (2013). An integrative process model of leadership. Examining loci, mechanisms, and event cycles. *American Psychologist*, 68(6), 427-443.
- Edwards, G., Schyns, B., Gill, R., & Higgs, M. (2012). The MLQ factor structure in a UK context. *Leadership & Organization Development Journal*, 33(4), 369-382.
- Ewert, A. W., & Sibthorp, J. (2014). *Outdoor Adventure Education. Foundations, Theory, and Research*. Champaign, IL: Human Kinetics.
- Føllesdal, H., & Hagtvet, K. (2013). Does emotional intelligence as ability predict transformational leadership? A multilevel approach. *The Leadership Quarterly*, 24, 747-762.
- Hackman, J. R., & Wageman, R. (2007). Asking the right questions about leadership. *American Psychologist*, 62(1), 43-47.
- Hayashi, A., & Ewert, A. (2006). Outdoor leaders' emotional intelligence and transformational leadership. *Journal of Experiential Education*, 28(3), 222-242.
- Hobbs, W. & Ewert, A. (2008). Having the right stuff: What makes a highly effective outdoor leader? *Abstracts from the Coalition for Education in the Outdoors, Ninth Biennial Research Symposium*, Martinsville, IN, January 11-13, 30-32.
- Kerr, R., Garvin, J., Heaton, N. & Boyle, E. (2006). Emotional intelligence and leadership effectiveness. *Leadership and Organization Development Journal*, 27/4, 265-279.
- Mandell, B., & Pherwani, S. (2003). Relationship between emotional intelligence and transformational leadership style: A gender comparison. *Journal of Business and Psychology*, 17(3), 387- 404.
- Martin, B., Cashel, C., Wagstaff, M., & Breunig, M. (2006). *Outdoor Leadership. Theory and Practice*. Champaign, IL: Human Kinetics.
- McCrea, R. R. (2000). Emotional intelligence from the perspective of the Five-Factor Model of personality. In Bar-On, R., & Parker, J. D. A., *The Handbook of Emotional Intelligence. Theory, Development, Assessment, and Application at Home, School, and in the Workplace*. San Francisco, CA: Jossey-Bass, 263-276.
- MHS / Multi-Health Systems (no date). *EQi 2.0. Manual*. Toronto, Ontario: MHS. Online available with a license from MHS.
- Palmer, B., Walls, M., Burgess, Z. & Stough, C. (2001). Emotional intelligence and effective leadership. *Leadership and Organization Development Journal*, 22/1, 5-10.
- Priest, S., & Gass, M. (1997, 2005). *Effective leadership in adventure programming* (1st ed., and 2nd ed., respectively). Champaign, IL: Human Kinetics.
- Scrutton, R., & Beames, S. K. (2015). Measuring the unmeasurable: Upholding rigor in quantitative studies of personal and social development in outdoor adventure education. *Journal of Experiential Education*, 38(1), 1-18.
- Shooter, W., Sibthorp, J., & Paisley, K. (2009). Outdoor leadership skills: A program perspective. *Journal of Experiential Education*, 32(1), 1-13.

LEARNING TRANSFER OF RECREATIONAL ROCK-CLIMBERS: AN EXPLORATORY MODEL

Andrew W. Bailey, Ph.D., University of Tennessee, Chattanooga (Andrew-Bailey@utc.edu)

Eric Hungenberg, Ph.D., University of Tennessee, Chattanooga

Introduction & Literature Review

Learning transfer has been called the “Achilles heel” of outdoor education (Brown, 2010). A lack of consistent evidence documenting the transfer of learned knowledge, skills, and behaviors from an adventure context to other life contexts renders difficult any definitive claims of program impact. The novel physical and social environment inherent in outdoor settings (Walsh & Golins, 1976) provide a unique learning context that may complicate transfer. Educational programs address this issue through various methods of facilitation, including thematic framing and metaphors (Gass, 1999) designed to generalize and decontextualize the learning. In recreational settings, where the “mountains speak for themselves,” participants are often left to interpret their own experience (Gass, 1999). Regardless of educational or recreational intent, adventure programmers assert that participation in adventure activities can provide lasting outcomes that enhance a participant’s quality of life (Iwasaki, 2006). The purpose of this study was to investigate the transfer of effort from the context of rock climbing to one’s work or school context.

Subjective assessment of effort is associated with perseverance, resilience, and grit (Dweck, 2008). Psychologists claim that effort is a better indicator of efficacy than talent or intelligence, as persistence can eventually overcome a lack of natural proclivity toward learning (Dweck, 2008). Additionally, a positive mindset toward stress, induced by challenging situations, can enhance effort and performance (McGonigal, 2015). Accomplished rock climbers are known for their persistence, often returning to rehearse the same route for months or years until they can successfully negotiate the challenge. The same persistence is not always clearly exhibited in their approach to school or workplace challenges. It is possible that the physical and social milieu of the climbing context is “inherently motivating” (Walsh & Golins, 1976; Deci & Ryan, 2002), and that the work/school environment contrasts too much for simple transfer. Allen, Rhind, and Koshy (2015) identified contextual attributes that enable the transfer of learning from a sporting context to school/work contexts, including: peer support, pride, rewards, and opportunities. The discussion of these attributes was conceptually very similar to competence, autonomy, and relatedness, as defined in self-determination theory (Deci & Ryan, 2002). Our study explored the extent to which these attributes existed in both the climbing and work/school context of rock climbers, and the influence of these elements on the transfer of effort across contexts.

Methods

During the fall of 2015, surveys were collected at the trailhead of four popular climbing destinations using a randomized time-stint sampling method. A total of 132 surveys were completed with a 95% response rate. These surveys included information regarding climbing frequency, skill level, preferences, land management, demographics, and psycho-social elements. Stress mindset was measured with two items (one reverse-scored) based on the stress mindset construct (McGonigal, 2015). Climbing and work/school attributes were measured with 10 identical items, addressing learning transfer enablers (Allen, Rhind, & Koshy, 2015). Transfer of effort was measured with a single Likert-scaled item, “Do you put as much effort into work/school challenges as you do into climbing challenges?” (1= never, 5= always). First, the climbing and school/work attributes were factor analyzed to assess construct validity. Then, a

t-test was conducted to determine the difference in overall climbing and work/school attributes. Finally, a structural equation model (SEM) was conducted to determine the influence of stress mindset, climbing attributes and work/school attributes on transfer of effort.

Results

Climbing and work/school attributes each arrived a single-factor solution through principal axis factor analysis. For parsimony, subsequent analyses were conducted with the *Mean* scores for all attributes combined. The t-test revealed a significant difference in the level of positive attributes across context, with climbing attributes being rated higher than work/school attributes ($t = -4.889, p < .001$). The SEM was analyzed through a model-building perspective (Kline, 2005). This enables the researcher to assess the model through an iterative process, identifying areas of misfit as the model becomes more complex. The initial model demonstrated a direct influence of climbing attributes on the transfer of effort. However, when work attributes were entered into the model, the influence of climbing attributes on transfer of effort was rendered insignificant. The final model demonstrated a strong fit for the data ($X^2 = 3.392/5df, p = 640, NFI = .969, RMSEA < .001$). Stress mindset had a significant impact on climbing (.43) and work/school attributes (.34). Climbing attributes had a positive influence on climbing performance (.34) and on work/school attributes (.31). Work attributes the only items to have an influence on transfer of effort (.34). Post hoc regression analysis revealed that the item “I have confidence in my ability to overcome challenges” was the most influential climbing attribute affecting work/school attributes.

Conclusions

These findings indicate that stress mindset can influence climb and work attributes, and that climbing attributes can influence the transfer of effort to the work/school context. The influence of climbing attributes may be mediated by similar positive attributes in work context. While participants did report a significant difference in climbing and work/school attributes, more positive climbing attributes were associated with more positive work attributes, as well. This may support the notion that intrinsic motivation is more trait-based, with motivated individuals asserting their influence in both contexts (Kanfer & Ackerman, 2000). However, the finding that work attributes mediate the influence of climbing attributes on the transfer of effort points to an environmental influence, as well (Deci & Ryan, 2002). Perhaps effort in both contexts is determined by the amount of competence, autonomy, and relatedness experienced in each. The significant difference in contexts illustrated by the t-test clouds this straight-forward interpretation. It is unlikely that the climbing and work milieu have an equal appeal of intrinsic interest for the participants, as deemed necessary for intrinsic motivation in self-determination theory (Deci & Ryan, 2002). Perhaps participants who embrace stress and challenge, can learn to project interest into environments that are inherently challenging.

It is also possible that, as Brown (2010) asserted, participants transfer the *process* of learning across contexts more so than the *content*. This learned *process* of behaviors might transfer more easily when applied to similar contexts. Akin to the theory of state-dependent memory (Miles & Hardman, 1998), effective learning transfer may necessitate a comparable milieu. Behaviors learned in the positive milieu of a self-selected physical and social climbing environment may require a similar environment in the workplace if they are to emerge. Instead of learning the value of effort “in general,” perhaps one learns the value of effort in a conducive environment. In this way, the novelty of the physical and social environment of adventure activities may be both the blessing and the curse of outdoor programming. Awareness of this limitation can help programmers address the weakness by understanding the milieu participants are coming from, and will return to, after the experience (Mitten & Whittingham, 2009). Future

research will be needed to both replicate these findings and to develop a more definitive conclusion. However, it is clear from these findings that the transfer of learning is not simple and direct. Optimal transfer may depend on similarity of personal and environmental attributes across contexts.

References

- Allen, G., Rhind, D., & Koshy, V. (2015). Enablers and barriers for male students transferring life skills from the sports hall into the classroom. *Qualitative Research in Sport, Exercise and Health*, 7(1), 53–67. <http://doi.org/10.1080/2159676X.2014.893898>
- Brown, M. (2010). Transfer: Outdoor adventure education's Achilles heel. Changing participation as a viable option? *Australian Journal of Outdoor Education*, 14(1), 13–22.
- Deci, E. L., & Ryan, R. M. (2002). *Handbook of Self-determination Research*. University Rochester Press.
- Dweck, C. (2008). *Mindset: The new psychology of success*. New York: Ballantine Books.
- Gass, M. (1999). Transfer of learning in adventure programming. In *Adventure Programming*. State College, PA.
- Iwasaki, Y. (2006). Leisure and quality of life in an international and multicultural context: what are major pathways linking leisure to quality of life? *Social Indicators Research*, 82(2), 233–264. <http://doi.org/10.1007/s11205-006-9032-z>
- Kanfer, R., & Ackerman, P. (2000). Individual Differences in Work Motivation: Further Explorations of a Trait Framework. *Applied Psychology*, 49(3), 470–482. <http://doi.org/10.1111/1464-0597.00026>
- Kline, R. B. (2005). *Principles and Practice of Structural Equation Modeling* (Vol. Second edition). New York: The Guilford Press.
- McGonigal, K. (2015). *The upside of stress*. New York, NY: Avery Press.
- Miles, C., & Hardman, E. (1998). State-dependent memory produced by aerobic exercise. *Ergonomics*, 41(1), 20–28. <http://doi.org/10.1080/001401398187297>
- Mitten, D. & M. Whittingham (2009). Be safe out there: Critically thinking risk in adventure education in B. Stremba and C. Bisson (EDs) *Teaching Adventure Education Theory Best Practices*, IL: Human Kinetics.
- Walsh, V., & Golins, G. (1976). *The exploration of the Outward Bound Process*. Denver: Colorado Outward Bound School.

THE NATURE OF SATISFACTION AND THE CONDITIONS UNDER WHICH STUDENTS THRIVE

Sarah Jillings, MA, Hamilton College and Prescott College (sarah.jillings@gmail.com)

Literature Review

This study focused on the undergraduate student experience to explore the common themes of students who reported high satisfaction with their college careers. Csikszentmihalyi's (1990) research on optimal experience and Brown's (2012) research on the anatomy of connection influenced this project. Both researchers described what infuses individual lives with more meaning and purpose. Csikszentmihalyi (1990) suggested that happiness is a byproduct of flow experiences and that the pursuit of greater levels of complexity creates the conditions for optimal experience. Brown (2012) stated that meaningful relationships are the conduit to more meaning and purpose. Both researchers claimed different antecedents to a meaningful existence. This research explored the constructs of competency and connection as they related to satisfaction.

Ryan and Deci (2000) found that for optimal functioning individuals need to meet their basic psychological needs of competence, relatedness, and autonomy. According to Ryan and Deci's (2000) self-determination theory, individuals meet these needs if they express openness and honesty in their interpersonal relationships and work towards self-determined goals. Self-determination theory differentiates between varying types of motivation and its effect on energy and vitality. Intrinsically motivated behavioral choices enhanced individuals' vitality and the energy available for self-regulation. Extrinsic motivation, by comparison, decreased individuals' energy and vitality. Intrinsically motivated behaviors are those that an individual seeks out for the inherent or identified value of the activity, whereas extrinsically motivated behaviors are those that one is compelled to do to meet an outside expectation or demand. Satisfying one's basic psychological needs of competence, autonomy, and relatedness is important to achieve full functioning and optimal self-esteem. Studies of self-esteem generally emphasize perceived competence and social acceptance as factors that influence dispositional self-esteem. Researchers found that high self-esteem is linked with a myriad of positive outcomes, including greater subjective well being and self-confidence (Goldman, 2006). Kernis (2003) claimed that optimal self-esteem involves favorable feelings that arise from dealing with life's challenges, acting authentically in behavioral choices, and from engaging in relationships in which one is valued for who one is and not what one achieves. Authenticity is central to the conditions promoting self-esteem and is defined by Kernis (2003) as the unimpeded operation of self in daily enterprise.

Astin (1984) suggested that students' effective learning and personal development increased when they were involved in academics and extracurricular activities. He termed this active engagement in campus life student involvement, and proposed student involvement theory. Student involvement refers to the amount of physical and psychological energy that the student devotes to the academic experiences. It relates to a student's interactions on campus and refers to involvement in any area of campus life including academics, athletics, extracurricular activities, and interactions with other students, faculty, and college personnel. Astin (1984) highlighted the various aspects of the student experience that contributes to students' growth, development, integration, and satisfaction. Students feel satisfied with their college career if they are involved in their academics, develop good relationships with peers and faculty, are actively involved in campus life, and do not devote too much energy into one aspect of their experience.

