Welcome to SEER

Welcome to the 13th 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 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.

This year, we are pleased to re-introduce the SEER poster session. Due to the many quality proposals submitted this year, we included the poster session as a way to provide an audience for these studies. We also continue to include a key points and summary of potential research topics discussions to each of the SEER sessions. As is now a SEER tradition, we are delighted to open SEER with a reception and address for the winner of the 2013 Distinguished Researcher Award, Dr. Alan Ewert. We are pleased Dr. Ewert has agreed to open our 13th SEER with his thoughts about experiential education research.

Along with the researchers who submitted their work for review, we also wish to recognize others for their efforts in making the symposium a reality. First, we would like to thank the AEE and staff members, including Shawn Tierney and Caitlin Leahy and the 2013 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 the scholars who graciously served as reviewers of the submitted abstracts: Mat Duerden, Garrett Hutson, Marni Goldenberg, Jillisa Overholt, Alison Rheingold, Jayson Seamon, Amy Shellman, Anita Tucker, Karen Warren, Mary Wells, and Frank Vernon.

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. 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, we prepare and host SEER.

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

Stacy Taniguchi, Co-Chair
Denise Mitten, Co-Chair
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Held by the universe: Nature as an agent of transformation and healing in one experiential program. Jamie Hannon.

Session 2  Study of Jewish experiential educators and what makes them effective. Gabe Goldman.


Improving the accuracy of emerging outdoor educators’ teaching self-efficacy beliefs through metacognitive monitoring intervention. Scott Schumann & Jim Sibthorp.

Session 3  Audio-coding vs. whole interview transcription: Promising advances in qualitative analysis software. Paul Stonehouse.


Session 4  Voices for the land: Women ranchers’ sense of place and role in passing on knowledge, values, and wisdom. Noël Caniglia.

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SCHEDULE OF SEER SESSIONS

SESSION 1: Thursday, October 31, 2013 (12:00 Noon – 2:05 PM)

12:00P-12:05P = Welcome to the Symposium on Experiential Education Research (SEER)

12:10P-12:30P = Opening Address by the Recipient of the Distinguished Researcher in Experiential Education Alan Ewert

SEER Session 1 Speakers

- 12:35P-12:55P = Nathan Meltzer, *An investigation of the effect of an outdoor orientation program on participants’ biophilic expressions*
  - Andrew Bobilya & Denise Mitten, Co-authors

- 1:00P-1:20P = Andrew Bailey, *Wilderness orientation programs: Connecting the dots of process and outcomes*
  - H. K. Kang, Co-author

- 1:25P-1:45P = Jamie Hannon, *Held by the universe: Nature as an agent of transformation and healing in one experiential program*

1:50P-2:05P = Key Points and Research/Practice Implications, Chaired by Nevin Harper, assisted by graduate student, Michael Wagner

SESSION 2: Thursday, October 31, 2013 (2:30 PM – 4:10 PM)

2:30P-2:35P = Session Introductions Stacy Taniguchi

SEER Session 2 Speakers

- 2:40P-3:00P = Gabe Goldman, *Study of Jewish experiential educators and what makes them effective*

- 3:05P-3:25P = Franklin Vernon, *Safe space pedagogy in adventure education: A study of challenge-by-choice*
  - Melanie Wills, Co-author

- 3:30P-3:50P = Scott Schumann, *Improving the accuracy of emerging outdoor educators’ teaching self-efficacy beliefs through metacognitive monitoring intervention*
  - Jim Sibthorp, Co-author
3:55P-4:10P = Key Points and Research/Practice Implications, Chaired by James Patsalides, assisted by graduate student, Matt Vosler

**POSTER SESSION:** Thursday, October 31, 2013 (5:30 PM – 8:00 PM)

  - W. Brad Faircloth & Whitney H. Montgomery, Co-authors

- Ken Gilbertson, *Is risk the real reason for adventure recreation: motivation stability in adventure activities.*
  - Alan Ewert, Co-author

- Jeffrey T. Glover, *Adventure Movement Project: Creating a sustainable adventure movement*

  - William F. Heinrich, Heather L. Johnson, & Susan Santone, Co-authors

- Ayako Hayashi, *Effects of a college outdoor orientation program on social provision and its contribution to school adjustment.*
  - Tomohiro Miyamoto, Co-author

- Matthew Hoag, *Dissecting the wilderness therapy client: Examining clinical trends, findings, and industry patterns.*
  - Katie Massey & Sean Roberts, Co-authors

- R. Justin Houghman, *Adventure learning to promote STEM education and physical activities in schools.*
  - Brant G. Miller, Karla Eitel, Susan Houge Mackenzie, Julie Stafford Son, & Gary Thompson, Co-authors

- James Patsalides, *Learning to be Creative: Student Perspectives on Classroom Learning and Creativity*

- Nicholas Prechel, *The Impact of Youth Conservation Corps on Participants: A Multi-Method Examination*
  - Amy Shellman, Co-author
**SESSION 3: Saturday, November 2, 2013 (1:30 PM – 3:10 PM)**

1:30P-1:35P = Session Introductions Bobbie Beale

SEER Session 3 Speakers:

- 1:40P-2:00P = Paul Stonehouse, *Audio-coding vs. whole interview transcription: Promising advances in qualitative analysis software*
  - Jackson Wilson, Co-author

  - Jackson Wilson, Co-author

- 2:30P-2:50P = Kristy Johnsson, *The relationship between body image and outdoor experience in female college students*
  - Tara Hoppe, Denise Mitten, & Chiara D’Amore Co-authors

2:55P-3:10P = Key Points and Research/Practice Implications, Chaired by Frank Vernon, assisted by graduate student, Nicholas Prechel

**SESSION 4: Saturday, November 2, 2013 (3:25 PM – 5:05 PM)**

3:25P-3:30P = Session Introductions Denise Mitten

SEER Session 4 Speakers:

- 3:35P-3:55P = Noël Caniglia, *Voices for the land: Women ranchers’ sense of place and role in passing on knowledge, values, and wisdom*

- 4:00P-4:20P = Nicole Apelian, *Aged-based attitudes toward formal schooling in two communities of San Bushmen in the western Kalahari, Botswana*

- 4:25P-4:45P = Jill Overholt, *Role restructuring and equalizing experiences through family adventure*

4:50P-5:05P = Key Points and Research/Practice Implications, Chaired by Stacy Taniguchi
A Brief History of the Symposium on Experiential Education Research (SEER)

Keith Russell (SEER Co-Chair 2006-2008)

Stacy Taniguchi (SEER Co-Chair 2011-Present)

The Symposium on Experiential Education Research (SEER) is a research symposium providing an outlet and venue for researchers who use experiential methodologies in a variety of fields 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 also is 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 was giving back to the field he has 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 leading international scholars in fields using experiential methodologies guided by the philosophy of experiential education. The process by which papers are selected for SEER begins each spring, when a call for papers is released in the JEE, on listservs, and other outlets, asking researchers, graduate students, and practitioners to submit their abstracts to a blind, peer-reviewed process facilitated by the co-chairs of SEER. After receipt of the abstracts, the names and affiliations are stripped from each paper and they are sent out for blind review to a panel of researchers. Abstracts are reviewed for relevance to experiential education methods, research methodology, and logic and clarity in writing. The papers are then ranked, and the top abstracts are selected for presentation 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. For about 10 years, the spring edition of the JEE published these abstracts as a way to make them available to a wider readership. Currently, AEE publishes the abstracts of the last year online. Reading these abstracts is a great way to glimpse current research interests and cutting-edge research methodologies in experiential education methodologies.

In Little Rock, Arkansas (2007), the SEER program was modified to 90-minute, theme-based sessions. In this way, 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 is 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, leaders in fields using experiential education. This has provided a unique opportunity for substantive dialogue around current research.

Beginning in 2008, SEER partnered with the Council on Research and Evaluation (CORE) in to
explore ways to support the needs of AEE members and expand research about the theory and practice of experiential education. As experiential education continues to grow and evolve in a social, political, and economic context, research plays 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. This year we are glad to include another rich poster session.

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. Her long dedicated service to AEE and experiential education research has been valuable in putting together this year’s SEER.

SEER is very honored this year to recognize Dr. Alan Ewert, of Indiana University, as the recipient of the 2013 AEE Distinguished Researcher Award. As the founder of this symposium back in 2001, this recognition has important meaning for those of us who have participated and supported SEER for the last 13 years.

It is our hope that SEER will remain one of the many mechanisms for helping further AEE’s mission in the years to come.

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
ABSTRACTS BY SEER SESSION

An Investigation of the Effect of an Outdoor Orientation Program on Participants’ Biophilic Expressions

Nathan W. Meltzer, Prescott College
Andrew J. Bobilya, Montreat College
Denise Mitten, Prescott College
W. Brad Faircloth, Montreat College

Review of Literature

The natural world has been identified as a powerful component of wilderness experience programs, as it serves as both a teacher and classroom (Herdman, 1994; Paxton & McAvoy, 2000). However, historically the relationship between humans and the natural world has not always been acknowledged within the field of adventure education (AE). Initially, the aim of many AE programs (e.g. Outward Bound) was to primarily foster the development of relationships among participants (Hayllar, 1990; Miles, 1995; Priest, 1986). When the relationship between participants and the natural world has been given more programmatic attention, it has often been via curriculum and pedagogy developed through the discipline of environmental education and aimed at the development of more environmentally sustainable behaviors (Hines, Hungerford, & Tomara, 1987; Loynes, 2002; Sobel, 2008). Some practitioners and researchers have argued for the acknowledgement of the human-nature relationship in a definition of AE (Beringer, 2004; Henderson, 1999), and have called for greater inclusion of ecological concepts within AE programming (Medrick & Mitten, 2011; Mitten, 2009). Furthermore, there have been advocates for more comprehensive education about nature-related topics on AE programs, including incorporating principles of ecopsychology (Henderson, 1999) and deep ecology (Beringer, 2004). Another option is to investigate this relationship through the lens of biophilia, defined as “the innate tendency to affiliate with life and lifelike processes” (Wilson, 1984, p. 1). A deeper understanding of the relationships between humans and the nature may help to more accurately illustrate a program’s effects on participants.