Methods

This research relied on interviews with 25 highly satisfied college seniors. Students were selected for the study using the chain method. The researcher asked students how satisfied they were with their college experience and interviewed the highly satisfied respondents. After each interview, the researcher gathered more potential participants by asking interviewees if they could recommend others that fit the study's parameters of high satisfaction. Each interview was a half an hour and explored students' demographic background, their choice of academic and extracurricular activities, their motivation behind these choices, and the quality of their relationships on campus. The interviews were audio recorded, transcribed, coded, and analyzed using grounded theory methodology (Charmaz, 2006). Results are presented as themes shared among students.

Results

Satisfied students shared in six common themes. This group of satisfied students made intrinsically motivated behavioral choices with respect to their behavioral choices. Students expressed an interest and enjoyment in their choice of academic concentrations(s) and activities rather than choosing their majors and activities to meet an outside expectation or demand. Second, the students were open to experiences and people. They continually tried new activities and took an appreciative curiosity toward others. This openness to experience included a willingness to let go of activities, academic areas, and people that no longer served them well. Third, satisfied students were actively engaged on campus and participated in three to ten on-campus activities. The activities the students participated in varied widely and included activities such as hosting a radio show on the college's radio station, participating in varsity or club athletics, singing in an a capella group or choir, playing in the orchestra, working an on-campus job, participating in a sorority or fraternity, and volunteering. Students benefited from participating in activities with frequent interactions with a wide array of peers and college personnel. They also benefited from involvement in multiple groups across campus. Fourth, the students used their time usefully and in a way that aligned with their values and goals. For example, participants who were interested in earning high grades focused on their schoolwork more whereas others were content with slightly lower grades but were more engaged elsewhere on campus. Fifth, this group of highly satisfied students developed self-awareness for what they like and why, and let that self-awareness guide their decisions. Sixth, they built successful relationships with their peers that stemmed from active engagement in activities and proximity to peers through on-campus residential housing. The participants also built successful relationships with their professors by actively engaging in coursework and reaching out to faculty for academic, career-related, or life advice outside of scheduled class. Satisfied students were well integrated into the social, academic, and extracurricular areas of campus life. They experienced satisfaction as a result of working towards self-determined goals in their choice of academic concentration(s) and extracurricular activity involvement and as a function of building and maintaining successful social relationships. Both outcomes, self-determined goals and strong relationships, were a result of expressed authenticity.

Discussion

The results of this study are consistent with Ryan and Deci's (2000) self-determination theory, Astin's (1984) student involvement theory, and Csikszentmihalyi's (1990) flow theory. As suggested in self-determination theory, students in the study met their basic psychological

needs for relatedness, competency, and autonomy and were full-functioning. Consistent with Astin (1984), students were well integrated as a result of full involvement in their academics and activities. As advanced by flow theory, students grew into greater levels of complexity and experienced satisfaction as a byproduct of full engagement in their pursuits. Satisfaction was a function of students working toward self-determined goals and building successful social relationships, both of which relied on expressed authenticity in daily enterprise. Satisfaction can, thus, be expressed as a simple formula: $\text{satisfaction} = (\text{connection} + \text{competency}) * \text{authenticity}$. This theory of satisfaction suggests students enhance their satisfaction when they choose a major they find interesting, pursue activities that match their interests and skills, join activities that encourage frequent interactions with peers, and express their authentic selves in their interpersonal relationships. This research is useful for educators to design programs to enhance student satisfaction. Engaged and connected students were satisfied students. Students thrived in an environment that promoted the exploration of intrinsically motivated behavioral choices; where they felt seen, valued, and supported in their identities, activities, and interests; and where they were afforded opportunities to discover, grow, and expand their capabilities and skills. The results of the study are limited by the questions asked and the areas of campus life the research focused on in the interviews. This study was also limited by using only the perspective of students satisfied with their college experience. Research that focuses on those dissatisfied with their experience could uncover components that enhance or detract from student satisfaction.

References

- Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of college student personnel*, 25(4), 297-308.
- Brown, B. (2012). *Daring greatly: How the courage to be vulnerable transforms the way we live, love, parent, and lead*. New York, NY: Gotham Books.
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York, NY: Harper & Row.
- Goldman, B. M. (2006). Making diamonds out of coal: The role of authenticity in healthy (optimal) self-esteem and psychological functioning. In M. H. Kernis (Editor), *Self-esteem issues and answers: A sourcebook of current perspectives*. (pp. 132-139). New York, NY: Psychology Press.
- Kernis, M. H. (2003). Toward a conceptualization of optimal self-esteem. *Psychological Inquiry*, 14(1), 1-26. doi: 10.1207/S15327965PLI1401_01
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well being. *American Psychologist*, 55(1), 68-78. doi: 10.1037//0003-066X.55.1.68

QUALITIES OF THE ADVENTURE EDUCATION EXPERIENCE

Benjamin C. Ingman, Ph.D., University of Colorado (benjamin.ingman@ucdenver.edu)

Review of Literature

The majority of research on the adventure education (AE) experience notes the beneficial derivatives of the experience, implicitly supporting the utilitarian rationale of adventure experiences as serving ends beyond the experience per se (Hunt, 1999; James, 1910/1995). Conceptual inquiries into the AE experience have presented the experience through stages (Mortlock, 1978), flow (Mitchell, 1983), an experience paradigm (Priest & Martin, 1985), growth (Hopkins & Putnam, 1993), and criticism (Brookes, 2003). Recent studies have begun to further shape these ideas in empirical terms, moving dialogue of the experience itself toward the center of discourse (Brewer & Sparkes, 2011; Davidson, 2001; Kalisch, Bobilya, & Daniel, 2011; Loeffler, 2004; Martin & Leberman, 2005; Pohl, Borrie, & Patterson, 2000).

However, the call for qualitative inquiry into the AE experience, which has been echoed for decades, remains relevant. Of particular need are studies that transcend the “classical experimental” (Nichols, 2000, p. 22) approach to the topic in an effort to “understand the process and mechanisms of adventure education” (Shooter, 2010, p. 293). In AE, the positivistic cart may have outpaced the qualitative horse, leaving us with quantitative explanations of an experience that remains, at base, enigmatic. The purpose of this study is to address this dearth in understanding through an arts-based, qualitative inquiry of the AE experience. In so doing, this study further demystifies the AE experience in the interest of informing practical and theoretical considerations regarding the use of adventure for education.

Method

In this study I used educational connoisseurship and criticism (Eisner, 1998) to address two research questions: 1) What happens to participants during the AE experience? 2) What meanings do participants of AE ascribe to those experiences?⁵ To explore these questions, I observed and interviewed participants of the AE experience at three adventure programs: a backpacking expedition (8 participants), an outdoor enrichment adventure program (14 participants), and a challenge course (19 participants). Participants ranged from 9 to 19 years in age. These methods of inquiry resulted in 183 hours of observation, 837 photographs, 96 videos, 52 audio recordings, and 74 interviews, utilizing semi-structured, group, and mobile interview formats (Rossman & Rallis, 2012). Data from all sites were analyzed through open coding, axial coding, and conceptual mapping. Through this process, 60 initial codes were distilled to five qualities of the AE experience. Consistent with educational connoisseurship and criticism, I attended to description, interpretation, evaluation, and thematic perspectives of the AE experience throughout the study, and utilized an educational lens throughout. I also embraced past experiences as enhancing perceptual capacity, which afforded me the “ability to make fine-grained discriminations among complex and subtle qualities” (Eisner, 1998, p. 63).

Results

Participant meanings of the AE experience represented both ontological and cognitive domains (Uhrmacher, 2002). Accordingly, research questions one and two, of happening and meaning, are addressed together through five qualities of the AE experience: celebratory challenge, novelty, freedom and togetherness, aesthetic vitality, and great experience. Each of

⁵ Further explanation of research questions and conceptual framework available upon request.

these qualities is more robustly developed and supported with the voices of research participants in the work itself. What follows is an introduction of each quality.

Celebratory Challenge is the common positionality toward challenge in the AE experience. Challenges were holistic, marked by suffering and afterglow, and perceived as a means to self-discovery. Accordingly, challenges are celebrated and to be engaged with willfully, rather than avoided.

Novelty dignifies the experience as including an element of newness and unfamiliarity, and as noteworthy for interrupting routine. It is an experience marked for its distinction from the pedestrian or everyday experience.

Freedom and Togetherness denotes the inter- and intrapersonal dimension of the experience. Participants experience a sense of togetherness with others engaged in the experience, while the experience allows participants to escape their normal social lives, and experiment with autonomy. It is together that participants are isolated from their normal lives, and as such, are able to grow closer as a group.

Aesthetic Vitality is the quality presented to highlight the aesthetic character of the AE experience, congruent with Dewey's (1934) philosophy of aesthetic experience. These aesthetic encounters are marked by aesthetic paradox, full attention, and emotional engagement on the part of participants. The term vitality is used to showcase the degree of aesthetic liveliness exhibited through the AE experience.

Great Experience represents the common ontological meaning of this experience. A great experience is an enjoyable experience that we consider worthwhile and identify as significant. This quality of the experience overlaps with the aforementioned qualities, and speaks to the intrinsic value of the AE experience for many, but not all, participants.

Discussion

Noting the qualities of the AE experience, as supported through corroboratively rich data representing various AE programs, presents a fresh perspective of adventure education. It is not that these qualities should serve as a definitive guide to AE, but through a consciousness of their prevalence we may better design, implement and evaluate AE experiences. These qualities, when taken as a collective, present practitioners and researchers alike with new ways to think about the AE experience.

One way these qualities enhance our perceptions of the AE experience is that these experiential realities are associated with the meanings participants ascribe to AE. As such, this work supports other studies concerning the meanings of these experiences (Davidson, 2001; Loeffler, 2004; Martin & Leberman, 2005; McIntyre & Roggenbuck, 1998). While some qualities, such as celebratory challenge, and freedom and togetherness, come as little surprise to the seasoned adventure educator, their characterization in this work advances these ideas. Other qualities, such as novelty, aesthetic vitality, and great experience, offer new articulations to what we may have only known anecdotally. Still other descriptors of the AE experience in this study, such as aesthetic paradox, afterglow, and the pedestrian, may well be entirely new to the literature. I present these qualities in the hopes that presenting them may enrich perceptions, advance discourse, and improve practice.

Finally, this study reiterates the notion that constructing meaning is a personally mediated process, and the meanings ascribed to the AE experience reflect the individuality of those participating. Therefore, we may consider evaluating the extent to which meanings are manufactured through AE processing techniques and metaphors. Considering these qualities of the AE experience alongside the idiosyncrasy of meaning-making in AE inspires a further reconsideration of rationales and methods in adventure education research and practice.

References

- Brewer, J., & Sparkes, A. C. (2011). The meanings of outdoor physical activity for parentally bereaved young people in the United Kingdom: Insights from an ethnographic study. *Journal of Adventure Education & Outdoor Learning, 11*(2), 127-143.
- Brookes, A. (2003). A critique of neo-Hahnian outdoor education theory. part one: Challenges to the concept of 'character building'. *Journal of Adventure Education and Outdoor Learning, 3*(1), 49-62.
- Davidson, L. (2001). Qualitative research and making meaning of adventure: A case study of boys' experiences of outdoor education at school. *Journal of Adventure Education and Outdoor Leadership, 1*(2), 11-20.
- Dewey, J. (1934). *Art as experience*. New York: Perigee Books. (Republished in 2005)
- Eisner, E. (1998). *The enlightened eye: Qualitative inquiry and the enhancement of educational practice*. Upper Saddle River, NJ: Prentice Hall.
- Hopkins, D., & Putnam, R. (1993). *Personal growth through adventure*. London: David Fulton Publishers Ltd.
- Hunt, J. S. (1999). Philosophy of adventure education. In J. Miles & S. Priest (Eds.), *Adventure programming* (pp. 115-122). State College, PA: Venture Publishing.
- James, W. (1995). The moral equivalent of war. *Peace and Conflict: Journal of Peace Psychology, 1*(1), 17-26. (Original work published in 1910)
- Kalisch, K. R., Bobilya, A. J., & Daniel, B. (2011). The Outward Bound solo: A study of participants' perceptions. *Journal of Experiential Education, 34*(1), 1-18.
- Loeffler, T. A. (2004). A photo elicitation study of the meanings of outdoor adventure experiences. *Journal of Leisure Research, 36*(4), 536-556.
- Martin, A. J., & Leberman, S. I. (2005). Personal learning or prescribed educational outcomes: A case study of the Outward Bound experience. *Journal of Experiential Education, 28*(1), 44-59.
- McIntyre, N., & Roggenbuck, J. W. (1998). Nature/person transactions during an outdoor adventure experience: A multiphasic analysis. *Journal of Leisure Research, 30*(4), 401-422.
- Mitchell, R. G. (1983). *Mountain experience: The psychology and sociology of adventure*. Chicago, IL: University of Chicago Press.
- Mortlock, C. (1978). *Adventure education*. Cumbria, UK: Ferguson of Kreswick.
- Nichols, G. (2000). A research agenda for adventure education. *Australian Journal of Outdoor Education, 4*(2), 22-31.
- Pohl, S. L., Borrie, W. T., & Patterson, M. E. (2000). Women, wilderness, and everyday life: A documentation of the connection between wilderness recreation and women's everyday lives. *Journal of Leisure Research, 32*(4), 415-434.
- Priest, S., & Martin, P. (1985). *The adventure experience paradigm*. ERIC Document RC 015 936.
- Rossman, G. B., & Rallis, S. F. (2012). *Learning in the field: An introduction to qualitative research* (3rd ed.). Los Angeles: SAGE.
- Shooter, W. (2010). A closer look at the "inner workings" of adventure education: Building evidence-based practices. *Journal of Experiential Education, 32*(3), 290-294.
- Uhrmacher, P. B. (2002). An education of meaning. *Curriculum and Teaching Dialogue, 4*(1), 67-73.

THE SACRED, DIVINE, AND SPIRITUAL IN EXPERIENTIAL EDUCATION: A CONCEPTUAL MODEL FOR RELATION OF THE NON-RATIONAL

Glenn Middleton, Western Carolina University (gdmiddleton@wcu.edu)

Introduction

There have been many definitions and perceptions of what constitutes sacredness, divinity, or spirituality within a primary experience proposed by people in various fields (Astrow et al., 2001; Coles, 1990; Daston & Vidal, 2004; Elkins, et al., 1988; Fox, 1999; Haluza-Delay, 2000; Hitzhusen, 2004; Kaiser, 2000; Kripal, 2007). While those differences in definition and perspective maintain an exceptionality of the experience, three problems arise. The first is of an elemental nature. What are the elements that make this experience sacred, divine, or spiritual—and therefore exceptional—to an individual? The second problem is of methodology. What methods are available to an individual to draw such exceptional elements out of the subjective and objective factors of their experience? The third is of relation. How does one relate these exceptional elements to themselves or others? While there have been calls within the experiential education (EE) field for more focus on the spiritual element (Brown, 1989; Chickering, Dalton & Stamm, 2006; Haluza-Delay, 2000; Henderson, 2000; Horwood, 1989), individuals are left to work out the answers to the above questions themselves. The intent of this paper is to offer a conceptual model by which an individual might understand how an experience is perceived as exceptional; elicit that exceptionality from any subjective and objective factors within their experience and relate this exceptionality to others. This model might form the foundation of a process that might be of utility for those in EE to focus on the spiritual element without becoming mired in the myriad definitions and perceptions of these terms. The establishment of this conceptual model was to be completed in four stages.

The Sacred, Divine, and Spiritual in EE Literature

In the first stage, analyses were conducted of the terms sacred, divine and spiritual as they appeared in, and related to, EE literature. Consideration was first given to the sacred, divine and spiritual as those terms appeared in the contexts of nature, theory and practice; as these contexts were frequently mentioned in later [reviewed] literature. The literature reviewing those contexts highlighted the conceptual ambiguity that has plagued these terms within EE literature. The terms were, at times, conflated and at other times, distinct and separated. The review of the literature supported the earlier assertions that individuals have little to draw from conceptually within EE literature to ascertain what makes a primary experience exceptionally sacred, divine, or spiritual.

Rudolph Otto and the Numinous

In the second stage, a theological perspective was proposed to answer the question of elemental exceptionality. This perspective was of Rudolph Otto, a German religious scholar particularly interested in comparative religion—specifically phenomenology of the holy—which he described in his book, *Das Heilige (The Idea of the Holy)*, first published in 1917. In this book, Otto described the holy as a non-rational subject, one that cannot be fully conceptualized or exhausted by attributes of that subject. Otto called this non-rational subject numinous and depicted the characteristics of the numinous as eliciting a creature-feeling of awe, dread, fear, joy, and fascination, which he describes as the *mysterium tremendum*. In his lectures on wilderness and the sacred, experiential educator Willi Unsoeld described Otto's *mysterium tremendum* as an attraction in the mystery and power—something you want to be near; to reach

out and touch, but you don't because you don't dare. Otto asserted that understanding of the feelings evoked by these characteristics is difficult. It may be difficult because of the non-rational nature of the numinous experience. Otto also asserted that one *can* better understand a numinous experience through dialogue with others. It was because of Otto's consideration of the holy as non-rational, as well as his assertion that better—not complete—understanding came through dialogue with others, that his theory seemed appropriate to apply to eliciting an experience's exceptionality. But how does one draw out these elements that make an experience exceptionally sacred, divine, or spiritual prior to one's dialogue with others?

Phenomenology

In the third stage, a method for drawing out the exceptional elements of a sacred, divine or spiritual phenomenon was proposed. That method was phenomenology: a philosophy that studies structures of consciousness, from a first-person point of view, to elicit meaning from an experience. Phenomenology asserts that individuals desire to *make meaning* out of experiences. To do so, we explore structures of consciousness relevant to the experience; create a structure of—or intentionalize—those structures of consciousness and employ all appropriate enabling conditions by which to relate our created intentionality to provide meaning to the experience(s) (Heidegger, 1996; Husserl, 1906; Smith, 2013). Phenomenological inquiry and reflection allow an individual to use all available thoughts, feelings, images, sensations, emotions, memories—even stream of consciousness—including those objective factors of the experience to describe a sacred, divine, or spiritual experience. This allows the individual the most complete, deep, enriched understanding possible, because they hold all possible elements that make that experience inherently exceptional, unique, and atypical.

Relation by Organization and Method

In the fourth stage, the relation of exceptional elements was structured by separation into two components: organization and method. The organizational component comprised a dualistic focus: elements of exceptionality and exceptional intentionality. When focusing on the elements of exceptionality, an individual might ask, “What are the elements of this experience that create[d] feelings of mystical awe, nothingness, or fascination?” When focusing on the exceptional intentionality, an individual might ask, “Are these elements related to past experience?” and “If so, how are they directive of sacredness, divinity, or spirituality?” The organizational component contained links to both the first stage—through individualized description—and the third stage—through intentionality. The methodological component also contained a dualistic focus: first in regards to how many of the organized elements are necessary to relate the experience as sacred, divine, or spiritual and the second on how an experience was related—through spoken or written word, art, etc. When considering how many organized elements are necessary to relate, an individual must also consider which elements are able to be related. When considering through what device—dialogue, association, analogy, or inquiry—an individual is also bound to the amount of relatable elements. This component contained connections to both the second stage—through characterization of elements—and the third stage—through enabling conditions. Once an individual had focused on what elements made an experience sacred, divine, or spiritual, and that individual wished to relay those elements, they had to consider first the amount of elements; then the degree and type of elemental description; which elements aroused others by association to other, similar elements; and how to adjust one's structures of consciousness to allow for such an association of similar elements to occur.

Findings

This paper's findings were twofold: affirmative and provocative. The affirmative findings within the EE literature supported the assertion that individuals will never be able to truly understand something that is so situational, personalized, and varied. The provocative findings were encapsulated in the choice an individual had upon such a realization of a lack of understanding. They could choose partial understanding or they could choose to deepen or enrich the experience. If greater depth or richness was the chosen path, then the individual had a conceptual model for moving through the process of understanding how an experience was perceived as exceptional; eliciting that exceptionality from any subjective and objective factors within their experience and relating this exceptionality to others. The provocative findings were subject to assumptions and limitations, which required delineation.

Assumptions and Limitations

Assumptions mentioned took the form of connectivity and congruency. Assumptions of connection were focused on the spiritual element of an experience connecting the otherwise ethereal world of the sacred and divine to one's experience. Assumptions of congruency concentrated on whether the method selected effectively answered inherent limitations within it.

Limitations included definitional ambiguity and individualistic perspectives. The definitional ambiguity, mentioned in the first stage, was highlighted as a limitation due to its hindrance with any operational definition [of sacred, divine, or spiritual] when understanding or relating responses or reactions to sacred, divine, or spiritual experiences. The limitation of individualistic perspective, also mentioned in the first stage, was again highlighted due to its connection to the proposed method at every stage of the process.

Discussion

Because of the disparate nature of the findings, future research is predicated upon individual choice. Are we content with partial understanding or do we wish for something more? If we continue to attempt to describe these sacred, divine, and spiritual experiences, it seems we choose the latter, more hopeful path. If such is the case, then this paper has succeeded in providing a conceptual model by which an individual may understand how an experience is perceived as exceptional; elicit that exceptionality from any subjective and objective factors within their experience and relate this exceptionality to others. That model may also form the foundations of a process that might be of utility for those in EE to focus on the spiritual element and not succumb to the myriad definitions and perceptions of these terms. But the model proposed is just that, a proposal. Surely there are options for future study that would test such a model. One such study might be on what type of focus EE literature placed on sacred, divine, or spiritual experience(s). Such a review of the literature might uncover gaps for studies relating to specific elements of as the sacred, divine, or spiritual experience they relate to EE. Such gaps may provide further additions or omissions to such a model as has been proposed.

References

- Astrow, A.B., Pulchalski, C. M. & Sulmasy, D. P. (2001). Religion, spirituality and health care: Social, ethical and practical considerations. *American Journal of Medicine*. 110 (4), 283-287.
- Brown, M. H. (1989). Transpersonal psychology: Facilitating transformation in outdoor experiential education. *Journal of Experiential Education*, 12(3), 47-56.
- Coles, R. (1990). *The Spiritual Life of Children*. Boston, MA: Houghton Mifflin Harcourt Publishing Company.
- Chickering, A. W., Dalton, J. C. & Stamm, L. (2006). *Encouraging authenticity and spirituality in higher education*. San Francisco, CA: Jossey-Bass.
- Daston, L. & Vidal, F. (Eds.). (2004). *The moral authority of nature*. Chicago, IL: University of Chicago Press.
- Elkins, D. N., Hedstrom, L. J., Hughes, L. L., Leaf, J. A. & Saunders, C. (1988). Toward a humanistic phenomenological spirituality. *Journal of Humanistic Psychology*. (28)4, 5-19.
- Fox, R. (1999). Enhancing spiritual experience in adventure programs. In J. C. Miles & S. Priest (Eds.), *Adventure programming*. (455-461). State College, PA: Venture.
- Haluza-Delay, R. (2000). Green fire and religious spirit. *Journal of Experiential Education*. 23(3), 143-149.
- Henderson, K. A. (2000). World religions, spirituality and experiential education. *Journal of Experiential Education*. 23(3), 128-134.
- Hitzhusen, G. (2004). Understanding the role of spirituality and theology in outdoor environmental education: A mixed-method characterization of 12 Christian and Jewish outdoor programs. In K. Paisley, C. J. Bunting, A. B. Young, & K. Bloom (Eds.), *Research in outdoor education: Vol. 7* (pp. 39-56). Cortland, NY: Coalition for Education in the Outdoors.
- Horwood, B. (1989). Introducing spiritual dimensions in outdoor education. *Pathways: The Ontario Journal of Outdoor Education*, 1(2), 5-9.
- Kaiser, L. R. (2000). Spirituality and the physician executive. *Physician Executive*. 26(2), 6.
- Kripal, J. J. (2007). From Emerson to Esalen: America's religion of no religion. *The Chronicle of Higher Education*. B6-B8.

WILDERNESS ENGINEERING: IDENTIFYING ENGINEERING IN EVERYDAY LIFE

Christopher Saulnier, Massachusetts Institute of Technology (saulnier@mit.edu)

Aikaterini Bagiati, Massachusetts Institute of Technology

J.G. Brisson, Massachusetts Institute of Technology

Introduction

The use of wilderness expeditions to integrate students into new academic communities has a long history, particularly in New England, with the first known program occurring at Boston University in 1888 (Bell, Gass, Nafziger, & Starbuck, 2014). A review of literature by Bell et al. (2014) found that over 190 colleges and universities in the United States and Canada organize wilderness experiences to help orient incoming first-year students to their new academic environment. This paper explores the outcomes associated with a design-based wilderness education program developed to integrate students into the academic community of the Massachusetts Institute of Technology (MIT) while developing engineering related skills. The program is structured to not just introduce visiting students to the MIT environment, but also to the academic and professional community of engineering by combining a rigorous engineering design experience with a short wilderness expedition.

This paper considers the development of students engineering science worldview while participating in the program (e.g., the ability to apply principles of engineering science to understand and explain the world around them). We expect that the wilderness environment may provide an effective environment for students to practice design thinking while developing and applying an engineering science worldview.

Literature Review

Outdoor orientation programs are effective at helping students transition into new academic cultures, partially due to the small highly supportive communities and sense of place that are formed through the shared experience of a wilderness expedition (Austin, Martin, Mittelstaedt, Schanning, & Ogle, 2009; Bell et al., 2014; Wolfe & Kay, 2011). Wilderness experiences are an interesting candidate for engineering education as recent work in grounded cognition has strengthened the link between physical experience and science learning (Barsalou, 2008; Kontra, Lyons, Fischer, & Beilock, 2015). Extended wilderness experience also increases ill-structured problem solving ability (Collins, Sibthorp, & Gookin, 2016), a key competency for engineering students practicing design-thinking (Dym, Agogino, Eris, Frey, & Leifer, 2005).

Alongside design thinking, leadership and communication skills are a focus of modern engineering education. Students in accredited programs “learn to function on multidisciplinary teams,” “communicate effectively,” and “understand the impact of engineering solutions in a global, economic, environmental and social context” (ABET, 2013; Prados, Peterson, & Lattuca, 2005). Wilderness education pedagogy supports these learning objectives, as participants in wilderness education experiences typically express long-term increased competency in leadership, teamwork, self-confidence, and communication (Gass, Garvey, & Sugerman, 2003; Hattie, Marsh, Neill, & Richards, 1997; Sibthorp, Furman, Paisley, & Gookin, 2008).

Program Structure

This design-based wilderness education program is a component of the Global Leadership Program (GLP), a ten-week long academic cultural exchange that takes place on and around MIT’s campus. GLP brings approximately 30 Singapore University of Technology and Design (SUTD) sophomores and five MIT students together to interact and experience MIT’s

academic culture by participating in a program designed to develop leadership and engineering skills. The design-based wilderness education program was instructed during GLP in 2014 and 2015.

While designing for and living in a wilderness environment, students were encouraged to interpret the world around them through a scientific lens, explaining natural phenomena by applying an understanding of basic scientific principles. Students were encouraged to ask why something was happening rather than just accepting the world as it is. As an example, rather than simply relying on the adage of ‘cotton kills’ when discussing expedition clothing, students examined clothing layering as a heat transfer problem, taking into account the unique properties of various materials to understand the scientific principles leading to the saying.

While preparing to embark on three-day wilderness expeditions students designed and built single-burner alcohol stoves that were then used while on expedition. In preparation for storing their food, students practiced building hauling systems that would function as “bear hangs.” Students taking part in the 2015 program had an additional design task: designing and building thermal and solar desalination projects while camping on an island off the coast of Maine.

Our ongoing evaluation of the design-based wilderness education class has found self-reported increases in self and group-leadership ability (Saulnier, Ahn, Bagiati, & Brisson, 2015) and explored changes in students design-thinking after participating (Saulnier, Bagiati, Ahn, & Brisson, 2015; Saulnier, Bagiati, & Brisson, 2016).