The theory of biophilia provides a comprehensive framework for understanding how people relate to the natural world. Through its articulation of nine unique “biophilic expressions,” the theory acknowledges a broad spectrum of ways of relating to and interacting with the natural world (Kellert, 1997; Wilson, 1984). Biophilia is believed to be an evolutionarily ingrained part of human nature, expressed across humanity independently of “group affiliation, history, and culture” (Kellert, 1997, p. 6). Yet, biophilia can also be fostered or repressed based on one’s own learning and experiences. Each person’s pattern of biophilic expression results from the combination of social learning, cultural conditioning, and direct experience with the natural world (Shorb & Schnoeker-Shorb, 2010). The Kellert-Shorb Biophilic Values Indicator (KSBVI) is a 99-point questionnaire that reveals one’s biophilic profile, the survey-taker’s relative expressions of each of the nine biophilic responses at a given moment in time. The indicator consists of a series of statements on a four-point Likert scale, ranging from strongly agree to strongly disagree (Shorb & Schnoeker-Shorb, 2010). Participants’ biophilic expressions are scored on a scale ranging from 11 to 44 for each category within the subscale, with 44 representing a score of four (the highest possible biophilic expression) for each
of the eleven questions. See Table 1, *A Typology of Values of Nature*, for a description of each of the biophilic expressions.

Table 1

<table>
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<tr>
<th>Value</th>
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<tr>
<td>Aesthetic</td>
<td>Physical attraction and appeal of nature</td>
</tr>
<tr>
<td>Dominionistic</td>
<td>Mastery and control of nature</td>
</tr>
<tr>
<td>Humanistic</td>
<td>Emotional bonding with nature</td>
</tr>
<tr>
<td>Moralistic</td>
<td>Ethical and spiritual relation to nature</td>
</tr>
<tr>
<td>Naturalistic</td>
<td>Exploration and discovery of nature</td>
</tr>
<tr>
<td>Negativistic</td>
<td>Fear and aversion of nature</td>
</tr>
<tr>
<td>Scientific</td>
<td>Knowledge and understanding of nature</td>
</tr>
<tr>
<td>Symbolic</td>
<td>Nature as a source of language and imagination</td>
</tr>
<tr>
<td>Utilitarian</td>
<td>Nature as a source of material and physical benefit</td>
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*Note*: Adapted from Kellert, 2002, p. 130

The theory of biophilia is still entering the AE discourse as a possible means of better understanding how participants relate to the natural world, and the KSBVI has never been used in the field of AE or in a pre-post-survey format. Therefore, the purpose of this exploratory study was to better understand the effects of the Prescott College New Student Orientation on participants’ relationships with the natural world as demonstrated through their biophilic profiles by applying the KSBVI to the program in a pre- and post-experience format.

**Methods**

This paper presents findings from a study conducted with the Prescott College New Student Orientation in the fall of 2012. The program is a 21-day Outward Bound-type outdoor orientation trip during which students travel in a backcountry setting with the goal of easing the transition to college through forming bonds with peers and learning about their new academic and geographic home (K. Preziosi, personal communication, June 21, 2012). This orientation program began in 1968 (Bell, Holmes, & Williams, 2010), and is one of the oldest in the United States. The program’s components are similar to Outward Bound including opportunities to practice leadership, communication, backpacking and a solo lasting up to 72 hours. Each student also prepares an academic portfolio and makes three verbal presentations to their small group. The participants eligible for the study were those enrolled in the New Student Orientation in August and September, 2012. Of the 126 students who participated in the program, 85 completed both pre and post surveys. There were 54% female and 46% male, with 70% 16-20 years old.

This study utilized a mixed-methods design in which qualitative and quantitative elements were conducted separately, and the data from each were not intended to be merged (Creswell, 2009). This paper will report a portion of the quantitative data consisting of results from the participants’ pre- and post-program KSBVI surveys. Surveys were administered on campus prior to the program and again on the final night in the field while still in small groups. The primary researcher and the developers of the KSBVI scored and coded the results. Data management and analyses were completed using SPSS 19. Data was removed listwise for the purpose of analyses, resulting in a sample of 85 participants with complete data. Descriptive statistics, including participants’ demographic data, were calculated to better understand the
characteristics of the sample. Next, correlations were calculated for each of the nine subscales of biophilia between the pre and post scores. These correlations provide both an estimate of stability in participants’ responses over time and a measure of the statistical dependency present in scores taken from the same people over time. Given the high degree of relation between pre and post scores, a series of paired-sample $t$-tests were conducted to assess change in mean scores from pre to post. The $t$-tests were calculated by creating difference scores for each participant (i.e., post – pre) and comparing those to a score of zero (Rausch, Maxwell & Kelley, 2003).

**Results**

Pre and post scores for all of the nine biophilic values were significantly correlated ($p \leq .05$) indicating a high degree of stability over this three-week timeframe. The average biophilic post minus pre scores were the following: moralistic (39.67 – 38.41 = 1.26), naturalistic (38.04 - 36.64 = 1.40), aesthetic (33.40 - 32.26 = 1.14), humanistic (33.30 - 32.44 = 0.86), scientific (32.26 - 30.13 = 2.13), negativistic (22.87 - 23.54 = -0.67), utilitarian (25.10 - 25.77 = -0.67), dominionistic (22.64 - 23.06 = -0.42), and symbolic (20.46 - 21.17 = -0.71). Paired-sample $t$-tests indicate statistically significant change from the pre to post scores in eight of the nine biophilic values: scientific $t(84) = 5.14, p = .00$; aesthetic $t(84) = 3.93, p = .00$; naturalistic $t(84) = 3.80, p = .00$; moralistic $t(84) = 3.54, p = .001$; humanistic $t(84) = 2.40, p = 0.02$; negativistic $t(84) = -2.37, p = 0.02$; symbolic $t(84) = -2.21, p = 0.03$; and utilitarian $t(84) = -2.04, p = .04$. The dominionistic biophilic expression did not show statistically significant change: $t(84) = -1.33, p = .19$.

**Discussion**

These results indicate that change in biophilic expression, and thus one’s relationship with the natural world, occurred over the course of this OOP. Furthermore, this change happened in two directions, as the scientific, aesthetic, naturalistic, moralistic and humanistic expressions of biophilia increased, and the negativistic, symbolic, and utilitarian expressions decreased. It is significant to note that the KSBVI was sensitive enough to detect change in participants’ biophilic expression scores on 8 of the 9 subscales from pre to post, in spite of the significant correlations between participants’ scores at those assessment points. In other words, the KSBVI was powerful enough to detect changes in those subscales over time with a relatively small sample.

Overall, the results of this exploratory study demonstrate that studying the effects of an OOP on participants’ relationships with the natural world through the lens of biophilia can provide insight into participant growth and programmatic outcomes. This lens could prove useful for educators and program directors interested in a deeper understanding of their programs. Furthermore, moderational and mediational analysis of the current dataset will provide further insight into the potential influence of various programmatic and participant characteristics (e.g., instructors’ KSBVI profiles, program length, curriculum components, and demographic factors). The researchers recommend replication of the KSBVI in a pre- post- experience format within the field of AE. The researchers suggest that ongoing utilization of the KSBVI strengthens our understanding of the theory of biophilia and of the influences of AE programming on participants’ relationships with the natural world.

_Nate Meltzer can be reached at natemeltzer@gmail.com_
References


SEER 2013 ABSTRACT

Wilderness orientation programs: Connecting the dots of process and outcomes

Andrew W. Bailey, University of TN, Chattanooga
Hyoungkil Kang, Southern Wesleyan University

Literature Review

Since the instigation of Wilderness Orientation Programs (WOP) at Dartmouth College in 1935, these experiences have gained popularity across the U.S. and abroad. There are currently over 200 programs that incorporate wilderness activities into college orientation (Bell, Holmes, Vigneault, & Williams, 2008). Previous studies have identified many benefits associated with WOPs, including: Social support (Bell, 2006), higher grade point average (GPA) and retention (Gass, 1987), efficacy and spiritual development (Bobilya, Akey, & Mitchell, 2008), and a new perspective of oneself and others (Gass, Garvey, & Sugerman, 2003). Adventure programs promote the outcomes by presenting solvable challenges in a supportive environment, thereby enhancing one’s confidence and social support, which would ideally transfer to the academic environment (Miles & Priest, 1999). These findings are not devoid of controversy, but they do provide evidence to support the efficacy of outdoor programs in promoting personal and professional growth.

Many of the outcomes assessed through WOPs are driven by the need to legitimize such experiences as predictors of academic success. Academic success, however, may be a short-sighted objective, given the dubious relationship between GPA, career success, and meaning in life (Bailey & Fernando, 2012). While it may always be vital to support institutional goals of high academic achievement and student retention (Evans, Forney, & Guido-Dibrito, 1998), it may be equally important to aid students in discovering a life purpose that will help them endure future challenges (Baxter-Magdola, 1999; Bobilya, Akey, & Mitchell, 2008). The purpose of this study was to build on previous research with an exploratory structural equation model (SEM) predicting first-year GPA, first-year student retention, and sense of purpose. A secondary aim is to elucidate the relationships between key WOP benefits and correlates identified in previous research.

Methods

Participants in this study were 328 incoming freshmen at a private liberal arts college in the upper Midwest of the U.S. This WOP was available to all freshmen, but space was limited. Those who chose to participate were able to earn credit for one of three activity classes that all students are required to take. Ninety-five students participated in this program, attending one of several ten-day trips that included paddling, climbing, biking, and/or backpacking as well as team-building and group processing activities. These students received an online survey link directly after the WOP, at the end of the fall semester, and again after spring break. There were 75 completed surveys from WOP participants resulting in a 79% response rate. Another 200 randomly selected students who did not participate in the WOP received survey links on the same time schedule. One hundred and fifty of these surveys were completed for a 75% response rate.
The survey included measures of age, gender, and socio-economic status as well as several constructs gleaned from previous research. Social support was measured through formal (5 items) and informal social engagement (5 items) indicators taken from the Social Capital Short Form (The Saguaro Seminar, 2002). Routine reflection was assessed with two items indicating how often students prayed/meditated and journaled over the previous month. Sense of belonging was measured with Shamai’s Sense of Place scale (1991). Self-efficacy was measured with 5 items adapted from Peshar, Veenstra, and Molenaar (1999). Finally, five items adapted from the Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006) and the Hope scale (Babyak, Snyder, & Yoshinobu, 1993) were used to measure purpose in life. Additional items (GPA, ACT scores) were provided by the registrar. All factors were averaged and entered as observed variables into the SEM. The model was analyzed in Amos 16, using an exploratory approach. Each factor was specified to influence the three outcome measures (GPA, retention, purpose) in the primary model. After each analysis, a single path was removed until all non-significant paths and factors were removed from the model.