Methods

The 69 participants in the 2014 (n=35) and 2015 (n=34) design-based wilderness education class were invited to enroll in an exploratory study. Sixty-three students participated in exit interviews within two weeks of completing the program; of the interviewed students 56 were from SUTD (89%) and 26 were female (41%). Students reflected upon their learning experience and compared the class with previous design experiences. Each interview lasted around 20 minutes.

The first author developed and instructed the program as well as performed the interviews and primary data analysis. While such intensive ongoing involvement can raise concerns of researcher bias and reactivity, it also provides the opportunity for rich data collection and may “provide more complete data about specific situations than any other method” (Maxwell, 2010). A constructivist grounded theory approach was utilized for analysis as it explicitly acknowledges “subjectivity and the researcher’s involvement in the construction and interpretation of data” (Charmaz, 2014, p. 14). Furthermore the high rate of participation provided the opportunity for data-triangulation increasing confidence in the validity of the results as all of the discussed themes are present across multiple interviews (Shenton, 2004).

The 2014 interviews (n=34) were coded via a two-stage process. Each thought was first gerund coded; the gerunds were then grouped into themes resulting in eight primary codes and 34 sub-codes that were then applied to each transcript in a second round of coding. The 2015 interview transcripts (n=35) were also coded with the themes relevant to engineering science worldview with attention paid to identifying newly emerging themes not present in the 2014 analysis.

This analysis of the interviews, paired with instructor observations, provides an initial indication into the outcomes associated with encouraging understanding of natural phenomena by applying an engineering science mindset through a design-based wilderness education experience.

Results

Three major themes concerning the development of an engineering science worldview emerged from the analysis; a) connecting scientific understanding to everyday life experiences, b) the difference between theory and reality, and c) the importance of experimentation.

Students appeared able to start connecting scientific understanding to everyday life experiences. As one student expressed when discussing the experience, “it puts your knowledge into real life.” While discussing examining heat loss through radiation, convection and conduction another student said, “those are the kinds of things that you already know, and you know that you know because you’ve been tested on [heat transfer] before but you’ve never actually seen it being used in this way before, and, you realize that the things you learn are actually very applicable to real life.” This connection was most impactful for students who already were familiar with clothing layering rules of thumb and heat transfer.

While the concepts underlying activities were relatively simple, such as combustion or mechanical advantage, students would often notice a difference between what they expected to happen (theory) and what happened (reality). In some cases, this difference could be attributed to abstractions made in theoretical models. Discussing the realization that friction needed to be accounted for while working on a system to generate mechanical advantage (a bear hang) one student remarked that “it just kind of opened up the world... the real world is so much more complex than, you know, textbook stuff.” In other instances, differences between theory and reality were a result of incorrect conceptual models.

Incorrect conceptual models were often exposed through experimentation. Students commonly found that their stoves did not work as expected and would continue to experiment until finding something that worked. Previous research found that students began prioritizing action orientated tasks such as building over planning and understanding the problem (Saulnier et al., 2016); this shift may be attributed to students exposing conceptual misunderstandings through action, then prioritizing further experimentation to more quickly expose conceptual misunderstandings.

Conclusion

This approach may help students develop and practice applying an engineering science mindset, however it requires careful selection of activities and more instructional scaffolding than would be typically associated with a wilderness education experience. Connecting known topics through the lens of engineering science appeared to be a more successful approach than walking students through learning new concepts. Future work requires a more careful consideration of how deliberate experimentation can be supported to increase understanding. Students sometimes incorrectly explained surprising results of experimentation as a difference between theory and reality; instead of accepting this explanation, students need to be encouraged to reconsider the conceptual understanding they have of the underlying scientific principles.

References

- ABET. (2013). *Criteria for accrediting engineering programs*. Baltimore, MD.
- Austin, M. L., Martin, B., Mittelstaedt, R., Schanning, K., & Ogle, D. (2009). Outdoor orientation program effects: sense of place and social benefits. [Abstract] *Journal of Experiential Education*, 31(3), 435–439.
- Barsalou, L. W. (2008). Grounded cognition. *Annual Review of Psychology*, 59, 617–645.
- 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.

- Charmaz, K. (2014). *Constructing grounded theory* (2nd ed.). Thousand Oaks, California: Sage.
- Collins, R. H., Sibthorp, J., & Gookin, J. (2016). Developing ill-structured problem-solving skills through wilderness education. *Journal of Experiential Education*.
- Dym, C. L., Agogino, A. M., Eris, O., Frey, D. D., & Leifer, L. J. (2005). Engineering design thinking, teaching, and learning. *Journal of Engineering Education*, 94(1), 103–120.
- Gass, M. A., Garvey, D. E., & 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., & Richards, G. E. (1997). Adventure education and outward bound: out-of-class experiences that make a lasting difference. *Review of Educational Research*, 67(1), 43–48.
- Kontra, C., Lyons, D. J., Fischer, S. M., & Beilock, S. L. (2015). Physical experience enhances science learning. *Psychological Science*.
- Maxwell, J. A. (2010). Validity: how might you be wrong? In W. Luttrell (Ed.), *qualitative educational research: readings in reflexive methodology and transformative practice* (pp. 279–287). New York, NY: Routledge.
- Prados, J. W., Peterson, G. D., & Lattuca, L. R. (2005). Quality assurance of engineering education through accreditation: the impact of engineering criteria 2000 and its global influence. *Journal of Engineering Education*, 94(1), 165–184.
- Saulnier, C. R., Ahn, B., Bagiati, A., & Brisson, J. G. (2015). Leadership development through design based wilderness education. *International Journal of Engineering Pedagogy*, 5(1), 47–56.
- Saulnier, C. R., Bagiati, A., Ahn, B., & Brisson, J. G. (2015). Changes in design thinking through participation in design based wilderness education. In *Proceedings of the REES 2015 Symposium*. Dublin, Ireland.
- Saulnier, C. R., Bagiati, A., & Brisson, J. G. (2016). A comparison of student design activity preferences before and after a design-based wilderness education experience. In *Proceedings of the 2016 ASEE Annual Conference & Exposition*.
- Shenton, A. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22, 63–75.
- Sibthorp, J., Furman, N., Paisley, K., & Gookin, J. (2008). Long-term impacts attributed to participation in adventure education: preliminary findings from NOLS. In *Research in Outdoor Education* (Vol. 9, pp. 86–103). Bradford Woods, Indiana.
- 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.

THE HEAVINESS OF THE AIR YOU BREATHE: WRITING THE LIVED EXPERIENCE OF AIR POLLUTION

Chris A.B. Zajchowski, M.S., University of Utah (c.zajchowski@utah.edu)

Jeff Rose, Ph.D., University of Utah

This study engages with creative analytic practice (Lincoln & Guba, 2005; Parry & Johnson, 2007; Richardson, 2000) to explore the lived experiences of residents of the Salt Lake City Metropolitan area grappling with acute air pollution events. Following the suggestion of Cassidy (2001), this study builds on the premise that “people learn through experience, and a natural way to express that experience is through story” (pg. 25). Using air pollution as a salient, intersubjective experience for residents of Salt Lake City and surrounding areas, we explore the narrative representations of local authors ($n = 10$) as they reflect on how they navigate poor air quality and construct meaning from experiential immersion in a regional environmental issue.

Literature Review

Air pollution is a regular feature for residents of the Salt Lake City Metropolitan area (Reitze, 2014). The mountainous terrain of Northern Utah provides a unique geography and climate that trap anthropogenic emissions from personal vehicles, homes, and factories to form acute air pollution events (Lareau et al., 2013). During these temperature inversions, the region exceeds federal standards for air pollution (Utah Division of Air Quality, 2013), which subsequently affects the health of residents—particularly sensitive populations such as the infants, children, and the elderly—and detracts from overall quality of life (Best, 2013; Currie et al., 2011).

Collective sharing of narratives and stories has been identified as an effective measure to raise public awareness of social and environmental issues, such as poor air quality, that have multiple stakeholders, and promote corresponding action (Lejano et al., 2013). Gachago et al. (2014) illustrated that collective sharing of narratives among community members who have diverse interests helps develop empathy and mutual understanding within the community, and can foster a sense of shared community identity. In addition, van der Ploeg et al. (2011) showed that community members often give more credibility to the narratives of their peers than to information shared by outsiders. For individuals, the construction of narratives contextualizes personal experiences within larger socio-environmental issues (Gachago et al. 2014), and allows individuals to employ story within the meaning-making process (Cassidy, 2001).

Setting

The air pollution challenges of North Utah and a knowledge of the power of narrative sharing emboldened graduate students enrolled in interdisciplinary, project-based, sustainability curricula at the University of Utah to design a campus-wide essay contest. The stated intention of the contest was to personalize the diverse experiential aspects of living through poor air quality conditions. Scholarship focused on Utah’s air pollution problem has been dominantly quantitative in nature (e.g., Currie et al., 2011; Lareau et al., 2013; Parker et al., 2008), and these students intended to highlight the lived experiences which more fully characterize various statistics enumerating pre-term births, particulate matter indexes, and levels of respiratory distress. Submitted essays ($n = 46$) from University students, faculty, and staff were first reviewed by graduate students, and subsequently by a diverse panel of judges, comprised of students, state policy makers, physicians, artists, and activists. Selected essays were then shared at the University’s Sustainability Research Symposium to complement scientific scholarship

focused on regional, national, and global environmental issues. The essays provided a voice to local residents and effectively represented a collective sharing of narratives for those coping with poor air quality in the Salt Lake City area.

Method

Following this narrative sharing event, we use a hybridized theoretical approach (see Parry, Johnson, & Stewart, 2013), guided by creative analytic practice (CAP) (Parry & Johnson, 2007), to explore the lived experiences represented in the essays authored by the five finalists and five runners-up ($n = 10$). CAP presupposes that the individual lived experience is inherently complex, and that the data collection, reduction, generalization, and representation processes that dominate objectivist paradigms miss the idiosyncrasies imbued within personal, lived experience (Parry & Johnson, 2007; Richardson, 2000). In contrast, CAP places emphasis on narratives, short stories, poems, plays, art, and autobiographies (Berbary, 2011; Parry & Johnson, 2007; Yuen, Arai, & Fortune, 2012) that deconstruct “the binary between science and literature, to portray the contradiction and truth of the human experience” (Lincoln & Guba, 2005, p. 211). Thus, the creative analytic practice of these ten essayists were treated as reflections upon individuals’ lived experience. These reflections are presented here in the sharing of themes developed through and iterative readings of the authors’ negotiations of air pollution. Sensitized by defined narrative coding methods (e.g., Saldana, 2013), investigators in this research engaged with authors’ essays through an iterative process, whereby we a) explored meanings present within written and audio recorded narratives, b) identified shared and divergent meanings between essays, and c) conducted member-checks with authors to assess the trustworthiness of these constructed meanings.

Results

Essays indicated that air pollution permeates nearly every facet of authors’ lived experiences – from the tragic loss of an infant to finding habitual joy in riding public transportation. Four dominant and interrelated themes emerged from our review of essays and were corroborated through member-checks: *personal agency*; *daily choices*; *productions of nature*; and *sensory descriptions*.

The presence or absence of perceived personal agency of the individual author to reduce the region’s challenges with air pollution surfaced as a persistent theme across essays. Writers regularly shared their perceived abilities and inabilities to alter their actions to reduce emissions.

I bike because it is good for my health; it saves me money that I would otherwise have to spend on gas; and it reduces my CO₂ footprint because I am not burning fossil fuels to make that four-mile trek to school.

After spending this last year in an attempt to achieve greater health I worry about the smog. I worry that, unlike the other elements of my life that impact health, I can’t just decide to breathe better air - to quit the smog and buy the slightly more expensive, organic, clean air at Whole Foods.

Similarly, authors shared challenges negotiating the results of their daily choices. The causal ambiguity surrounding these air quality-related choices led some authors to question their overall personal agency. As one author shares, a great deal of uncertainty surrounds the navigation of these choices:

[...] it's hard to see how the small choices we make each day add up to a heap of smog tomorrow, because most of us will not experience an asthma attack triggered by bad air, and because if we develop respiratory problems in the future, we will find it hard to say whether the cause is genetics, or cigarettes we smoked in college, or time spent outside on a hazy afternoon.

As authors navigated the impacts of their daily choices and personal agency to reduce the impacts on their own health, as well as the health impacts of their choices on others, they also navigated a binary between 'good' and 'bad' air. In doing so, they employed various productions of nature to describe the 'natural' or 'unnatural features' of their home environment.

I often snap photos from there, as I watch the light travel west. But over the last couple of years, a dull vapor has crept into the frame. The air is different, heavier now. This year, I think our sky was a shade grayer.

These reconstructions of their natural or unnatural environment often complemented the descriptions of the senses that authors used to convey these productions of nature. In describing the perceived 'unnaturalness' of air pollution, these sensory descriptions were sometimes violent:

I need to cough. The rasp of agitation is audible in the back of the throat. I feel an itch, a gurgle accompanied by hems and subtle attempts of clearing the windpipe. Cracking from the back of the throat advances into the lungs. Tussive vibrations fill the chest. Barking from the core overtakes my body. Shaking and spewing, expectorating the chemistry of combustion. My cough is protecting my body by violent means, expelling the foul brown haze. I catch my breath, take a drink of water, and continue.

Discussion

Ultimately, authors' creative analytic practice illuminates various ways they contextualize their lived experience with poor air quality. They spoke of how their direct experience with air pollution led them to take steps to minimize its impact on their health and the health of others, however, their perceived (in)ability to solve Utah's air pollution problem points to a tenuous sense of agency. While they readily identified both subtle and violent changes in their own health or the health of the region's airshed, on a broader scale, many authors shared a reluctance to associate these salient personal experiences with a potential for systemic change. That said, many essayists indicated a belief that the opportunity to write and share these narratives was both cathartic and helpful to draw attention to the challenges facing this region.

Outside of Salt Lake City, we suggest this example of narrative scholarship focused on the lived experience with air pollution may embolden experiential education researchers to consider employing CAP with students, participants, and communities. As Cassidy (2001) wrote, "people are both living their own personal stories and recounting them in words as they reflect upon life and explain themselves to others in everyday interactions" (p. 22). CAP accesses these interactions, enabling reflection on our own experiences that might inform the ways in which we look at the world, as well as continue to navigate our role in it.