Results

The final model (Figure 1) demonstrated a strong fit for the data ($\chi^2 = 43.222/ 38 \text{ df}, p = .258$, $CFI = .975$, $RMSEA < .001$). Through model reduction Sense of Place, formal social engagement, and self-efficacy were removed from the model. ACT scores were the strongest predictor of student retention (.24) and cumulative GPA (.44), but had no significant effect on sense of purpose. Informal social engagement influenced registration status (.18) and sense of purpose (.29), but not GPA. Routine reflection influenced GPA (.31) and sense of purpose (.22), but not retention. Finally, the WOP program had no direct influence on retention or GPA, but it did impact one’s level of informal social engagement (.20), routine reflection (.14), and sense of purpose (-.22). There was a positive indirect effect of the WOP on all outcome measures. WOP participation and ACT scores were significantly correlated ($r = .180$), indicating that WOP participants were academic achievers.

Discussion

Given the popularity of WOPs in the U.S. and the growing body of research, a model of program impact is needed. The purpose of this study was to elucidate relationships of constructs
from previous WOP research and determine their relative influence on academic outcomes. These findings confirm previous research demonstrating a positive influence of WOPs on social engagement, GPA and retention (Gass, 1986). It should be noted that informal social engagement and routine reflection are not programmed activities. These activities are initiated by the students, though often encouraged by the college. Thus, the sense of community developed during the WOPs may play a role in establishing healthy social habits that may pay dividends throughout one’s college attendance (Gass, 2003). At the same time, the results illustrate the complexity of this influence, indicating that the power of WOPs may be mediated by social support and routine reflection. Though ACT scores still predict retention and GPA stronger than any other factors in the model, it WOP programs may provide an additional influence.

WOP participation demonstrated a negative relationship with sense of purpose, which is initially perplexing. When viewed in light of previous research, it may simply reflect the introspective nature of participants attracted to wilderness activities. The sense of purpose construct in this study measured the extent to which one has found meaning. Previous studies have revealed a negative relationship between the search for meaning and it’s discovery (Bailey & Fernando, 2012). Other research indicates that most young adults are searching for meaning, and relatively few feel that they have actually found it (Bodner, Bergman, & Cohen-Fridel, 2013). It is possible that these students are searching for purpose but lack the finality of a “calling”.

Future research will be needed to determine the external validity of these results, and the nature of colinearity between the eliminated factors (sense of place, and self-efficacy). While not conclusive, this study provides a foundation from which to begin telling the story of how wilderness activities might enhance academic achievement and lifelong well-being.

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References


SEER 2013 ABSTRACT

Held by the Universe: Nature as an agent of transformation and healing in one experiential program

Jamie Hannon, Plymouth State University

Review of Literature

The use of nature for experiential programming is widespread (Friese, Hendee, & Kinziger, 1998), yet outdoor experiential learning has been characterized as an “educational black box” (Ewert, 1983, p. 27) that produces outcomes through an unknown process. Existing models of adventure or outdoor programming represent nature as an impartial, neutral backdrop for human-centered processes, or as a mechanistic source of natural consequences (Luckner & Nadler, 1997; Walsh & Golins, 1976). Further, nature’s role in achieving program outcomes is poorly understood (Hodgson & Berry, 2011; McKenzie, 2000). Recent discussions of nature in the field of adventure therapy are suggestive of its importance, but also indicate a paucity of empirical support for nature as a program element (Gass, Gillis, & Russell, 2012). An educator seeking to develop a rationale for nature experiences as a program element is limited to discussing nature as passive or mechanistic.

This state of knowledge, however, is in tension with professional anecdotal experience, existing writing of the humanities, theoretical writing in experiential education (Mitten, 2009; Uhlik, 2009), and wilderness social science research (Ewert & McAvoy, 2000; Riley & Hendee, 2000). Research from the fields of environmental psychology (Gatersleben, 2008; Kaplan & Kaplan, 1989) and medicine (Frumkin, 2001; Ptok, 2007; Stark, 2003; Ulrich, 1984) continues to emerge which supports the power of nature experiences to transform individuals, promote growth and heal. And in disciplines related to childhood education and development, recent research indicates that nature experiences have numerous psychological, social and physiological benefits such as increasing resilience by buffering life stresses (Ottosson & Grahn, 2008; Wells & Evans, 2003); decreasing stress and aggression, increasing concentration, attention and self-discipline, and reducing the symptoms of ADD/ADHD (Kuo & Faber Taylor, 2002; Kuo & Faber Taylor, 2004; Kuo & Sullivan, 2001). Grounded in this understanding of the positive impacts of nature experience from outside the literature of outdoor experiential programming, this study further developed the empirical support for nature as a program element.
Method

This grounded theory study explored the role of nature experiences in the personal growth and healing experienced by participants in a nature-based program for individuals in crisis. This study employed an inductive, qualitative approach since the subject of inquiry was exploratory, poorly understood, complex, and embedded in cultural and personal contexts (Creswell, 2003). Specifically, a flexible grounded-theory method (Charmaz, 2006) was chosen, since the purpose of the research was to develop an understanding of relationships between aspects of programs, and between program elements and outcomes.

Program, participants and procedures: The eight individuals interviewed had participated in one or more of three separate multi-day programs provided by Two Roads Maine. These programs involved communal living, group Council sessions, and daily Solos in natural settings. “Nature as healer” was an explicit theme of the program design, so it was reasoned that this program was a good opportunity to explore the question of how nature promoted growth and transformation for the participants.

Semi-structured interviews were conducted soon after participants returned home. Interviews were recorded and transcribed verbatim. Additionally, participants shared physical items (natural objects, photos, journal passages) from their program experience as a way of eliciting richer interview responses.

Interview transcripts were coded using a constant-comparison method. Initial coding produced 291 codes. Focused coding produced 27 categories of related or similar codes, for which data saturation was high. Further relational analysis between these categories produced four primary functions, with the common theme of nature as catalyst.

The researcher employed several strategies to support the trustworthiness of the research findings, including member-checks, reflexive journaling, immersion in the data, peer debriefing and inter-coder reliability analysis.

Findings

Data analysis produced an emergent theory of nature as a catalyst of four important program processes, as well as a provider of important healing phenomena in its own right. The theory is solidly grounded in and supported by the words of the study participants. The four catalytic functions, in order of saturation and perceived importance, are:

1. Nature promotes psychological states that enhance growth or transformation. Of particular note is the role of positive emotions (e.g., gratitude, joy, inspiration) as compared to dissonant emotions. Participants also reported an affirmation or development of belief in an animated and caring Universe that was an ally in their healing, offering feelings of strength and hope, among other positive emotions.

2. Nature provides concrete examples of abstractions (isomorphic parallels) that reframe issues or provide new insights. Varied natural phenomena functioned as metaphors or models for participants, promoting personal insights. These metaphors were often understood as a gift from a caring, allied Universe, and thus affirmed these beliefs. Additionally, since these metaphors were perceived as coming from Nature, not from the program facilitator, they had greater authority for the participant.

3. Nature promotes group processes or conditions that enhance the program goals and individual growth processes. Nature offers shared experiences that promote group
relatedness, counterbalances the psychological intensity of group process, and provides a feeling of “being held” that enhances the growth or healing process.

4. **Nature promotes and perpetuates the transfer of program of outcomes into everyday life.**
   Since nature is universally present, it can always be accessed as a sort of memento, perpetuating program outcomes.

**Discussion**

Nature experience is a part of all outdoor experiential programming, yet its role or function in producing program outcomes has only been understood as a passive setting or as a mechanistic provider of natural consequences. The reported study illustrates that, at least for one set of program participants, in one type of program, nature itself was deeply influential in important elements of the healing process. As noted above, nature experience restored attention, promoted positive emotions and brain states, expanded understandings of the relationship between Self and the Universe, provided concrete examples of abstract ideas, promoted desirable group experiences, and enhanced transfer to everyday life. These functions are not passive, and cannot be trivialized as mechanistic.

Additional research is necessary to confirm and further illuminate the processes in question. However, to the extent that other populations and situations are similar to the one studied, these findings can be generalized. Several practice implications follow from these findings. Facilitators who wish to utilize nature as an agent of growth or healing should: allow for unstructured time, without tasks, in nature; reconsider the role of disequilibrium in program design, as compared to the role of positive emotions such as joy or gratitude; understand that non-dual or relational views of nature (as opposed to mechanistic) exist within the US macroculture, and that this worldview can be used to positive effect; develop participants’ capacity to find or construct personal meaning in natural patterns or events; balance the intensity of group process meetings with unstructured or solo time in nature; develop strategies to frame nature as a safe and supportive holding environment, both as a tool for enhancing group process, and to address underlying psychological issues related to ecopsychology; promote the utility of nature as a universally-present memento.

Nature experience is a powerful catalyst for important program processes, and offers its own therapeutic functions as well. This study contributes to the existing process models of outdoor experiential programming and adventure therapy and offers a deeper understanding of the ways in which program participants make meaning out of their nature experiences while on a program. Most generally, with these findings, program facilitators can articulate more fully the actual role that nature plays in the growth or healing processes of their participants, and can develop clear rationales for including such experiences in their program design.

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**References**


Comparative Study of Practices of Conventional and Experiential Educators in Jewish Formal and Informal Educational Settings

Gavriel Goldman, Agency for Jewish Learning

Introduction

In recent years, the number of Jewish colleges, organizations and schools embracing Experiential Education (EE) has dramatically increased. Ten years ago, there were no positions in Jewish EE and only a handful of them in informal Jewish education. There were also no undergraduate or graduate studies in the field. Today, there are dozens of Jewish EE positions and three Jewish colleges offering graduate certification in EE. Jewish EE programs are taking place not only in classrooms but also on canoe trips, in organic gardens, on alternative spring breaks, and on trips to Israel. Hundreds of thousands of Jewish students of all ages and with widely varying ideologies and lifestyles are participating in these Jewish EE opportunities.

While Jewish Experiential Education offerings have dramatically expanded over the past two decades, scant new research has been added to its theoretical foundation. Over the past half century, only four Jewish educational researchers have sought to define EE in the context of Jewish education (B. Reisman, 1979; Barry Chazan, 2001; Joe Reimer, 2003, 2007; and David Bryfman, 2008, 2011).

Two factors become evident from reviewing their work:

- They share a vision of what EE looks like as a finished product, but since they disagree about how to achieve it, their lists of EE principles differ in significant ways. Additionally, many of these principles cannot be called “defining EE principles” because they are equally important to the success of many conventional Jewish classrooms.

- Their writings are a combination of conclusions that draw heavily on the work of Dewey and other EE writers, as well as their own personal experience in different fields of Jewish informal education. Their writings, however, are not grounded in theory based on research conducted in formal and informal Jewish educational settings.

In the hope of adding to our understanding of educational principles specific to EE—and of formulating theory based on actual research—this author designed a three-year study examining teaching traits of conventional and EE teachers in formal and informal Jewish educational settings. The study focused on four essential elements of the teaching/learning process: a) relationship between student and teacher; b) relationship of students to each other; c) relationship of students to their studies; and d) management of the learning environment. The study was conducted between 2005 and 2008 through a series of on-site observations and informal interviews with teachers and students at a number of California Jewish schools and organizations. In this paper, the author reports the findings of this study and contends that they offer clear guidance in how to successfully implement EE in formal and informal educational settings.

Methodology

In total, 50 observations were conducted of 38 educators (term used here to include teachers, camp counselors, museum docents, and trip leaders) and approximately 700 students
(term used here to include classroom students, campers, trip participants, etc.) by students in the Graduate School of Education at the American Jewish University. Observations ranged in time from two hours in a single classroom to several weeks in summer camps. 23 of the 38 educators were classified as demonstrating conventional teaching strategies (i.e., the teacher is an “expert” disseminating knowledge to students; a set curriculum is in place; educational activities are based primarily on readings, workbook assignments and directed, classroom discussion). 15 teachers demonstrated EE techniques. Four of these were classroom teachers and the remainder were camp specialists or trip leaders.

The graduate students who served as research observers were all enrolled in a seminar entitled “Principles of Experiential Education” and received training in research techniques from their instructor prior to participating in the study. The graduate students focused their observations on such factors as: types of teacher student interactions; student interactions amongst themselves; types of questions teachers asked and types of answers students volunteered; timed observations of student engagement; use of physical space to achieve lesson goals; and how teachers used the physical learning space to enhance their teaching. Colleagues of the author helped him to review student observations and assess them for anomalies. When possible, students conducted observations in pairs to ensure a high degree of observer impartiality. No students were sent to observe schools in which they taught.

**Results and Discussion**

It is important to recognize that the following findings are based on observations of only 38 teachers. Nevertheless, the findings clearly demonstrate ways that conventional and EE teachers perform similar tasks in very different ways, enabling us to discern and articulate several principles of teaching and learning that are truly specific to EE.

1. **Students Must Feel Accepted as Part of the Learning Community**-- Perhaps the most important finding of the Study is that for EE to succeed (or even to take place) participants must feel they are accepted and valued members of their “community of learners” (i.e., class, camp bunk, trip participants). Even when all other aspects of EE are implemented to perfection, students who do not feel that they are accepted and valued members of their community of learners will not value their educational experiences. It was noted in this study that far less attention was given by conventional teachers than by EE teachers to developing students into a cohesive group.

2. **Teachers Must Create Communities of Learners**--Both conventional and EE teachers identify the importance of students feeling comfortable and safe in their learning environment. And both types of teachers establish and enforce rules preventing any type of verbal abuse or embarrassment. In addition, both types of educators divide their students into small groups to work on projects. But while conventional teachers seem to believe that simply dividing students into groups will accomplish the goal of creating a sense of community among students, EE teachers believe that communities of learning do not develop naturally. Rather, EE teachers were seen to be consciously creating “mini” experiences, partner projects, and other types of activities which enabled participants to discover both how much they had in common and how their differences from one another actually contributed to making them stronger as a community of learners.
3. Teachers Must Establish a Relationship of Trust with Students--Conventional teachers expressed the feeling that they could not succeed without their students’ respect (by which they meant the students’ not interrupting, not being disruptive during class or during a guest presentation, etc.). EE teachers, on the other hand, were more interested in earning their students’ trust, since they believe that without trust in the teacher, no student will truly engage in experiential education. Trust is, after all, the feeling that allows students to take risks, whether this means sharing personal feelings or placing themselves in physical circumstances beyond their comfort levels. Without adequate trust, students either do not participate in the planned experiences or do so only marginally.

4. EE Teachers Must Manipulate the Learning Environment--EE educators recognize the importance of making their physical setting a teaching tool to help bring about their experiential goals. This manipulation ranged from early childhood educators covering walls with colorful posters, animal pictures and ABCs to outdoor educators “salting” their trails with animal bones and interesting rocks for hikers to find.

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References


SEER 2013 ABSTRACT

Safe Space Pedagogy in Adventure Education: A Study of Challenge-by-Choice

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Melanie Wills, Bradford Woods – Indiana University

Introduction

Beginning in the 1970’s, as part of the post-civil rights critical pedagogy movement, progressive classrooms in North America began adopting guidelines for interaction so that risk-laden learning activities could be taken up (e.g., Ellsworth, 1989; Leonardo & Porter, 2010). During this time period, adventure education (AE) educators, dealing with the inadequacy of a historically militaristic pedagogy (cf., Freeman, 2010) to interact with this new “public school persona” (Schoel, Prouty, & Radcliffe, 1988, p. 131), began to experiment with pedagogical tactics such as Challenge-by-Choice (CbC) (Rhonke, 2010). It is our argument that, as a result of prolonged contact between progressive classrooms and AE programming – along with participation in the larger Western educational system as it transitioned from public to individualistic pedagogy – educators appropriated safe space pedagogy, such as CbC, behavioral contracts, and guidelines governing feedback (cf., Vernon, 2013). Whereas some AE curricula like CbC have been identified in educational literature as examples of safe space pedagogy (e.g., Leonardo & Porter, 2010), there has not been an overt attempt within AE research to examine such practices from within this educational tradition.

Literature Review

Safe space pedagogy sprung from the early critical pedagogy movement, and was originally developed as sets of behavioral guidelines and rules meant to enable exploration of historically unsafe topics, such as race relations (Ellsworth, 1989; Leonardo & Porter, 2010). The goal was to create a critical collective, marked by inclusivity and mutual respect, wherein diverse individuals would feel enabled to contribute to the learning process without fear of social reprisal. The normative emergent ideal (Korth, 2007) appears noble, if this were how safe space pedagogies played out in actual classrooms. Critiques from both poststructural (Britzman & Gilbert, 2004; Ellsworth, 1989; Kumashiro, 2000) and critical (Leonardo, 2002; Stengel, 2010; Tinning, 2002) perspectives, however, have focused on the manners in which assumptions of decontextualized and asocial individual-situation interactions obscure and devalue the consequence-laden nature of learning in social environments. Furthermore, attempts at maintaining ‘safety’ have often been at the expense of marginalizing participants’ experience with violence, fear, and oppression, most notably because people in positions of power have been defining what a ‘safe space’ is based on their own desired interpretations. That is, safe space practices, by idealizing radical autonomy and obscuring historicity and social context, can render learning spaces safe primarily for those already in positions of power and privilege, as they are the primary beneficiaries of individual acts carried out in a social vacuum (Leonardo, 2002).

The development of CbC as a common pedagogical tool has a haphazard history (see also Rhonke, 2010), but it has nevertheless become commonplace in - if not a hallmark contribution to - AE programming (Prouty, 2007; Wallia, 2008). We do not interpret a static definition of what CbC is, but instead recognize CbC as a normative allegiance to an ideal, imaginary setting.
in which individuals have autonomous control over means-ends and consequences (e.g., Rhonke, 2010). In practice, then, a variety of tactics are employed which, when enabling AE participants to make autonomous decisions concerning their actions (which are always inter-actions, see also Dewey, 1927) in a risk-laden environment without social consequence (Schoel, Prouty, & Radcliffe, 1988), are labeled ‘CbC’. While there have been critiques (e.g., Itin, 1996), the basic assumptions of how decisions are formed, acted, and felt in the public sphere have remained intact in the AE literature. This paper, a subset of a larger ethnographic study, explores the manners in which students, teachers, and staff at a major Midwest AE center came up against some of the claims of CbC, and how these interactions played out.

**Research Methods**

In February 2012, the primary author (Frank) joined an AE center in an ethnographic role as observer and peripheral participant (Carspecken, 1996). Over four months, Frank collected data through observations, field notes, audio recordings, photographs, and both informal and semi-structured interviews during a) staff trainings, b) AE programs for middle-school groups, and c) one-on-one meetings with adventure educators. Research participants were made up of educators, administrators, middle-school students, parents, and schoolteachers. His data collection and analyses were informed by critical theory, and, more specifically, the theory of communicative action (Habermas, 1984), pragmatic horizon theory (Carspecken, 1996), and Dewey’s theory of experience (Dewey, 1916; 1922; 1938). The analyses were marked by emic and etic coding to reconstruct and explicate plausible meanings of communicative acts accessible to the participants in situ (Korth, 2003) as well as, in a recursive process, across the lifeworld to the systemic (Carspecken, 1996).

**Results**

Research participants both called upon and troubled CbC in various settings; there were four common deconstructions of CbC while negotiating learning environments. First, participants were commonly able to hold multiple, conflicting truth claims as simultaneously potentially valid, and thus often voiced fear not as individual decisions (as CbC would have us assume, see Schoel, Prouty, and Radcliffe, 1988), but as invitations to social accomplishment. Second, learning groups, such as school classes, often relied on intersubjective educational-historical traditions; continuity through learning environments disrupted CbC from occurring when it was not relevant to established norms, such as forms of interdependent and mutually-supportive competition. Third, the asocial assumptions of CbC under-resourced staff to deal with issues that arose when one individual’s means-ends were in direct conflict with another’s. Fourth, CbC was sometimes in conflict with backgrounded institutionally-preferred patterns of participation, and where these contradictions arose, educators found ways to condition desired behaviors from participations and one another while paying lip service to CbC – the portmanteau ‘facipulation’ was sometimes used by educators to reference this sort of behavior management. Due to space, one interaction that highlights the third example will be offered in greater detail.

**Example: A Conflict of Means-Ends**

Three weeks into staff training, in February of 2012, the adventure educators were spending the day performing peer facilitations. After lunch, Jonathan and Mirabelle taught a ‘warm-up’ activity, in which participants were encouraged to wander through a parking lot, ‘mingling’ with one another. At seemingly random times, one of the two would call out a number; participants were meant to collect in groups of that number, and anyone unable to
secure a position in a group was ‘out’ of the activity and asked to stand to the side. Just over three minutes into the activity, Jonathan called out “Two!”, and Brian, in response, turned quickly and wrapped his arms tightly around Elizabeth, who had her back to him. A look of fear came over her face as he pulled her towards himself, grinning. When he let go, she pulled her shoulders up, frowned, and quickly stepped away. During the next call-out, she walked to the sidelines and remained silent for the rest of the activity. When it had ended and the group was ‘debriefing’ the educational interaction, she attempted to inform the group of how problematic her interaction with Brian was, saying that he had ‘attacked’ her. The group laughed, re-interpreting the interaction as innocent and her response as comical. She was told that it was just a ‘hug’, re-interpreting her experience and pain as nonsense; Jonathan interrupted: “Ok. Anyone else?”, cutting her off and extending safety to Brian, who was shifting back and forth on his feet, looking confused and uncomfortable – after all, he was playing by the rules and choosing his level of interaction with the activity to meet desired goals.