References

Best, A. (2013, February 4). Winter inversions foul Salt Lake Valley, *Mountain Town News*, Retrieved from <http://mountaintownnews.net/2013/02/04/winter-inversions-foul-salt-lake-valley/>

- Berbary, L.A. (2011). Poststructural writerly representation: Screenplay as creative analytic practice. *Qualitative Inquiry*, 17(2), 186-196.
- Cassidy, K. (2001). Enhancing your experiential program with narrative theory. *The Journal of Experiential Education*, 24(1), 22-26.
- Currie, J., Heep Ray, S. & Neidell, M. (2011). Quasi-experimental studies suggest that lowering air pollution levels benefits infants' and children's health, *Health Affairs*, 30(12), 2391-2399.
- Gachago, D., Condy, J., Ivala, E., & Chigona, A. (2014). "All stories bring hope because stories bring awareness": Students' perceptions of digital storytelling for social justice education. *South African Journal of Education*, 34(4). Retrieved from <http://www.sajournalofeducation.co.za/index.php/saje/article/view/1025/476>
- Lareau, N.P., Crossman, E., Whiteman, C.D., Horel, J.D., Hoch, S.W., Brown, W.O.J. & Horst, T.W. (2013). The Persistent Cold-Air Pool Study, *Bulletin of American Meteorological Society*, 94, 5-163.
- Lejano, R., Ingram, M., & Ingram, H. (2013). *The power of narrative in environmental networks*. Cambridge, MA: MIT Press.
- Lincoln, Y.S. & Guba, E.G. (2005). Paradigmatic controversies, contradictions, and emerging confluences. In Denzin, N.K. & Lincoln, Y.S. (Eds.), *Handbook of qualitative research* (pp. 191-216). Thousand Oaks, CA: Sage.
- Parker, J.D., Mendola, P. & Woodruff, T.J. (2008). Preterm birth after the Utah Valley Steel Mill closure: A natural experiment, *Epidemiology*, 19(6), 820-3.
- Parry, D.C., Johnson, C.W., & Stewart, W. (2013). Leisure research for social justice: A response to Henderson. *Leisure Sciences*, 35(1), 81-87.
- Parry, D.C. & Johnson, C.W. (2007). Contextualizing leisure research to encompass complexity in lived leisure experience: The need for Creative Analytic Practice, *Leisure Sciences*, 29, 119-130.
- Reitze, A.W. (2014) Utah's fine particulate air pollution problem. *Utah Law Review*, 2(98), 113-135
- Richardson, L. (2000). Writing: A method of inquiry. In Denzin, N.K. & Lincoln, Lincoln, Y.S. (Eds.) *Handbook of qualitative research* (2nd ed., 923-948). Thousand Oaks: Sage .
- Saldana, J. (2013). *The coding manual for qualitative researchers* (2nd ed.). Los Angeles, CA: Sage.
- Utah Division of Air Quality (2013). *Division of Air Quality - 2013 Annual Report*. Salt Lake City, UT: Utah Division of Air Quality. Retrieved from airquality.utah.gov/docs/2013AnnualReport_FINAL.Pdf
- Van der Ploeg, J., Arano, R.R. & van Weerd, M. (2011). What local people think about crocodiles: Challenging environmental policy narratives in the Philippines, *The Journal of Environment Development*, 20(3), 303-328.
- Yuen, F., Arai, S., & Fortune, D. (2012). Women in prison, community dislocation and reconnection through leisure: A poetic representation of incarcerated women's experiences of leisure and connection to community, *Leisure Sciences*, 34(4), 1-17.

CULTURAL COALESCENCE IN ADVENTURE EDUCATION

Benjamin C. Ingman Ph.D., University of Colorado (benjamin.ingman@ucdenver.edu)

Literature Review

Adventure education (AE) practitioners have a long history of facilitating adventure experiences with individuals from various backgrounds (Sharp, 1930; Warren, Roberts, Breunig, & Alvarez, 2014). It has been considered both a white privilege activity (Roberts & Drogin, 1996), and an exemplary method for marginalized populations. Outreach to groups of different backgrounds continues, with programs designed for at-risk youth, urban youth (Davis-Berman & Berman, 1999), those needing therapy (Bandoroff, 1989), gendered groups (Whittington, Mack, Budbill, & McKenney, 2011), and other subpopulations based on the identities or categorical experiences of participants.

Disappointing results with participants of particular backgrounds (James, 1996; Orren & Werner, 2007; Rodriguez & Roberts, 2005), juxtaposed with the preliminary success of culturally conscious AE programs (Henderson & Bialeschki, 1987; Mitten & Woodruff, 2010; Ritchie et al., 2009), further justifies the importance of understanding culture in the context of AE. Though issues of various identity categories have received consideration in the literature, questions of the mores perpetuated by the AE institution (Mitchell, 1983), as well as the participant experience of those cultural practices, remain. The purpose of this study is to understand how the personal backgrounds of AE participants and the institutional culture of AE interact within the experience.

Method

This study is guided by the following research question: How do the personal backgrounds of participants coalesce with institutional cultures in adventure education?⁶ I explored this question through the qualitative method of educational connoisseurship and criticism. This arts-based research method embraces researchers' past experiences as enhancing perceptual capacity, which gives researchers the "ability to make fine-grained discriminations among complex and subtle qualities" (Eisner, 1998, p. 63) through connoisseurship. Researchers then disclose these perceptions through criticism. Through connoisseurship and criticism, I attend to dimensions of description, interpretation, evaluation, and thematics. In this study I adopted a cultural lens as I observed and interviewed participants of the AE experience at three adventure programs: a backpacking expedition, an outdoor enrichment adventure program, and a challenge course. This programmatic collective allowed for diversity in both experience-type and participants, who ranged from 9 to 19 years in age, and represented a variety of ethnic, socioeconomic, linguistic, and cultural backgrounds. These methods of inquiry resulted in 183 hours of observation, 837 photographs, 96 videos, 52 audio recordings, and 74 interviews, utilizing semi-structured, group, and mobile interviewing formats (Rossman & Rallis, 2012). I collected, transcribed, and analyzed all data; this was done through categorical coding, open coding and axial coding (see Glaser & Strauss, 1967), as well as conceptual mapping (see Davies, 2011).

Results

Much of cultural coalescence in the AE experience can be explained through understanding the arrangement of the participant and the institution. To one side resides the AE

⁶ See Locke (1935/1989) for conceptual framework.

institution, complete with its own intentions, methods, habits, history, and norms. On the other side, participants enter this experience with their own intentions, habits, and personal history. Accordingly, the adventure education experience often presents participants with a foreign environment and unfamiliar cultural mode of living. From this standpoint, we can perceive the ways in which the AE institution embodies rigidity and flexibility toward the individual throughout the AE experience.

Cultural Rigidity. As the AE institution came together with the varied personal backgrounds of its many participants, there were certain aspects in which a level of cultural rigidity was exercised on the part of the institution. That is to say, there were interactions between the institution and the participant in which compliance with the institutional norm was encouraged or required. I review aspects of this rigidity on four counts: 1) a power dynamic between participants and practitioners of the AE experience, 2) the guidelines or rules to adventure that are introduced and enforced by the AE institution, 3) the use of jargon in the AE experience, and 4) practitioner values at work in framing the experience. This rigidity ultimately resulted in a degree of adaptation on the part of participants, which was embraced by participants on idiosyncratic terms.

Cultural Flexibility. Adventure education practitioners also exercised cultural flexibility through embracing the individual backgrounds of the participants within the AE experience. I review this cultural flexibility on the part of the AE institution on three counts: 1) the flexible use of language by participants and the AE institution alike, 2) the prolific use of personal goal setting in AE, and 3) the ways in which group norms are developed in concert by the institution and participants. This flexibility ultimately allows participants to engage in the experience in their own way, which may render the experience congruent with their understandings of self.

Discussion

While considering the AE experience one of culture shock (Fabrizio & Neill, 2005) may be an appropriate theoretical framework, to view culture shock as a solely adverse aspect of experience may oversimplify the issue. In fact, this same quality of experience may be considered satisfying Dewey's (1916) conception of cultural communication, or Locke's (1936/1989) view of cultural reciprocity. Further, participants in this study often identified the foreign aspects of AE as enjoyable, and to familiarize the experience in the name of responsiveness (Gay, 2000) may negate this potentially enriching attribute of the experience. Conversely, without some degree of flexibility, we may consider that the experience marginalizes identity (Warren, 1998).

This leaves AE practitioners to engage in a balancing act of sorts. Whereas rigidity can provide structure for a new, rich experience, flexibility can allow for personal backgrounds to find a hold within that structure. Accordingly, I offer two recommendations that may be integrated into practice through naturalistic generalization: First, when cultural rigidity enriches the experience and serves as a means of cross-cultural communication, then we should continue to utilize those practices. Second, when cultural rigidity confuses or marginalizes the identity of the participant, then we should take efforts to embody flexibility to be responsive to the background of the participant. Implementing these recommendations will necessitate reflective practice on the part of practitioners concerning cultural coalescence in AE.

This study offers an explanation of the ways in which cultural coalescence occurs between the participant and the AE institution. Evaluating these experiences with the critical pragmatism of Locke (1936/1989) and Dewey (1916) in mind, suggests that we may more intentionally design experiences to strike a cultural balance between the extremes of cultural imperialism and a cultural vacuum so that the experience may serve as a productive means of

cross-cultural interchange. These shared, novel experiences may, in turn, be used as a vehicle toward the broader aims of a democratic society.

References

- Bandoroff, S. (1989). *Wilderness adventure-based therapy for delinquent and pre-delinquent youth: A review of the literature*. (ERIC Document Reproduction Service No. ED 377 428).
- Davies, M. (2011). Concept mapping, mind mapping and argument mapping: What are the differences and do they matter? *Higher Education*, 62, 279-301.
- Davis-Berman, J., & Berman, D. (1999). The use of adventure-based programs with At-Risk Youth. In J. Miles & S. Priest (Eds.), *Adventure programming* (pp. 365-371). State College, PA: Venture Publishing.
- Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education*. New York: Macmillan Company. (Republished in 1944)
- Eisner, E. (1998). *The enlightened eye: Qualitative inquiry and the enhancement of educational practice*. Upper Saddle River, NJ: Prentice Hall.
- Fabrizio, S., & Neill, J. T. (2005). Cultural adaptation in outdoor programming. *Australian Journal of Outdoor Education*, 9(2), 44-56.
- Gay, G. (2000). *Culturally responsive teaching: Theory research and practice*. New York: Teachers College Press.
- Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine Publishing Co.
- Henderson, K., & Bialeschki, M. D. (1987). A qualitative evaluation of a women's week experience. *Journal of Experiential Education*, 10(2), 25-28.
- James, K. (1996). Making change: Recognizing culture. *The Journal of Experiential Education*, 19(3), 127-134.
- Locke, A. (1989). Unity through diversity. In L. Harris (Ed.), *The philosophy of Alain Locke* (pp. 132-138). Philadelphia: Temple University Press. (Original work published in 1936)
- Mitchell, R. G. (1983). *Mountain Experience: The psychology and sociology of adventure*. Chicago, IL: University of Chicago Press.
- Mitten, D., & Woodruff, S. (2010). Women's adventure history and education programming in the United States favors friluftsliv. *Norwegian Journal of Friluftsliv*. <http://norwegianjournaloffriluftsliv.com>
- Orren, P. M., & Werner, P. D. (2007). Effects of a brief wilderness program in relation to adolescents' race. *Journal of Experiential Education*, 30(2), 227-124.

- Ritchie, S. D., Wabano, M. J., Young, N., Schinke, R., Peltier, D., Battochio, R., & Russel, K. (2010). Developing a culturally relevant outdoor leadership training program for Aboriginal youth. *Journal of Experiential Education*, 32(3), 300-304.
- Roberts, N. S., & Drogin E. B. (1996). The outdoor recreation experience: Factors affecting participation of African American women. In K. Warren (Ed.), *Women's voices in experiential education* (pp. 85-93). Dubuque, IA: Kendall Hunt Publishing Co.
- Rodriguez, D. A., & Roberts, N. S. (2005). Understanding the influence of gender and ethnicity on evaluations of outdoor leader effectiveness. *World Leisure Journal*, 47(1), 32-44.
- Rossman, G. B., & Rallis, S. F. (2012). *Learning in the field: An introduction to qualitative research* (3rd ed.). Los Angeles, CA: Sage.
- Sharp, L. B. (1930). *Education and the summer camp: An experiment*. (Unpublished doctoral dissertation). Teachers College, Columbia University, New York, NY.
- Warren, K. (1998). A call for race, gender and class sensitive facilitation in outdoor experiential education. *The Journal of Experiential Education*, 21(1), 21-25.
- Warren, K., Roberts, N. S., Breunig, M., & Alvarez, M. A. T. G. (2014). Social justice in outdoor experiential education: A state of knowledge review. *Journal of Experiential Education*, 37(1), 89-103.
- Whittington, A., Mack, E. N., Budbill, N. W., & McKenney, P. (2011). All-girls adventure programmes: What are the benefits? *Journal of Adventure Education & Outdoor Learning*, 11(1), 1-14.

LASTING IMPACT: THE PATH FROM EXPERIENCE BACK TO THE CLASSROOM

Jocelyn Glazier (jocelyng@email.unc.edu)

Overview

The field of teacher education continues to struggle with the question of uptake (Brouwer & Korthagen, 2005; Korthagen, 2010): what do our pre-service and in-service teachers carry with them from our teacher education classrooms into their own K-12 classrooms? Well-researched are the challenges of teacher education, particularly those related to shifting our students' pre-conceived notions of teaching which were developed through their apprenticeship of observation as students in schools (Lortie, 1976). Bullock (2011) wrote, "the apprenticeship of observation goes a long way to ensuring that the dominant culture of teaching and learning remains relatively static" (p.14). That dominant culture of teaching privileges a banking model (Freire, 1970) wherein students are passive recipients of the teacher's knowledge. This banking model serves to privilege majority rather than minority students. Despite efforts in teacher education to challenge the apprenticeship of observation, teachers often carry this stubborn model with them into their classrooms. Less frequently studied are the successes: the pedagogical and curricular moves faculty make in teacher education that are deeply transformative not only for teachers (pre-service and in-service alike) but for their K-12 students. This study examined the short and long term impact of experiential education in practicing teachers' own education and how they teach when they return to the classroom.