In an interview three months later, Elizabeth still could describe how when Brian had “manhandled her...[and] due to past experiences [with sexual abuse] and past relationships, him doing that... I just immediately shut down. I became angry, I just didn’t know what to do with myself, and I was frozen.” Three months after this interaction, she also clearly remembered the group laughing at her and the labor her peers went through to dismiss or redirect her experience (see also Leonardo and Porter, 2010).

Discussion

This study both confirmed and added to major discussions of safe space pedagogy. While it has already been established that rendering action socially inconsequential is detrimental, as it attempts to construct an unnatural learning environment (Ellsworth, 1989), topics of educational-historical intersubjective continuity and cognitive dissonance have been absent. Safe space pedagogy tactics like CbC have been constructed to enable autonomous maintenance of comfort zones (Leonardo & Porter, 2010), and it is necessary to critically examine the underlying assumptions of such a claim and its consequences where carried out in the public sphere (Dewey, 1927). For example, expecting groups to take up foreign patterns of behavior may assume they lack pre-existing norms to negotiate healthy processes of interaction within AE environments, thus leading to epistemic blind spots where educators attempt to interpret and manage group actions. Social learning environments are complicated and oftentimes messy, more so than can be reconciled by acronyms – in fact, efforts to ‘solve’ this messiness oftentimes have unintended and unfortunate consequences. We are not calling for a wholesale return to days of coercive tactics (e.g., Rhonke, 2000), as we don’t interpret an either/or between choice and force, or empowerment and victimization. Instead, we hope this study encourages an examination of what is happening behind AE dialog; that is, opening a risky, critical examination of what is behind our language of safe learning spaces may also open new ways of negotiating meaningful learning in AE programs, such as opening the educational setting to earnestly explore our own roles in oppression and injustice. What we call for, then, is awareness that our pedagogies are always incomplete; a just and emancipatory curriculum is always escaping us on the horizon-line, and our risky disruption of our curricula by exploring the intended and unintended, desirable and undesirable consequences of our interactions as educators is a crucial aspect of our continuous growth toward the expansive goal of just, participatory education.

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SEER 2013 ABSTRACT

Improving the Accuracy of Emerging Outdoor Educator’s Teaching Self-Efficacy Beliefs through a Metacognitive Monitoring Intervention

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Jim Sibthorp, University of Utah

Review of Literature

Accurate outdoor educator teaching self-efficacy beliefs are critical considering the consequences of inappropriate behaviors resulting from inaccurate beliefs (psychological harm, injury, or death; c.f., Martin & Priest, 1986). Grounded in Social Cognitive Theory, self-efficacy beliefs are what people believe they can do with their skills and abilities amidst uncertain conditions, ambiguous information, or unpredictable circumstances (Maddux and Gosselin, 2003). These conditions are analogous to settings in which outdoor education often occurs (Martin, Cashel, Wagstaff, & Bruenig, 2004). Teaching self-efficacy beliefs have been found to predict the level of teachers’ aspirations and goals (Mujis & Reynolds, 2002), their likelihood of experimenting with new teaching strategies (Allinder, 1994), and their persistence amidst setbacks (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998).

Historically, outdoor and adventure education programs and research have neglected the notion of accuracy, and viewed an increase in self-efficacy beliefs as a positive outcome from participation (Hattie, Marsh, Niell, & Richards, 1997; Paxton & McAvoy, 1998; Propst & Koesler, 1998). However, recent research has called into question the assumption of a consistently positive relationship between increased self-efficacy and subsequent behavior (e.g., Schmidt & DeShon, 2009). In some cases, self-efficacy beliefs can be overinflated and result in inappropriate selection of behaviors, acceptance of risk, and decreased performance. Furthermore, several structures in outdoor educator training potentially contribute to illusions of competence in outdoor educators (cf. Bjork, 1994) including the overprovision of success, isolated lessons of instruction, and inadequately processed. In the context of self-efficacy belief development these sources create conditions which fail to provide an accurate index for self-assessment of enactive attainments and subsequently, accurate self-efficacy beliefs.

Paul Petzoldt, founder of the National Outdoor Leadership School, used to say “know what you know and know what you don’t know” (Wagstaff, 2005, p. 6). In Educational Psychology this process is known as metacognition or knowing about what knowledge and abilities an individual themselves possesses. Typically, the better one becomes at a skill the better he or she becomes at accurately assessing their own prior performance and predicting future performances (a self-efficacy belief). Yet, until this competence develops an individual is generally incapable of accurate self-assessments and will tend to overestimate their abilities (Hodges, Regehr, & Martin, 2001). It is possible to help individuals calibrate the accuracy of their self-assessments and in-turn, subsequent self-efficacy beliefs, through exercises known as metacognitive monitoring interventions (MMIs; e.g., Nietfeld, Cao, & Osborne, 2006).

Fortunately, teaching self-efficacy beliefs are malleable in the early stages of skill development before they become well established, stable, and resistant to change (Bandura, 1986). Therefore, the purpose of this study is to examine the effect of a Metacognitive Monitoring Intervention to improve the accuracy of emerging outdoor educator’s teaching self-efficacy beliefs.
Methods

Participants from six NOLS Instructor Courses (IC) in wilderness expedition-based contexts were asked to participate in this study. The Teaching Outdoor Education Self-Efficacy Scale (TOE-SES, Schumann & Sibthorp, 2013) was used to measure participants’ teaching self-efficacy beliefs. The TOE-SES is a multidimensional scale containing five subscales specific to outdoor education teaching domains including outdoor classroom management (OCM), instruction and assessment (IA), technical skill (TECH), interpersonal skill (INTPER), and environmental integration (ENVINT). Courses were randomly assigned to a treatment or control group. Each group’s participants had several opportunities to teach during the NOLS IC (up to 4 times each). Students in the treatment group participated in the MMI which involved a prediction of teaching performance (a self-efficacy belief) prior to each teaching opportunity, followed by the actual teaching performance, a postdiction of each teaching performance (self-assessment), and lastly, comparison of pre/postdiction evaluations to their instructor’s observation.

A 2 x 2 multivariate profile analysis was used to test the research question: Does the accuracy of teaching outdoor education self-efficacy beliefs improve with the application of a metacognitive monitoring intervention? Group membership (treatment or control) served as the between subjects effect. The within subjects effect had two sources: a student self-assessed TOE-SES score and a corresponding instructor generated TOE-SES score. The hypothesis that the accuracy of teaching outdoor education self-efficacy beliefs would depend on group membership was assessed through the interaction of group and source. Discriminant Function Analysis was used to follow-up a significant omnibus test (Tabachnik & Fidell, 2001).

Results

Forty-four of the IC students agreed to participate in the study with 51% female and the average age was 26 years old. The treatment group contained twenty two (n=22) participants and the control group contained eighteen (n=18). No significant difference was found between groups pretest scores, p = .187. Self-efficacy and group membership deviated significantly from parallelism Λ = .72, F(5,34) = 2.63, p < .05, thus indicating a significant interaction. The results also indicated significant differences in self-efficacy profile flatness Λ = .366, F(5,34) = 11.8, p < .001 and significant difference in profile levels for group membership Λ = .536, F(5,34) = 5.88, p < .001. The multivariate effects are shown in table 1.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Wilks's Lambda</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group*Source</td>
<td>0.721</td>
<td>2.63</td>
<td>5</td>
<td>34</td>
<td>0.041</td>
</tr>
<tr>
<td>Source</td>
<td>0.366</td>
<td>11.80</td>
<td>5</td>
<td>34</td>
<td>0.000</td>
</tr>
<tr>
<td>Group (Tx/Con)</td>
<td>0.536</td>
<td>5.88</td>
<td>5</td>
<td>34</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Follow-up Discriminant Function Analysis revealed that the treatment group teaching self-efficacy beliefs were significantly more accurate in relation to their instructors’ assessments than the control group. Discriminant function structure is presented in Table 2. The extracted function demonstrates how the treatment group differs from the control group showing higher
structure coefficient scores for teaching outdoor education self-efficacy accuracy on outdoor classroom management, technical skill, interpersonal skill, and environmental integration.

Table 2. Discriminant Function Analysis - Structure Matrix

<table>
<thead>
<tr>
<th>Teaching Outdoor Education Self-Efficacy Domains</th>
<th>Function Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruction and Assessment</td>
<td>.059</td>
</tr>
<tr>
<td>Outdoor Classroom Management</td>
<td>.313</td>
</tr>
<tr>
<td>Technical Skill</td>
<td>.492</td>
</tr>
<tr>
<td>Interpersonal Skill</td>
<td>.429</td>
</tr>
<tr>
<td>Environmental Integration</td>
<td>.480</td>
</tr>
</tbody>
</table>

Figure 1 is a plot of the variates centered around the mean. The figure reveals that the treatment group self-efficacy beliefs were significantly more accurate in relation to their instructors’ assessments as noted by the smaller distance between the centroids compared to the control group. As a result of enhanced accuracy in the outdoor classroom management, technical skill, interpersonal skill, and environmental integration self-efficacy domains, the treatment group were overall better calibrated in their self-efficacy beliefs than the control group at course end.

Figure 4.1. Variate Centroids by Group

Discussion

The present study did not seek to increase self-efficacy beliefs but rather, improve the accuracy of those beliefs compared to instructor observations. Results of this study indicate that a monitoring intervention significantly improved the calibration of teaching outdoor education self-efficacy beliefs. These results are consistent with previous findings in metacognitive monitoring intervention research (Nietfeld, Cao, & Osborne, 2006). The outdoor education domains which contributed the most to an overall difference in self-efficacy belief accuracy included technical skill, environmental integration, interpersonal skill, and outdoor classroom management. Because of the dire consequences associated with inflated self-efficacy beliefs in technical skills (cf. Martin & Priest, 1985), these results are particularly encouraging.

Educators who possess an accurate sense of their strengths and weaknesses are more likely to devote time to areas needing improvement and are less likely to waste time in areas where their strengths exist (cf., Thiede, Anderson, & Therriault, 2003). Ultimately, the outdoor educators in the monitoring intervention were better at “knowing what they know and what they
don’t know” (Petzoldt in Wagstaff, 2005) which may ultimately allow them to more effectively and safely lead others in the outdoors.

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References


Audio-Coding vs. Whole-Interview Transcription: Promising Advances in Qualitative Analysis Software.

Paul Stonehouse, Simpson University

Introduction

Interviewing is arguably the most common qualitative method used in experiential education research. Within the 2012 JEE publications, six of sixteen articles contain research employing the use of interviews. The practice of transcription, a written representation of the recorded interview, is a technique common to each of the aforementioned articles, as well as to the vast majority of interview research more broadly. This reduction of an oral conversation to text has been widely considered a necessary step in the analysis of the interview. Traditionally, researchers have required a written facsimile of an interview in order to conduct coding, a crucial aspect of the analysis process. Coding assigns descriptive words or phrases to substantive sections of an interview, and aids in determining the themes within the interviews. While coding is an inevitable and often fascinating aspect of interview research, due to technological advances, a growing number of scholars theoretically and practically question the value of whole-interview transcription. This presentation argues for the use of audio-coding, which limits transcription to the part of the interview necessary in writing-up the research.

Argument

Many scholars associate transcripts with methodological rigor. The assumption is that through conscientious and consistent transcribing, the interview can be well represented in text (Bird, 2005, p. 240). Such conviction may further come from the possibility of having a participant check over a transcript for its accuracy (Drever, 2003, p. 61), though others epistemologically question whether such “verification” can retroactivity be given (Sandelowski, 2008, p. 502). Further complicating the issue, some scholars highlight the subjective nature of transcription. Subtle elements within human communication (e.g. paralinguistics – pitch, volume, intonation) nuance meaning, elicit emotion, and resist reduction to a written form. Thus, in deciding how best to represent these subtleties, a researcher’s “fingerprints” can be found throughout a transcript (Tilley, 2003, p. 752). For these reasons, Kvale and Brinkmann (2008) describe a transcript as “a bastard, it is a hybrid between an oral discourse ... face to face ... and a written text created for a general, distant, public” (p. 192). Capturing the essence of the problem, Poland (2008) suggests that the ubiquity of transcription – a “translation from richly textured lived experience to audio recording to two-dimensional written prose” – has dulled us to its significance in the interpretive process (p. 884).

Compounding these theoretical concerns with transcription is the practical reality of its time consuming nature. Gillham (2000, p. 62) estimates that it takes five hours to produce a transcript for a one-hour interview. This limitation has led many researchers to hire out a transcription service (e.g. Magnussen, 2012). Unfortunately, this strategy serves only to further distance the researcher from the initial conversation.

With the rigor of transcription now being questioned, and the enormous effort of transcription well-established, it is little wonder that a growing body of scholars is asking if it is indeed necessary. Advances in Computer-Aided Qualitative Data Analysis Software (CAQDAS)
are now allowing researchers to assign codes directly to a recorded interview (e.g. www.atlasti.com). That is, a researcher can select a section of a digitally recorded interview audio file and attach a code or memo to it. This technological advancement of audio-coding allows a researcher to conduct a full thematic analysis before transcribing anything!

Interestingly, audio-coding technology has been available since 1991 (Fielding & Lee, 1991, p. 196), and recognized for its promise – perhaps because of the “bastardization” it avoided – as early as 1996 (Kvale, 1996, p. 174). Gillham, similarly appeared comfortable with it in 2000 (p. 61). More recently, Thomas (2007, p. 104), listing many of the transcription concerns noted above, suggested that full interview transcription may no longer be necessary. Having used audio-coding within their own research, Wainwright and Russell (2010) further highlighted its merits.

I, too, can confirm the strong potential of audio-coding in interview research (Stonehouse, 2011, pp. 168-173). I found that the strengths of audio-coding complement the weaknesses of transcription. For example, early in the analysis process transcription creates a construct of the actual interview, and uses this construct for the duration of the analysis. Audio-coding, however, avoids this construct. Instead, the audio-coding process immerses the researcher in the recorded interviews themselves. Such immersion has ethical import (Gregory, 2003, p. xi), for it privileges participants’ meaning, and leads to greater trustworthiness throughout the entire analysis. As the researcher listens and re-listens to each interview, he or she selects substantive audio selections and can simultaneously create an open-code for each selection. As the thematic analysis deepens, a researcher is able to aggregate axial and selective codes (central categories for open codes; see Ezzy, 2002, pp. 91-92) with little more than mouse clicks. It is important to remember, that at any moment in the analysis process, the researcher can click on a code and immediately listen to the original portion(s) of an interview(s) connected to the code. Noting their organizational power, Friese (2006, p. 312) suggests that these CAQDAS programs actually encourage analytical exploration and creative thinking, thus increasing the trustworthiness of research findings. Once these findings are attained, the researcher can then set about transcribing only the necessary quotations to substantiate the discovered themes. The result is noteworthy: an interpretative process that more closely honors the context of the interview, while saving a researcher countless hours of transcription.

Despite such potential, scholars appear to be wary of audio-coding, for few have adopted it, though they rarely state why. One exception is Hahn (2008), who, in his book on computer-aided qualitative research, does provide a cursory reason as to why traditional transcription is still to be preferred. In his explanation, Hahn approaches the concept of audio-coding, but seems to fall short in recognizing its full potential. Instead, he introduces what he calls “selective audio transcription,” a procedure where only selective pieces of a digitally recorded interview are transcribed and then coded (p. 104). As noted though, Hahn’s (2008) emphasis remains on the need for transcription, for later he claims that full transcription is still to be preferred, since “there is much to gain from multi-sensory examination (audio and visual) of all the data” (p. 105). He continues, “I do not recommend use of digital coding as a standard practice unless the researcher is visually impaired, or unless the ratio of ‘wheat to chaff’ is very low” (p. 105). Hahn’s reservation appears to be a concern that without a transcript, a code created from an audio recording risks becoming dissociated from its original context in the interview. To remedy this dissociation, he rather laboriously describes a way of bookmarking codes in digital transcription software, and creates a word processing table that organizes: codes, memos,
transcriptions, and time stamps. Unfortunately, Hahn appears to have underestimated audio-coding technology. For, programs such as AtlasTi allow researchers to pair codes with selected audio sections from the recorded interview to an accuracy of a tenth of second. Further, notes and memos can be attached to a code (or selected audio section), and serve as excellent receptacles for analytical comments or even transcription of the selected audio selection that the code represents. Even more powerful, these codes, notes, and memos can all be electronically searched, and with just a “click” the researcher can instantaneously play the precise section of the audio recording associated with them. I mention Hahn (2008) at length here because his seeming unfamiliarity with the technological possibilities of audio-coding appears paradigmatic of others, who similarly default to full transcription without providing a rationale.

One recognized limitation of those using audio-coding has been the inefficiency of listening to “live-time” interviews. It is argued that transcribing software allows the interview to be played back at higher speeds; once transcribed, it is much quicker to read the transcription than to listen, again and again, to live-time interview recordings (Fernald, 2001). Although a valid criticism, recent evolutions in CAQDAS software (e.g. see AtlasTi 7.1.3) now allow increased playback speed of audio recordings. With that said, a similar and seemingly immutable limitation of audio-coding is the inability to search the sections of an interview that have not been selected and identified with a description code. On several occasions, I have recollected a pertinent section of an interview, but have been unable to remember which participant said it, or where within his or her interview it was said. Although a limitation, this drawback does not outweigh the significant and obvious advantages of audio-coding both theoretically and practically.

Given the ubiquitous nature of interview-based research, it is therefore curious that so little has been written on the promise of this new technique. Even contemporary textbooks in qualitative data analysis methods (e.g. Miles, 2014, pp. 11, 46) continue to assume full transcription of interview data, without even mentioning, let alone critiquing, the possibility of audio-coding. Such promise, at the very least, warrants a trial investigation by qualitative researchers. Software testing can be done without cost by downloading demonstration copies of the CAQDAS programs that support audio-coding.

**Conclusion**

Interview research has long been recognized for its rich rewards (Drever, 2003, p. 9). Audio-coding may deepen these rewards, and deserves our consideration as experiential researchers.

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**References**


SEER 2013 ABSTRACT

VALIDITY EVIDENCE in EXPERIENTIAL EDUCATION

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Introduction

Experiential education researchers use scores from instruments for a variety of purposes: to assess student progress; to monitor and improve program delivery; to measure program outcomes for accountability; and to develop theory. The quality and appropriateness of the instruments used in these circumstances must always be empirically evaluated. The quality of instrumentation informs the overall strength of the research, supports decisions made from resultant data, and helps protect the interests of all parties involved in the testing process. This
evaluation of instrument quality and use is necessary whether the researcher constructs a new measure, modifies a pre-existing measure, or uses an existing measure with a new population or context. Notwithstanding the need for experiential education researchers to balance available resources, including fiscal restrictions and measurement expertise, the psychometric principle of validity is asserted to be “the most fundamental consideration in developing and evaluating tests,” (p. 9) according to Standards for Psychometric and Educational Testing (American Educational Research Association, American Psychological Association, National Council of Measurement in Education, 1999; hereinafter, “the Standards.”

This study sought to determine the extent to which experiential education researchers assess and report on the psychometric quality of the instruments they use, and particularly whether they incorporate contemporary psychometric standards of validity. Similar reviews of validity reporting practices have been applied in publications for psychology and education. Given the historical relationship between experiential education and the broader disciplines of psychology and education, this study therefore also sought to compare the validity reporting practices among these communities of scholars.

**Review of Literature**

The Standards (AERA et al., 1999), published in six editions since 1954, are considered to be the authoritative source for defining validity and for setting expectations for reporting about validity as it relates to psychological, educational, and credentialing testing (Sireci & Parker, 2006). The National Council for Measurement in Education insists that it is “a professional imperative” for its members to attend to the Standards, and Wilkinson and the APA Task Force on Statistical Inference (1999) further concur that it is essential for authors to report on both validity and reliability. The Association of Experiential Education’s Council on Research and Evaluation (CORE) has not yet issued a statement on the use of the Standards.

Validity theory has undergone considerable debate over the last several decades, as have standards for assessing validity. Historically, validity has been conceptualized as three distinct types: criterion, content, and construct validity (Cronbach & Meehl, 1955; Guion, 1980). This view of validity has also been simultaneously criticized as “fragmented and incomplete” (Messick, 1989, 1995; Loevinger, 1957), because it enables test developers and test users to selectively appraise one of these three types of validity and to thereafter claim that a test had been validated once and for all time and uses (Cronbach, 1988; Shepard, 1993). In 1998, Cronbach asserted that “the 30-year-old idea of three types of validity, separate but maybe equal, is an idea whose time has gone” (p. 4).

Validity is currently defined in the Standards as “a unitary concept” and “the degree to which all the accumulated evidence and theory supports the interpretations of test scores entailed by proposed uses of tests” (AERA et al., 1999, p. 9). Thus, tests are not validated; it is the interpretations of test scores that are validated (AERA et al, 1999; Cronbach, 1971). All stages of test construction, documentation, and application can be framed by this current conception of validity, as well as by concurrent concerns about reliability and fairness (AERA et al., 1999, p. 37).