Literature Review

Experiential education is, in short, "a philosophy that informs many methodologies in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills, clarify values, and develop people's capacity to contribute to their communities" (AEE, 2013). Rooted in Dewey's idea of progressive pedagogy and educative experiences, experiential education provides the opportunity for students to engage in the world in a way that is meaningful and interactive. It requires "the learner to take initiative, make decisions, and be accountable for the results, through actively posing questions, investigating, experimenting, being curious, solving problems, assuming responsibility, being creative, constructing meaning, and integrating previously developed knowledge" (Itin, 1999, p. 93). Experiential education engages the learner "intellectually, emotionally, socially, politically, spiritually and physically" (Itin, 1999, p. 93).

Alas, while research has examined the impact of experiential learning on K-12 students on factors ranging from academic achievement to civic responsibility (Blair, 2009; Conrad & Hedin, 1982; Furco & Root, 2010; Lieberman & Hoody, 1998; Kielsmeier, 1989; Hamilton, 1980; Shellman, 2014; Scales et al, 2000; Ives & Obenchain, 2006), that scholarship has not extended as necessary to the field of teacher education. Experiential learning in teacher education has as one goal "preparing and supporting teachers to teach in innovative ways" (Klein & Riordan, 2011, p. 42). However, few studies have examined if that is indeed the end result. In this study, the researcher set out to examine the short and long term impact of embedding experiential education in teacher education, specifically a master's degree program for practicing K-12 teachers.

Context and Methods

This study highlights the case of one teacher, Amy. Case study methodology provides an opportunity to examine closely a phenomenon (Yin, 1994), in this case a single teacher's

experience within a teacher education context that forefronts experiential pedagogy. While not expected to be representative, a case study provides a thick description (Geertz, 1973) of a particular instance. The intrinsic case shared here (Stake, 1995) affords an opportunity to provide a holistic, qualitative illustration, one that is informed by data collection and analysis. Data collected for this study included pre-and post-course survey data, teacher interview transcripts, transcripts of discussion group conversations and classroom artifacts. As a participant in the study, after the course, Amy participated in a follow up discussion group with other teachers in the program. The group members met once a month and talked with one another about their successes and challenges with integrating experiential education in their K-12 classrooms. They also brought teaching artifacts to these sessions, including photographs of classroom events and examples of student work. These sessions were audiotaped and subsequently transcribed. In addition, researcher fieldnotes and artifacts were collected.

Amy is a middle school science facilitator at a K-8 private school near the university where she was earning her master's degree in education. At the time of the study, Amy had been teaching for more than ten years. Early in the degree program, Amy took a summer course called *Reinventing Teaching*, the second course in the two-year, part-time degree program. The course is designed to support teachers in considering new possibilities in their teaching. In the course, participants explore multiple sorts of progressive pedagogies, particularly experiential education. Central in the course is students' participation in a residency program: weeklong, intensive experiences either at an Outward Bound site or at a local school district's Hub Farm, an environmental education outdoor learning lab.

At the Hub Farm, the teachers spend from 8:30-3:30 building the farm infrastructure in ways identified collaboratively by them and the farm's coordinator. The participants' experience of collaboration, leadership, community building, risk-taking and reflection at the farm move them to consider new possibilities in their own practice. Similarly, on the Outward Bound Expedition in the mountains of western North Carolina, participants spend the week "learn[ing] important skills for life, such as leadership, communication, conflict resolution, and teamwork" (NCOBS, 2015) as they support one another in setting up camp, making meals, rock climbing, and finding their way more generally in and through the wilderness. While the experiences are different in terms of time and place, they are intentionally parallel in many ways, done so to lead to similar outcomes for the participants. One goal is to enable the teachers to "live" experiential learning as students so as to experience its impact on them and its potential for their students, recognizing that, "Students learn more deeply when they can apply classroom-gathered knowledge to real-world problems, and when they take part in projects that require sustained engagement and collaboration" (Barron & Darling-Hammond, 2008). Faculty then build on these experiences across the students' coursework and subsequent experiences. Amy participated in the farm experience.

Findings and Discussion

As will be detailed, analysis of survey data, interview data and discussion group transcripts revealed that the participants in the study revealed changes in their beliefs and along three dimensions: their understanding of the role of teacher, their belief in the necessity of developing community within the classroom, and their recognition of the potential of students as change agents. This was particularly true for Amy.

Of particular import for Amy was her recognition that she didn't need to know everything as teacher. At the farm, she was confronted with uncertainty, particularly related to how things would "work out" at the farm as she and her colleagues developed a hiking trail and trail signage, something none of the participants had done before. Amy found that she had to live in the uncertainty, in the "unknowing," as she named it. Used to having a plan to follow in the

classroom, Amy initially found the lack of specific endpoint disconcerting. There was no image guiding what the final trail and signage would look like. Rather the participants worked together with the coordinator of the farm to build and imagine the outcome simultaneously. When Amy returned to the classroom in the fall, she identified feeling "more comfortable with not knowing how things are going to end up—I have a framework but what that looks like can change for each student" (transcript). In addition, self-proclaimed as one who enjoyed working alone, Amy came to recognize the significant role of collaboration on the farm. The group members had to collaborate and compromise through the process. This prompted a shift for her in the classroom and her work with colleagues. She reflected that as she stepped back into school that fall, her "world got bigger," (Amy interview) as she sought out colleagues with whom to collaborate. This spirit of collaboration became apparent too as Amy developed experiential opportunities for her own middle school students.

In an extended narrative of practice, nearly nine months after the residency at the farm, Amy described an activity she did with her students, self-identifying it as "experiential." One morning in late fall, the school safety coordinator popped his head in Amy's classroom to ask if she might have use for deer bones he discovered out in the field by the school. Amy reflected in an interview: "I hesitated—and then after a few seconds said, 'yes, I do—of course I want bones'. And as I started to think about what we could do with them, I went through the Rolodex of curricular goals across grade levels in my head to figure out how the activities I was imagining might fit" (interview). Amy's hesitation was reflective of her own sense of not knowing. As one who identified feeling like she needed to "know everything as teacher," the deer bones brought with them a sense of unknown. Not only was Amy unsure of the outcomes of her new lessons, but she was also admittedly limited in her knowledge of deer anatomy.

And yet, just at the farm, Amy stepped into the discomfort, learning alongside her students. She embraced the opportunity to create an educative experience for her students, prompting them to discover together the story of the bones: Whose bones were they? What had happened to the animal? Why were they in the particular area discovered? Which bones were missing, etc. Utilizing multiple components of experiential education, Amy facilitated student learning. Mirroring her experience at the Hub Farm, Amy's students were "engaged intellectually, emotionally, socially, politically, spiritually and physically in an uncertain environment" (Itin, 1999, p. 93). Together they struggled to piece together the story of the bones. As teacher, Amy lived in the uncertainty of the experience alongside her students, a space that was new to her.

Amy's case reflects the immediate and the lasting effect of experiential education in teacher education. It provides an example of possibility as we seek to engage new models of teacher education that influence teachers in the moment and, ultimately and most importantly, their own K-12 students.

References

- Blair, D. (2009). The child in the garden: an evaluative review of the benefits of school gardening. *Journal of Environmental Education, 40*(2), 15-38.
- Bullock, S. (2011). *Inside teacher education*. Boston: Sense Publishers.
- Conrad, D., & Hedin, D. (1982). The impact of experiential education on adolescent development. *Child and Youth Services, 4*(3/4), 57-76.

- Furco, A. & Root, S. (2010). Research Demonstrates the Value of Service Learning. *Phi Delta Kappan*, 91(5), 16-20.
- Freire, Paulo (1970). *Pedagogy of the Oppressed*. New York: Continuum Publishing.
- Geertz, C. (1973). *The Interpretation of Cultures*. New York: Basic Books.
- Hamilton, S. F. (1980). Experiential learning programs for youth. *American Journal of Education*, 88(2), 179-215.
- Itin, C. (1999). Reasserting the philosophy of experiential education as a vehicle for change in the 21st century. *Journal of Experiential Education*, 22(2), 91-98.
- Ives, B., & Obenchain, K., (2006) Experiential education in the classroom and academic outcomes: For those who want it all. *Journal of Experiential Education*, 29, 61-77.
- Kielsmeier, J. (1989). Growing with the times: A challenge for experiential education. *Journal of Experiential Education*, 12(3), 12-16.
- Klein, E. J., & Riordan, M. (2011). Wearing the "Student Hat": Experiential Professional Development in Expeditionary Learning Schools. *Journal of Experiential Education*, 34(1), 35-54.
- Lieberman, G.A. & Hoody, L.L. (1998). *Closing the achievement gap: Using the environment as an integrating context for learning*. San Diego, CA: State Education and Environment Roundtable (SEER).
- Lortie, D.C. (1975). *Schoolteacher: A sociological study*. The University of Chicago Press: Chicago.
- Scales, P., Blyth, D., Berkas, T., & Kielsmeier, J. (2000). The effects of service-learning on middle school students' social responsibility and academic success. *Journal of Early Adolescence*, 20 (3), 332-358.
- Shellman, A. (2014). Empowerment and Experiential Education: A State of Knowledge Paper. *Journal of Experiential Education*, 37(1), 18-30.
- Stake, R.E. (1995). *The Art of Case Study Research: Perspective in Practice*. London: Sage.
- Yin, R., (1994). *Case study research: Design and methods* (2nd ed.). Beverly Hills, CA: Sage.

THE MENTOR MENTEE RELATIONSHIP, CHARACTER, AND EXPERIENTIAL EDUCATION: A CONCEPTUAL MODEL FOR FUTURE RESEARCH

Glenn Middleton, Western Carolina University (gdmiddleton@wcu.edu)

Introduction

Experiential education (EE) has been proffered, by those in various fields, as beneficial to the formation of character in various situations (Bruenig, 2005; Christou, 2013; Coutler, 2014; Elliot, 2000; Ewert & Garvey, 2007; Hobbs & Spencer, 2002; Mulder, 1962). If one ascribes to the Aristotelian notion that character is formed over a lifetime (I 10§11; Stonehouse, Allison & Carr 2011), however, then a problem emerges. How does EE hope to foster the elements that form one's character over a lifetime? It is in answer to this question that the mentor/mentee relationship may be applicable to EE as a conceptual model for such ambiguous concepts as character formation. One rationale for such a statement lay in the dualistic characterization of the terms—mentor, apprentice, and protégé—that comprise the mentor/mentee relationship. In the origin of each term, there is represented both a positive and negative connotation (Aldrich, 2013; Burney, 1782; Palmer, 1884), which implied a situationalist conceptualization of each term and, therefore, the relationship. Such a conceptualization necessitated elemental analysis of literary contexts in which both character formation and the relationship were present. If connections were uncovered between character formation and the mentor/mentee relationship, then the relationship might be seen as an applicable conceptual model for character formation. If these connections were able to strengthen the association between EE and character formation over one's lifetime, then the mentor/mentee relationship could be applicable to EE as a conceptual model for character formation. These connections were to be uncovered in four stages.

Character formation and experiential education

Because of the previously mentioned dichotomous views on EE's ability to promote character formation over one's lifetime, the first stage was dedicated to an acquaintance with character formation and its association with EE. Analysis of the Aristotelian notion of character formation was undertaken to create a foundation for the assertion that character formation was a lifetime endeavor. The history of character formation and its relation to both traditional and experiential education was highlighted in order to illustrate the various assertions of EE's ability to promote character formation. This stage concluded with various questions and critiques aimed at the relation of character formation and education by experience.

Phenomenology and pragmatism as analyses

The second stage presented analytical tools to be utilized in the third and fourth stages. Those tools were two philosophical lenses—phenomenology and pragmatism—for eliciting meaning from experience. Phenomenology asserts that individuals desire to *make meaning* out of experiences. To do so, we explore structures of consciousness relevant to the experience; create a structure of—or intentionalize—those structures of consciousness and employ all appropriate enabling conditions by which to relate our created intentionality to provide meaning to the experience(s) (Heidegger, 1996; Husserl, 1906; Smith, 2013). Phenomenological inquiry and reflection allows an individual to use all available thoughts, feelings, images, sensations, emotions, memories—even stream of consciousness—including those objective factors of the experience. This holistic descriptive conceptualization allows the individual a more broad analysis of elements, such as those within character formation and the mentor/mentee

relationship. Pragmatism allows an individual to utilize the meaning of experience(s) through consideration of the effects of those experiences. The utility emerges in the consideration of effects' sensibility. This means that effects are sensible if their application aids in arriving at the meaning of an experience. In this way, effects [of an experience] allow one to make sense of that experience—or derive meaning from it (Dewey, 1999; James, 1890; Pierce, 1992 & 1999; Hooway, 2013). Pragmatism, through its utilitarian conceptualization, allows an individual to assess the utility of elements phenomenologically uncovered to a concept, such as character formation or the mentor/mentee relationship.

Philosophical analysis of the mentor/mentee relationship and experiential education

The third stage highlighted the elemental and effectual origins of both the mentor/mentee relationship and EE. Phenomenological and pragmatic analyses were applied to the origins of the terms mentor and mentee in order to uncover those terms' foundational elements and effects. Modern interpretations of the terms were also analyzed in order to determine elemental and effectual congruencies with those terms' elemental origins. Phenomenological and pragmatic analyses were also applied to the origins of the theory and practice of EE in order to unearth examples of both EE's theoretical elements and practical effects. The analysis of theory focused on the writings of John Dewey and the analysis of practice focused on the work of Kurt Hahn. Modern definitions of EE were also analyzed in order to uncover elemental and effectual congruencies with EE's theoretical and practical origins.