Review and assessment of instruments using a framework based on The Standards (1999) was completed by Cizek, Rosenberg and Koons (2008), who reviewed validity evidence reporting practices in the 16th Mental Measurements Yearbook (MMY) for 283 published tests currently in widespread use. Hogan and Agnello (2004) conducted a comparable review with a
sample of 696 research reports in the APA’s *Directory of Unpublished Mental Measures* (Goldman & Mitchell, 2003). Sibthorp (2000) conducted a review of instruments for outdoor experiential education using a convenience sample of studies. The current study expands on Sibthorp’s work by using a more widely acknowledged set of validity requirements, including a more extensive sample of instruments across time and areas of experiential education, and coding of the sample by multiple reviewers.

**Method**

**Sample**

All articles published in odd years of the Journal of Experiential Education over a nine-year span (2003-2011) were reviewed for the use of instruments. SEER Abstracts were included in this review, but Editor’s comments, book reviews and errata were not.

**Coding**

Instruments were coded as: (a) original, (b) a modified version of a previously published instrument, or (c) a previously published instrument. Only original instruments and modified versions of previously published instruments were further reviewed. Reviewed instruments were coded for (a) reported evidence of validity and reliability and (b) application of the current unitary definition of validity as established in the Standards (1999) or as defined by Messick (1989). Checks on reliability and accuracy of coding were completed in multiple rounds on a subsample of instruments; 10% of all articles with instruments were randomly selected and reviewed by both reviewers to see if they qualified for the study and until there was agreement in coding.

**Results**

Within the 151 articles that were reviewed in this study, researchers reported on the use of 35 original or modified instruments. For these 35 instruments, 28 (80%) did not discuss or report on any type of evidence for validity. Of the 7 that did present information about validity, all of them mentioned validity as a property of the instrument and used terminology about types of validity that pre-dates the current unitary view of validity. No citations of the Standards or other contemporary validity references were found. Reliability evidence was reported for 8 instruments (8 included Cronbach’s Alpha, 1 inter-item correlation).

In contrast, Hogan and Agnello (2004) found that 55% of reports included some type of validity evidence, and Cizek, Rosenberg, and Koons (2012) found that 93% identified sources of validity evidence. Cizek, Rosenberg and Koons also reported that 30% conceptualized validity as a characteristic of the test, whereas 25% conceptualize it as a characteristic of a test score, inference or interpretation. Moreover, in their study 3% incorporated the unitary perspective of validity and 10% cited a contemporary validity reference.

**Discussion**

Criteria for evaluating the quality of psychometric instruments have evolved. Within the broader measurement, education and psychological communities, the Standards represent current best practice for evaluating the quality, appropriateness and fairness of tests. By acting as a frame of reference, the Standards also provide a tool that promotes common understandings across disciplines. Validity reporting practices by experiential education researchers in this study fall short of current best practice. Moreover, when validity is reported and assessed, it
incorporates outdated conceptualizations. These findings raise the question: Are the Standards and current definitions of validity applicable and relevant to the experiential education community and its researchers?

In an era when the ranking, marketing and funding of education programs is often predicated on meeting evidence standards (Gass, 2005), assessing and documenting validity evidence should likely be considered a professional imperative. However, meeting accountability expectations is not the ultimate goal for incorporating the use of Standards and modern definitions of validity. In his SEER 2005 Closing Address, Dan Garvey lamented accountability demands by noting that “Many of us involved with experiential education are faced with a…need to justify our successes by measurements that might have little to do with our program objectives” (p. 292). This leads to the consideration that good measurement --based on information about the technical qualities of instruments—can and should support the interpretation and use scores in meaningful ways that advance learning and other program objectives.

The authors urge the JEE editorial board and CORE to adopt a statement about applicability of the Standards for assessing instruments used in experiential education research and evaluation, and to recommended practices for reporting on the validity, reliability and fairness of scores derived from those instruments.

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**References**


SEER 2013 ABSTRACT

The Relationship between Body Image, Physical effectiveness, and Outdoor Experience in Female College Students

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Denise Mitten, Prescott College
Chiara D'Amore, Prescott College

The purpose of this study is to help researchers, clinicians, and practitioners better understand connections between women’s body image and outdoor experiences. Previous research in this area suggests the need for further study with larger and more varied populations (Arnold, 1994; Kiewa, 2000; Mitten & Woodruff, 2010). This study includes substantially more women than previous research and specifically extends the reach of the research by examining the relationship between psychosocial variables and physical variables using the Body Cathe克斯 Scale (BCS).

Literature Review

Within the United States there is disturbing evidence of unhealthy and negative self-perceptions of individual body image, especially among women (Cash & Pruzinsky, 2004; Sinclair, 2006). Research is mixed when exploring the influence of exercise on women’s lives. It is associated with greater body satisfaction (Henry, Anshel, & Michael, 2006; Kiewa, 1996; Wilcox, 1997) though studies by Imm and Pruitt (1991) and Frederick and Shaw (1995) determined that when a negative body image was a key motivator for exercise, women continue to exercise despite significant discomfort and lack of enjoyment. In contrast, results have been consistently positive in research that explores how exercise outdoors affects women’s body image (Kiewa, 1996; McDermott, 2004). Research is also positive about the broader benefits of time spent in the natural world and a great deal of research about importance of nature to human health has emerged in the last ten years (Ewart, Mitten, & Overholt, in press). Many outdoor

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leaders observe positive experiences and women’s lives changing while participating in outdoor adventures, including increases in empowerment, self-esteem, personal control, self-efficacy, physical strength, and self-care (Mitten, 1992). Past studies of 86 women (West-Smith, 1997) and 39 women (Woodruff, 2009) indicated that women who participated in short-term outdoor adventure experiences believed that their participation made a difference in how they perceived their bodies. Lisa West-Smith (1997) surveyed women who were regularly active, defined by their participation in outdoor adventures on at least a monthly basis for the past year and Sarah Woodruff (2009) surveyed women over 40 and who participated in a five-day outdoor trip; both studies found that the women had an increased positive body image as compared to the general average 2.5 mean body image and a control group of women not engaging in activities in the outdoors. Moreover, they found that active outdoorswomen were able to rebuff cultural and stereotypical definitions of beauty and, as a result, maintain a more positive body image.

Methods

A recently crafted and well-piloted survey, modified from Woodruff’s (2009) and West-Smith’s (1997) surveys, was designed to measure the relationship between body image, outdoor activity, and physical effectiveness among women. The 41-item survey used in this investigation included demographic questions, Likert Scale questions, a series of closed-ended questions, a series of open-ended questions providing participants with an opportunity to share their thoughts and experiences, and the Body Cathexis Scale (BCS). Reliability of the BCS “has been established in reports of a test-retest coefficient of between .84 and .91” (West-Smith, 1997, p. 44). This survey was distributed via email to 625 women ages 18 through 75 enrolled as students at a small liberal arts college in Arizona hereafter referred to as the College. The College has an emphasis on adventure education and field-based courses at the undergraduate level and many women regularly engage in outdoor activities to varying degrees. Hence, this population is particularly interesting as research participants.

Frequency distributions were used to obtain a demographic profile of the participants. Means were computed for the BCS followed by a t-test for equality of means. Means were computed for the BCS followed by a t-test for equality of means for a variety of variables such as: importance of being physically attractive, the importance of being physically effective, self-rated level of physical attractiveness, self-rated level of physical effectiveness, BCS mean, and outdoor experience.

Results and Discussion

A total of 186 women completed the survey sufficiently that analysis could be completed. In this population the age range was 19 to 69 with an average age of 34. Forty-four percent of the participants are enrolled in a bachelor’s program. The results show that the College women have a higher perceived body image than the general average U. S. population of women, 2.5 mean. This population’s BCS mean results are shown in Table 1 compared to three other groups of women: 1) a short-term adventure group (Woodruff & Mitten, 2009); 2) a control group (Woodruff & Mitten, 2009) and 3) West-Smith’s (1997) study group. The College women were slightly higher than West-Smith’s group and slightly lower than Woodruff and Mitten’s short term adventure group.

An analysis of the relationship between age and body image for participants in this study (age breaks at <22, <25, <35, <49 were used as determined by breaks in a histogram) found no statistically significant correlation between the respondent’s age and their BCS mean. Further, an
analysis of the respondent’s education level (bachelors in progress, masters in progress, graduate degree completed) also found no statistically significant correlation between the respondent’s education level and their BCS mean.

Table 1. A Comparison of BCS mean (M) for four groups of women

<table>
<thead>
<tr>
<th>Group</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group (n=17)</td>
<td>3.31</td>
</tr>
<tr>
<td>West-Smith’s group (n=86)</td>
<td>3.42</td>
</tr>
<tr>
<td><strong>Females at the College (n=186)</strong></td>
<td><strong>3.45</strong></td>
</tr>
<tr>
<td>Short term adventure group (n=39)</td>
<td>3.51</td>
</tr>
</tbody>
</table>

In the current study 94 percent of the participants have spent at least one overnight outdoors and 63 percent of respondents have spent more than two weeks outdoors one or more times. Therefore, the overall BCS results may indicate that participation in outdoor activities can lead to an increase in body image. For subgroups longer amount of time outdoors correlates with higher body image. For example, BCS is lowest for people who have never experienced an overnight outdoors and increases with the experience.

The focus of this paper is to determine the correlation between the psychosocial variable of belief in the physical effectiveness of one’s body and body image. In previous studies, specifically, as women’s level of participation in outdoor activities increased, the more important it was for them to be physically effective and the less they worried about physical attractiveness. As shown in Table 2 there was an effect, as demonstrated by the significant correlation, indicating that the more a woman perceived herself as physically effective the higher her body image scores. This correlation remained whether or not the woman believed that physical attractiveness or physical effectiveness were important. There also was the expected significant correlation between a woman’s perception of her physical attractiveness and her body image.