Connections between the mentor/mentee relationship, character, and experiential education

The fourth stage sought to connect the elements and effects of the third stage to elements and effects of character formation. Both the elements and effects of the mentor/mentee relationship and EE were compared to Aristotelian elements of character formation. This allowed for clarity in regards to whether the mentor/mentee relationship and/or EE shared elemental and effectual congruency with the elements of character formation. Clarification of this similarity might undergird the assertion that the mentor/mentee relationship was applicable to EE as a conceptual model for the process of promoting the elements that form one's character over a lifetime.

Assumptions and Limitations

Assumptions and limitations implicit in all stages were discussed and conclusions were then drawn regarding whether the mentor/mentee relationship was an applicable conceptual model to EE for the process of nurturing the elements that form one's character over a lifetime. Assumptions took three forms: commonality, congruency and applicability. The commonality assumption was that there would be certain elements and effects common in the origins of both the mentor/mentee relationship and EE. The congruency assumption was that there were certain thematic congruencies between both the origins and modern interpretations of the mentor/mentee relationship and EE. The applicability assumption was based upon the two, previous assumptions in two examples—the *either/or* and *both/and*. The *either/or* example was that either the mentor/mentee relationship or EE would retain connection to the elements of character formation. The *both/and* example was that there were connections between both the mentor/mentee relationship and EE to the elements of character formation.

The limitations associated with each assumption were found in each assumption's opposite possibility. The first limitation, therefore, was that it would also be possible for no commonalities to emerge in the origins of the mentor/mentee relationship and EE. The second

limitation held that it would be possible for no thematic congruencies to exist between both the origins and modern interpretations of the mentor/mentee relationship and EE. The last limitation was split into the *neither/nor* and *either/or* examples. The *neither/nor* example held that it would be possible for neither the mentor/mentee relationship nor EE to retain connection to the elements of character formation. The *either/or* example held that it would be possible for either the mentor/mentee relationship or EE to retain connection to the elements of character formation.

Findings

In affirmation of all three assumptions, commonalities were found between the origins of the relationship and EE; thematic congruencies were found between both the origins and modern interpretations of both the mentor/mentee relationship and EE; and connections were found between both the mentor/mentee relationship and EE to the elements of character formation. Because of the above connections and congruencies, the mentor/mentee relationship was found to be applicable to EE as a conceptual model for the process of fostering the elements that form one's character over a lifetime. This applicability was particularly evident in those relational components: personality, reciprocation and assistance. These elements connected strongly to the Aristotelian assertion of partnered deliberation on issues difficult to discern of the individual alone.

Concluding Thoughts

Because of the connections uncovered between character formation, the mentor/mentee relationship, and EE, the relationship might be seen as an applicable conceptual model for character formation over one's lifetime. The afore-mentioned limitations necessitate the need for further study into the potential links and gaps between character formation, the mentor/mentee relationship, and EE. One such study might include focus EE places on elements of both the mentor/mentee relationship and character formation. Such a review of the literature might uncover gaps for studies relating to specific elements of character formation and the mentor/mentee relationship as they relate to EE. For example, if a larger number of articles simply mention elements of either the mentor/mentee relationship or character formation, but do not focus on those elements in either title or abstract of the article, then those gaps have greater potential to persist.

References

- Aristotle. (1999). *Nicomachean ethics*. (T. Irwin, Trans. 2nd ed.). Indianapolis, IN: Hackett.
- Bruenig, M. (2005). Turning experiential education and critical pedagogy theory into praxis. *Journal of Experiential Education*, 28(2), 106-122.
- Christou, T. M. (2013). Character education as a theme of progressivist schooling in interwar Ontario. *Childhood Education*, 89(6), 356-361.
- Coulter, B. (2014). *No more robots: Building kids' character, competence and sense of place. [Re]thinking environmental education. Volume 2*. Peter Lang Publishing Group.
- Dewey, J. (1938). *Experience and Education*. New York, NY: Touchstone.

- Elliot, M. J. (2000). Project approach: Celebrating the human dimensions of learning. ERIC. *EBSCOhost*. Retrieved from <http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED470871>
- Ewert, A. & Garvey, D. (2007). *Philosophy and theory of adventure education*. In D. Prouty, J. Panicucci & R. Collinson (Eds.), *Adventure education: Theory and applications*. (19-32). Champaign, IL: Human Kinetics.
- Heidegger, M. (1996). *Begin and Time*. Standburg, J. (trans.). Albany, NY: State University of New York Press.
- Hobbs, E. & Spencer, S. (2002). Perceived change in leadership as a result of Wilderness Education Association Stewardship Course. ERIC. *EBSCOhost*. Retrieved from <http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED468969>
- Hookway, C. (2013). "Pragmatism." *The Stanford Encyclopedia of Philosophy*. In E. N. Zalta (Ed.). Retrieved from <http://plato.stanford.edu/entries/pragmatism/>
- Husserl, E. (2008). *Introduction to Logic and Theory of Knowledge: Lectures 1906/07*. Netherlands: Springer.
- James, W. (1975). *Pragmatism: A new name for some old ways of thinking*. Cambridge, MA: University Press.
- Mulder, H. F. (1962). Karaktervorming door lichamelijke ispannin. (Character building by physical effort). In *Pedagogische Studien*. 39(12), 558-582.
- Smith, D. W. (2013). "Phenomenology." *The Stanford Encyclopedia of Philosophy*. In E. N. Zalta (Ed.). Retrieved from <http://plato.stanford.edu/archives/win2013/entries/phenomenology/>

WHY THEY DO WHAT THEY DO: LEADERSHIP AND FACILITATION OF BUSH ADVENTURE THERAPY TEAM LEADERS

James Newton, Flinders University, Australia (jwnewtonii@hotmail.com)

Introduction

The aim of this research was to understand how team leaders engage with the at risk youth participating in a bush adventure therapy program in South Australia. While empirical research has explored the adventure therapy experience from the perspective of at-risk youth, little research has investigated the team leaders' perspective. The field of adventure therapy has received international recognition as a prevention and intervention strategy for adolescents over the past 25 years. Designed to empower and engage young people through challenging activities in an outdoor setting, adventure therapy is also a popular intervention for working with young people at risk of entering or already entangled in the judicial system. In this thesis, I am interested in the cultural context of adventure therapy, the assumptions, expectations, processes and social practices that come together when a young person undertakes adventure therapy. Leadership and the role of adventure therapy leaders are a principal interaction between team leader and participant that influence the young person's engagement with the program. This study reports on data from interviews with team leaders from the Operation Flinders Foundation exploring approaches they utilize when working with at-risk young people attending the program. An ethnographic data analysis uncovered key themes in relation to leadership models, facilitation techniques, and how team leaders' life experiences developed their leadership style. The findings are discussed in relation to the aims of the adventure therapy organization, the role of leadership the team leaders aspired to, and the effectiveness of the adventure therapy program as an intervention for at-risk youth.

Research Questions

The primary research question of this study is "What are the lived experiences of current team leaders that have developed their leadership style and facilitation techniques?"

The secondary research question of this study is "What leadership models and facilitation techniques currently used in the field by team leaders best fit the aims of Operation Flinders?"

Literature Review

This literature review focuses on empirical research in two key areas: 1) at-risk youth & juvenile delinquency, and 2) leadership & facilitation in adventure therapy. The term at-risk youth is used to refer to adolescents who have become disengaged or marginalised through anti-social, illegal or potentially harmful behaviours (Carpenter, Cameron, Cherednichenko, & Townsend, 2008; Tarolla, Wagner, Rabinowitz, & Tubman, 2002). Studies have shown adventure therapy develops self-efficacy, self-empowerment, locus of control, positive self-image, and promotes healthy relationships in at-risk youth (Carpenter et al, 2008; Carroll et al, 2009; Heilbrun et al, 2005; Norton et al, 2014; Russell, 2006; Tarolla et al, 2002; Wilson & Lipsey, 2000). The role of the team leader is a significant part of adventure therapy (Autry, 2001; Brand & Smith, 1999; Duerden, Taniguchi, & Widmer, 2012; Russell & Farnum, 2004; Russell & Phillips-Miller, 2002; Schumann, Paisley, Sibthorp, & Gookin, 2009). Leadership is the act of expressing one's influence upon others (Priest & Gass, 2000). Leadership models are shaped by theory. A leader may or may not be conscience of the theory dictating his or her behaviour. Research has touched on many aspects of leadership and facilitation in adventure therapy. The need for further research on leadership is consistent throughout adventure therapy literature (Henderson, 2004; Neil, 2002; Norton, Tucker, Russell, Bettman, Gass, Gillis, & Behrens, 2014;

Schumann et al., 2009; Sibthorp, 2003). Qualitative research has explored the perception of adventure therapy process and leaders from the perspective of adolescent participants. Little has been added to the discussion from the perspective of adventure therapy leaders and their development of leadership and facilitation. Leaders are “individuals who bring with them inherent personality traits, experience and unique biographies, all of which influence...” (Schumann et al., 2009, p. 34) the adventure therapy process.

Method

The overarching methodology of this study is qualitative, guided by a constructionist epistemology, which asserts an individual's meaning of the world comes from interacting and engaging with it (Crotty, 1998). The target population for this study was experienced team leaders having participated in one or more exercises with the Operation Flinders Foundation. For ease of accessibility, participants were limited to residences of the greater Adelaide area in South Australia. Due to time constraints, seven team leaders participated in the study. This study used one-on-one, semi-structured, face-to-face interviews to obtain rich and deep data found in natural language from the participants (Brewer, 2000; Seale, 2012). The interview questions were organized to explore five main concepts: life experience, leadership, facilitation, at-risk youth, and the Operation Flinders Foundation. Interviews lasted 60-90 minutes. All interviews were digitally recorded and written notes were taken by the researcher. Interviews were transcribed verbatim by the researcher. Once transcribed, the researcher began ethnographic data analysis (Brewer, 2000). The first step of this process was ‘index coding’ which created categories matching the five main concepts. The second step was ‘open coding’ formulating patterns within these concepts. The third step is content analysis.

Discussion

The five main concepts explored in this research were team leaders' life experience and their perspectives on leadership, facilitation, at-risk youth and the Operation Flinders Foundation. The concept of life experience addressed biographical information leading up to the participants' involvement with bush adventure therapy, including educational background, professional experience and general aspects of their life they identified as relevant to the study. Within the concept of leadership, participants' responses presented themes of leadership qualities, creating a leadership spectrum and locating themselves on that spectrum, and describing their leadership model. The concept of facilitation involved discussing themes of defining facilitation and facilitation techniques. The at-risk youth concept included the themes of identification, definition and meaningfulness within the bush adventure therapy experience. The concept of the Operation Flinders Foundation addressed themes of training, preparation, modelling, evolution and aims. From analysis of the themes within this study, a number of discussion points are presented including 1) the lack of specific training in bush adventure therapy leadership models and facilitation techniques, 2) the reliance on life experiences to provide abilities within the team leader's job description, 3) individuals with outdoor education background had a strong understanding of leadership models and facilitation techniques within a bush adventure therapy context, while those with other backgrounds offered operational or procedural understandings of leadership models and facilitation techniques and 4) team leaders' perspective on at-risk youth directly impact their leadership model and how they deliver the bush adventure therapy experience.

References

Autry, C. E. (2001) Adventure Therapy with Girls At-Risk: Responses to Outdoor Experiential Activities. *Therapeutic Recreation Journal*, 35(4), 289-306.

- Blumer, H. (1969) *Symbolic Interactionism: Perspective and method*. Berkley, CA: University of California Press.
- Brand, D. & Smith, M. (1999) Key Elements of A Successful Wilderness Program for Delinquents: a summary. *Australian Journal of Outdoor Education*, 4(1), 40-47
- Brewer, J. D. (2000) *Ethnography*. Philadelphia, PA: Open University Press.
- Carpenter, C., Cameron, F., Cherednichenko, B., & Townsend, M. (2008) What Changes? Marginalised Young People's Expectations and Experiences of Therapeutic Adventure in Nature. *AARE's 2007 Conference Papers*.
- Carroll, A., Houghton, S., Durkin, K. & Hattie, J. A. (2009) *Adolescent Reputations and Risk*, New York, NY: Springer.
- Crotty, M. (1998) *The Foundations of Social Research: Meanings and perspective in the research process*. Crows Nest, NSW: Allen & Unwin.
- Cunneen, C. & White, R. (Eds.). (2011) *Juvenile Justice: Youth and Crime in Australia*. South Melbourne, VIC: Oxford University Press.
- 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.
- Hayes, H. & Prenzler, T. (Eds.) (2009) *An Introduction to Crime and Criminology*. Frenchs Forest, NSW: Person Education Australia.
- Heibrun, K., Goldstein, N. E. S., & Redding, R. E. (Eds.) (2005) *Juvenile Delinquency*. Oxford, UK: Oxford University Press.
- Heibrun, K., Lee, R. & Cottle, C. C. (2005) Risk Factors and Intervention Outcomes: meta analysis of juvenile offending. In Heibrun, K., Goldstein, N. E. S., & Redding, R. E. (2005) *Juvenile Delinquency*. 111-132.
- Henderson, K. A. (2004) Got Research in Experiential Education? Theory and Evidence. *Journal of Experiential Education*, 26(3), 184-189.
- Neill, J. T. (2003) Reviewing and Benchmarking Adventure Therapy Outcomes: Applications of Meta-Analysis. *Journal of Experiential Education*, 25(3), 316-321.
- Norton, C. L., Tucker, A., Russell, K. C., Bettmann, J. E., Gass, M. A., Gillis, H. L., & Behrens, E. (2014) Adventure Therapy with Youth. *Journal of Experiential Education*, 37(1), 46-59.
- Priest, S. & Gass, M. (1997) *Effective Leadership in Adventure Programming*. Champaign, IL: Human Kinetics.
- Russell, K. C., & Farnum, J. (2004) A Concurrent Model of the Wilderness Therapy Process. *Journal of Adventure Education and Outdoor Learning*, 4(1), 39-55.
- Russell, K. C. & Phillips-Miller, D. (2002) Perspectives on the Wilderness Therapy Process and Its Relation to Outcome. *Child & Youth Care Forum*, 31(6), 415-437.
- Schumann, S. A., 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.
- Seale, C. (2012) *Researching Society and Culture*. London, UK: Sage.
- Tarolla, S. M., Wagner, E. F., Rabinowitz, J. & Tubman, J. G. (2002) Understanding and treating juvenile offenders: A review of current knowledge and future directions. *Aggression and Violent Behavior*, 7, 125-143.
- Wilson, S. J., & Lipsey, M. W. (2000) Wilderness challenge programs for delinquent youth: a meta-analysis of outcome evaluations. *Evaluation and Program Planning*, 23, 1-12.

MOTIVATIONS AND TRENDS OF ACTIVE OLDER ADULT USERS AND HOW THE INFLUENCE OUTDOOR ADVENTURE PROGRAM OPORTUNITIES

Greg Petry, ME.Ed., (g.j.petry@gmail.com)

Ken Gilbertson, Ph.D., University of Minnesota-Duluth

Introduction

The basic idea of retirement that after working hard at a career one relaxes into their “golden years” (65+/- years old) is undergoing a change (Ewert, 1983; Kleiber, Walker, & Mannell, 2011; McLean, Hurd, & Brattain-Rogers, 2005b; Sugerma, 2001). Within the context of adventure programming Ewert (1983) called attention to older adults’ influence on society, identifies that their desires for programming have been largely ignored, and predicts a need for such programming. Colby and Ortman (2014) supported Ewert’s claim of societal influence, and state that the 65+ population will be 20% by 2030.

The United States baby boomer group is comprised of people born from mid-1946 to mid-1964 and who are in the age range of 45 to 65 (Colby & Ortman, 2014; Hogan, Perez, & Bell, 2008). Due to the size of the baby boomer population alone, and that as a generation, they will be retiring roughly around the same time this will create a sociological shift (Taylor, 2015; McLean et al., 2005b). Because of lifestyle differences between previous generations and the baby boomers their transition to retirement and what they will be demanding as older adults will be something the United States and the world has yet to encounter. This cohort is projected to continue to influence characteristics of the nation in the years to come (Parks, Evans, & Getch, 2013). As an adventure programming industry it behooves us to take an honest look at what motivates the baby boom generation to participate in the programs being offered.

The US Department of Health and Human Services’ Administration on Aging stated in 2014, 14.5% of the US population is over 65 years old. That is roughly one in seven people in the United States (aoa.acl.gov). By 2029 more than 20% of the U.S. population will be over the age of 65 by 2029 (Colby & Ortma, 2014; McNair, 2010). Institutions offering adventure programming would be wise to consider an aging population when designing and offering programs.

McLean et al., (2005b) agreed with Ewert (1983) that the changes in the nature of the working environment and the shifting age demographic have produced a progressively large population of “older adults who have the time, energy [ability], and wherewithal [income] to pursue leisure interests” (Ewert 1983, p.64) What is not known is what motivates these older adults to participate in adventure opportunities?

Through the identification of participant motivations, adventure program providers can market and develop programming in a “a trillion-dollar global [outdoor] industry” (Buckley, 2012, p. 961), that meets the needs of active older adults. The adventure industry as well as educational fields needs to be ready for the largest demographic shift in United States history (McLean et al., 2005b; Taylor, 2015).

Research Questions

- RQ1: What are the motivations of active older adult participants who participate in adventure education programs?
- RQ2: What are the trends in the motivations of active older adult populations who participate in adventure education programs?

- RQ3: Is there a difference between genders of adult participants in adventure education programs?

Literature Review

Several guiding theories were used to provide the basis for this study. Motivational studies and theory abound. Yet this most recent study is using a unique design and audience. Some of the foundational theories that guided this study were:

Adult learning theory (Merriam, 2001), *age stratification theory* (Riley, 1971), *activity theory* (McGuire, et al., 1999), *motivation theory* (Ewert & Hollenhorst, 1989), *self-determination theory (SDT) in context of motivation* (Ryan, Kuhl, & Deci, 1997), *edgework in context of motivation* (Lyng, 1990), *flow in context of motivation* (Csikszentmihalyi, 1990), *serious leisure in context of motivation* (Stebbins, 1982), *trends in outdoor programming* (Attarain, 2001), *role of adventure education and tourism* (Pitman, et al., 2010). It is through these theories and publications that this study was conducted.

Method

The design of this study is secondary data analysis. Where an already existing data set is reevaluated for a different purpose (Hinds, Vogel, & Clarke-Steffen, 1997; Babbie, 2011). The original data were collected between the period of 2000 and 2008. Nation wide participants self selected into the study through program registration. Data was collected through a 24-item, 5-point Likert scale instrument with an Alpha=.85.

The methods of this study were based on Ewert, Gilbertson, Luo, & Voight, 2013, and Gilbertson & Ewert, 2015. Ewert, et al. (2013) were selected for the breadth of participant data collection in time, amount, and population. One of the issues with research in our field is that often times the participants are college aged being that they are easily accessible. Ewert, et al. (2013) collected data from nation wide pool of participants who self selected into a program based at a university, but were not necessarily associated with that university. The Gilbertson & Ewert (2015) study identified the motivations of participants in adventure recreational activities. This current study identified motivations of participants 45 – 68 years old who were included in the data of the Ewert, et al. (2013) study. Gilbertson & Ewert, 2015, provided the theoretical framework that guided this study.

Analysis utilized the following statistical procedures on the data collected in Ewert et al., (2013): descriptive statistics, the Pearson Correlation Coefficients, a Principle Component Analysis (PCA), and an Exploratory Factor Analysis (to validate the PCA). The resulting factors were then put through an Orthogonal Varimax Rotation to make the final determination of which motivational factors explain why active older adults participate in adventure education experiences.

The factors were grouped into three groups. Variables with an eigenvalue of .90 or higher was considered a High Variable of Motivation. Intermediate Variable of Motivation eigenvalues ranged from .080-.89, and eigenvalues of Low Variable of Motivation ranged < .79. Finally, using these motivations, trends of participation were charted to show stability and/or changes in motivations through time.

Results

In this study active older adults are defined as adults who participate in adventure programming. Our focus was on the upper age-range group (45-68 years old) with a total sample of n= 71 older adults. Age distribution was very left skewed which put the majority of the

population between the combined age range of 45-55, with the highest number of participants in the age range of 51-55 age range.

Of the original 45 motivational variables 19 motivational variables emerged to be the most significant explanations on what motivates active older adults to participate in outdoor education activities.

Variables were ranked into High, Intermediate and Low Variables of Motivation. The High Variables of Motivation were: Goals (0.94); Test (Self) (0.92); Values (0.91) and Accomplishment (0.91). Intermediate Variables of Motivation were: Teamwork (0.88); Out of Routine (0.87); Friends (0.87); Challenge (0.87); Skill Development (0.86); Novelty (0.86); Natural Environment (0.86); Interact (with others) (0.86); Exhilaration (0.82) and Control (0.81). Low Variables of Motivation were: Self Expression (0.76); To Be Known As (0.68); Use Gear (0.66); Show Others (0.66) and Danger (0.58).

Discussion

RQ1: What are the motivations of active older adult participants who participate in adventure education programs?

Active older adults tended to be in either the beginner (starting a new activity), or advanced (practicing/honing already owned) skills, and borrowing terms from the original study, more focused on Social, Self-Confidence, and Sensation-Seeking motivations (Ewert et al., 2013).

RQ2: What are the trends in the motivations of active older adult populations who participate in adventure education programs?

Trends remained consistent over the eight-year collection period with slight growth within the variables of Goals, Accomplishment, Test (self), Values, Natural Environment, Skill development, Interact, and Teamwork. A slight decline was present in the variables of Use Gear, Novelty, Control, and Out of routine.

RQ3: Is there a difference between genders of adult participants in adventure education programs?

Male and Female scores based by percent were proportionally similar across all 19 variables with the exceptions that active older adult males reported skill development and females value of the experience. Both ranked the natural environment and novelty (to do something new) more often than any other motivational variable. Ultimately, these results show that older active females and males participate in outdoor adventure activities for very similar reasons.

Secondary Data Analysis has inherent limitations. In this case, I found limitations concerning the motivational variable of Show Others and the upper age ranges of the sample. This study is restricted to the age range of 45-68 year old adults. It is limited to the data collected by Ewert, Gilbertson, Luo, & Voight's 2013 study, *Beyond "Because It's There" Motivations for Pursuing Adventure Recreational Activities*. True motivation may not be complete because all the data were self-reported and the clients self selected through registration into the program (Babbie, 2011). The study is eight years old at the time of writing, and it is not known how trends have shifted since the data was collected. It was unclear from the original data set if participants chose the motivational variable of to show others a skill because there was the motivation was linked to self-image, or social factors. This made this particular motivational variable malleable and difficult to pin point like other more clearly identifiable motivational variables such as to be with friends.

Implications

This information affects the outdoor industry. Industry administrators, field staff, marketing firms, and savvy participants who want the best adventure programming experience would do well to look at what this data suggests.

Motivations of active older adults differ from that of younger populations. They are searching for programming that offers active older adults clear, achievable goals, in a natural setting that they, as participants, have some influence over. This could mean that they are involved in program logistics, such as route decisions, or menu planning. In addition, active older adults find that being part of a group, the excitement of doing something new, and a chance to build on-or-acquire new skills within adventure education programming are important to deciding whether to participate or not. That adventure education programming should be mindful of the desire to be social with other participants and the instructor.

The outdoor industry should focus on programming that offers and meets the desires of an active older population; have a stronger marketing focus on beginner and advanced skill levels, consider employing older, or training younger instructors to match participant motivations, and consider gender specific programming that has characteristics of skill development for males, and changes in routine with a stronger focus on the natural environment for females.

Adventure education programs have an opportunity to prepare for the largest demographic shift in United States history, as the baby boomer generation also prepares for life after work. Adventure education programs can help to build strong communities and provide opportunities for successful aging of active older adults.

This study demonstrates that populations of active older adults have different motivation and programming needs than younger populations when it comes to adventure education. Grouping these two populations together may hinder active older adult participation. Separate programming should be considered in order to meet the needs of active older adults and could increase participation numbers for industry providers.

References

- Administration on Aging (AoA). (2016, December 31). Retrieved July 12, 2016, from http://www.aoa.acl.gov/Aging_Statistics/index.aspx
- Attarian, A. (2001). Trends in outdoor adventure education. *Journal of Experiential Education*, 24(3), 141-149.
- Babbie, E. (2011). *The Basics of Social Research* (5th ed.). Chapman University, CA: Wadsworth Cengage Learning.
- Colby, S. L., & Ortman, J. M. (2014). The Baby Boom Cohort in the United States: 2012 to 2060, 16.
- Csikszentmihalyi, M. (1990). The Anatomy of Consciousness. In *Flow: The psychology of optimal experience*. New York, NY: Harper & Row.
- Ewert, A. (1983). Adventure Programing for the Older Adult. *Journal of Physical Education, Recreation and Dance*, 54(3), 64-66.
- Ewert, A., Gilbertson, K., Luo, Y.-C., & Voight, A. (2013). Beyond “Because It’s There ” Motivations for Pursuing Adventure Recreational Activities. *Journal of Leisure Research*, 44(1), 91-111.
- Ewert, A., & Hollenhorst, S. (1989). Testing the adventure model: Empirical support for a model of risk recreation participation. *Journal of Leisure Research*, 21, 124-139.
- Gilbertson, K., & Ewert, A. (2015). Stability of motivations and risk attractiveness: The adventure recreation experience. *Risk Management*, 17(4), 276-297.

- Hinds, P. S., Vogel, R. J., & Clarke-Steffen, L. (1997). The Possibilities and Pitfalls of Doing a Secondary Analysis of a Qualitative Data Set. *Qualitative Health Research*, 7(3), 408-424. Retrieved February 3, 2016.
- Hogan, H., Perez, D., & Bell, W. R. (2008). Who (Really) are the first baby boomers. In *Statistical meetings proceedings, social statistics section; Alexandria, VA*.
- Kleiber, D., Walker, G., & Mannell, R. (2011). Age and Gender as Determinants. In *A Social Psychology of Leisure* (2nd ed., pp. 230-264). State College, PA: Venture.
- Lyng, S. (1990). Edgework: A Social Psychological Analysis of Voluntary Risk Taking. *American Journal of Sociology*, 95(4), 851. doi:10.1086/229379=
- McGuire, F., Boyd, R., & Tedrick, R. (1999). The importance of leisure, *Leisure and Aging: Ulyssean Living in Later Life* (3rd ed.). Champaign, IL: Sagamore.
- McLean, D., Hurd, A., & Brattain-Rogers, N. (2005b). Philosophy of Recreation and Leisure. In *Kraus' recreation and leisure in modern society* (7th ed., pp. 319-348). Sudbury, MA: Jones and Bartlett.
- McNair, S. (2010). Making sense of the future. *Adults Learning*, 29-32.
- Merriam, S. B. (2001). Andragogy and Self-Directed Learning: Pillars of Adult Learning Theory. *New Directions for Adult and Continuing Education*, 2001(89), 3. doi:10.1002/ace.3.
- Parks, R., Evans, B., & Getch, Y. (2013). Motivations and enculturation of older students returning to a traditional university. *New Horizons in Adult Education and Human Resource Development*, 25(3), 62-75. doi:10.1002/nha3.20031.
- Pitman, T., Broomhall, S., McEwan, J., & Majocha, E. (2010). Adult learning in educational tourism. *Australian Journal of Adult Learning*, 50(2), 219-238. Retrieved April 1, 2015, from <https://ala.asn.au/wp-content/uploads/ajal/2010/JournalJuly2010.pdf#page=240>.
- Riley, M. (1971). Social Gerontology and the Age Stratification of Society. *The Gerontologist*, (11), 79-87.
- Ryan, R., & Deci, E. (a) (2000). Self-determination theory and the facilitation of intrinsic motivation. *American Psychologist*, 55(1), 68-78. doi:10.1037/0003-066X.55.1.68.
- Stebbins, R. (1982). Serious leisure: a conceptual statement. *Pacific Sociological Review*, 25, 251e272. Stronza,
- Sugarman, D. (2001). Motivations of older adults to participate in outdoor adventure experiences. *Journal of Adventure Education & Outdoor Learning*, 1(2), 21-33. doi:10.1080/14729670185200051
- Taylor, P. (2015). *The next America: Boomers, millennials, and the looming generational showdown*. New York, NY: Public Affairs.