Table 2. Correlations for women at the College between physical effectiveness and physical attractiveness and body image

<table>
<thead>
<tr>
<th>Importance of physical effectiveness</th>
<th>BCS ttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>- very important vs. important</td>
<td>r(0.19487)</td>
</tr>
<tr>
<td>- very important vs. somewhat important</td>
<td>r(0.08911)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perception of personal physical effectiveness</th>
<th>BCS ttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>- very effective vs. effective</td>
<td>r(0.00220)</td>
</tr>
<tr>
<td>- very effective vs. somewhat effective</td>
<td>r(0.000001)</td>
</tr>
<tr>
<td>- very effective vs. somewhat ineffective</td>
<td>r(0.000002)</td>
</tr>
<tr>
<td>- effective vs. somewhat effective</td>
<td>r (0.00015)</td>
</tr>
<tr>
<td>- effective vs. all ineffective categories</td>
<td>r (0.0097)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Importance of physical attractiveness</th>
<th>BCS ttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>- very important vs. important</td>
<td>r (0.334709666)</td>
</tr>
<tr>
<td>- very important vs. somewhat important</td>
<td>r (0.24278)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perception of physical attractiveness</th>
<th>BCS ttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>- very attractive/attractive vs. somewhat attractive</td>
<td>r (0.0000000003)</td>
</tr>
<tr>
<td>- very attractive/attractive vs. neutral or unattractive</td>
<td>r (0.0000000537)</td>
</tr>
</tbody>
</table>
The results of this study support that psychosocial variables may influence body image and adds to the growing data about the influence of outdoor activity on women’s body image. Specifically becoming aware of the physical and psychosocial variables surrounding body image may support the development of more effective treatment programs for certain disorders, such as anorexia or body dysmorphic disorder. Making contributions to this particular area of inquiry also has the potential to be preventive, illuminating individuals and populations who may be at risk for poor body image and related issues. For example, young girls can be encouraged to play outdoors in order to maintain positive body image. For women with negative body image, outdoor activities and time spent in the outdoors may help cause an increase in a woman’s belief that her body is physically effective and that becoming physically effective feels good psychologically. Therefore a positive cycle could ensue of a woman spending time being active in the outdoors because it feels good, also receiving the many other health benefits (Ewert et al. in press), and perhaps not succumbing as easily to trying to conform to the unhealthy cultural standards of beauty.

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References
Voices for the Land: Women Ranchers’ Sense of Place and Role in Passing on Knowledge, Values, and Wisdom

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Introduction

The purpose of this research is to explore the perceptions of elder women ranchers (hereafter referred to as “ranchers”) from desert bioregions of Southwestern United States. The study examines the stories of ranchers as they describe their relationship to the land. It is a cultural study of their sense of place and the role these elders have played as informal, experiential educators when passing on local expert knowledge, cultural values, and pathways to wisdom to future generations. The study used ethnographic inquiry through a feminist lens and the components of the research planning and process for this study took place within the emerging field of sustainability education.

Review of Literature

Experiential education takes place within myriad venues, but probably the most common occurrence of this type of learning historically and currently happens within informal contexts (Kunnie & Goduka, 2006; Neufeld, Wright & Gaunt, 2001; Quay, 2003). Rich learning is inherent in researching experiential learning within the mundane, everyday lived experiences of working people (Smith, 2006).

The physical environment upon which ranchers are dependent has sculpted their strength and character. Many of the hardscrabble, gentle, and enduring characteristics of these western ranching women from the United States have been and continue to be demonstrated within the stories told of their daily lives. These characteristics are exemplified in the body of literature that stretches from the work of Arizona pioneer woman and political activist, Sharlot Hall (late 1800s and early 1900s), and the classic work of the environmental feminist, Mary Austin (1903), through the gritty writing of twentieth and twenty-first century western women, such as Linda Hasselstrom (2008) and Judy Blunt (2002). Their stories, nonfiction, and poetry describe their lives as ranchers, writers, and passionate advocates for the bioregions in the western United States. Their narratives described their lives in terms of work (Austin, 1995; Barnes & Blew, 2001; Henderson, 2005); their relationship to the land (Bourne, 1967; Butala, 1994; Henderson, 2005; Rak, 1993); their sense of freedom (Hasselstrom, 2008); their sometimes ironic view of gender roles (Blunt, 2002; Cleaveland, 1941); or occasionally, their understanding of the preeminence of other, older cultures (Rudnick, 1997).

After several renditions of initial and focused coding, the categories contained in the literature included gender roles and the importance of work (Blunt, 2002; Austin, 1995; Barnes & Blew, 2001; Cleaveland, 1941; Hasselstrom, Collier, & Curtis 2001; Henderson, 2003, 2005);
intimate relationship to the land and the social construct of freedom (Bourne, 1967; Butala, 1994; Rak, 1993); an appreciation of other cultural paradigms (Henderson, 2005; Rudnick, 1997), and privilege plays a role in passing the paradigms of reality (Brown, 2003; Rak, 1993).

The themes within the literature depicted the interrelationships between the implicit theories found within this review of literature: gender issues, strong human community interrelationships, the muffling result of privilege, and a view of the environment as a source for power, beauty, and useable resources. It is critical to point out that although ranchers often saw the environment as separate from themselves and their human community, it was also viewed as a source of power and mystery. Ultimately, however, many of these women still viewed the environment from a more paternalistic perspective that equated the value of the environment in terms of its usefulness as a resource.

**Implicit Theories in Literature Review**

![Diagram](image)

*Figure 1. The smallest sphere represents that the most basic level of identification for the ranchers originated with self. In turn, this was directly influenced by gender paradigms, educational or economic status, and community interactions. The environment was seen as separate from self as well as different from the human community.*

**Methodology**

This ethnographic study, viewed through a feminist lens. The feminist lens supported my intent to give voice to the voiceless (Behar, 2003; Belenky, et al. 1997; Gluck & Patai, 1991; Harding, 2004; Heilbrun, 2002; Jackson, 2003; Reinharz, 2011). It was a cultural study of ranchers’ sense of place. As a part of my data gathering and analysis, I explored whether the stories shared by the ranching participants could serve as informal, experiential teaching vehicles for transmitting a balanced social and ecological sense of place. This sense of place was demonstrated within the context of the expert knowledge, values, and pathways to wisdom that these women have shared. Finally, these women’s words were studied to determine their stories’ reflections on their roles as informal experiential educators.

**Methods**

The exploratory study used the tools (methods) of survey, participant-observation, in-depth interviews, and review of archival and photographic data. It was limited to ranchers from...
the desert biome of Southwestern United States who were at least sixty-five years of age and who had lived as well as worked on cattle ranches for a minimum of 25 years. The participant pool was funneled from a relatively large group of word-of-mouth referrals to a small group of final participants. The initial 120 referrals were winnowed to 92 phone conversations, to 63 surveys mailed, to 55 survey respondents, to 45 willing to participate in the in-depth interviews, and finally to 10 actual interview participants. All research participants were contacted via word-of-mouth recommendations from rancher to rancher and they participated in combinations of phone conversations, surveys, and in-depth interviews. Although the data from the surveys was intended as a means to filter reliable participants for the in-depth interviews, they turned out to be a rich source that could be mined for themes, patterns, and simple statistical analysis. Over and above adhering to the limiting factors relating to age, geographic location, and years in ranching, the final group of interview participants represented a diversity of perspectives framed by different ecosystems, land management practices, educational backgrounds, and ownership or employee relationships to each of the particular ranches. After multi-leveled, iterative data coding, sorting of categories and themes within the subtexts, five content categories emerged that transected the content universe (Lieblich, Tuval-Mashiach, & Zilber, 1998).

**Findings, Discussion, and Implications**

The abundance of data provided by the ranchers exceeded all of my expectations. Using numerous coding cycles and strategies of synthesis, analysis, and interpretation, five general content categories emerged. 1) Within the ranching culture, the eco-commons is dynamically **BALANCED** on the interrelationships of more than human and human systems. 2) Lessons learned from the land define local expert knowledge. 3) Experiential learning is a cornerstone of the ranching culture. 4) The margins of gender, age, and class frame interesting areas of contrasts within the ranching community; they are both complex and paradoxical. 5) The ranchers’ passion for their lifestyle and their ecosystem dominated their lives and shaped their ways of knowing.

![Figure 2.](image-url)  
*Figure 2. It is important to note the ecocentric origins of identity within the smallest circle. Circles widening from this source refer to the ranchers’ greater spheres of identification. Because of this origin, the ranchers’ informing paradigms and contexts reflect their embedded interrelationship with their ecosystem.*
Significant findings of this study were multifaceted and are clustered under each of the five content categories noted above. The data in this study pointed to an ontological shift in which the ranchers were less likely to build upon an egocentric paradigm (as noted in the Review of Literature). Rather, their primal identity was evolving toward a sense of ecosystem interrelationship. Their secondary identity was that of an individual (human) self.

This slow shift from an egocentric or anthropocentric lens to one that was more ecocentric in nature may signify an important evolutionary step toward sustainability within an ecosystem and represent one possible template for building sustainability on a larger scale. This study sheds new light on the power of an ecosystem to shape the way humans think, if they are embedded and experientially engaged in that dynamic system.

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References


**SEER 2013 Abstract**

**Age-based Attitudes Toward Formal Schooling in Two Communities of San Bushmen in the Western Kalahari, Botswana**

*Nicole M. Apelian, PhD*

**Background**

The Bushmen in Southern Africa are a deeply marginalized population who are less educated than the majority Bantu people, and live in extreme poverty in small and remote villages, where infrastructure is limited and economic opportunities are few. The loss of indigenous knowledge through colonialism, globalization, modernization, assimilation, land loss, and marginalization has led to large gaps in generational knowledge. Many Bushmen children are now required to go to formal schooling and attitudes about schooling vary about its usefulness, though most agree that the treatment at these schools is abusive for Bushmen. Based on participant observation and interviews in two separate communities in the Western Kalahari, Botswana, this paper examines Bushmen attitudes toward modern/Bantu schooling.

**Review of Literature**

In a study of Bushmen attitudes toward education, Campbell et al. (2006) found that there was great variation from extreme distrust to extreme interest. Many cited reasons for not sending their children to school as lack of funds for fees, uniforms, transport, and accommodation. This demonstrates a lack of basic knowledge, as schooling for Bushmen includes all of the forementioned items. Schooling is free in Botswana through the junior secondary level. The curriculum follows a 7+3+2 structure. There are seven years of primary education, three years of Junior Secondary School, and sometimes two years of Senior Secondary Education (Akande, Adetoun, & Osagie, 2006).

In 1993 the National Commission on Education recommended improvements for Bushmen education, including “ownership, control over and access to land to preserve cultural
identity and foster survival through agriculture, hunting and gathering…; that Basarwa/San people be adequately represented in land allocation bodies (Land Boards)….; (and) that mother tongue teaching be encouraged or introduced for the first three primary school grades” (Mazonde, 2002, p. 49). None of these recommendations have been implemented.

Other problems with the formal schooling system for Botswana Bushmen include 1) school instruction in Setswana and English, which is especially problematic for children who speak Khoisan languages, as their home language has no linguistic relationship to either language, and they are often marked as misfits (Nyati-Ramahobo, 1997); 2) early attrition from school as they “cannot manage the requirements of an imposed common language at an early age, and they are marginalized in terms of their own linguistic and cultural identities” (Chebanne & Monaka, 2005), which adds to the neutralization and stigmatization of ethnic languages, continues the process of ethnic homogenization in Botswana (Chebanne, 2008), and assists in the loss of language diversity (Batibo, 1997, p. 243); and 3) verbal abuse and beatings by teachers and other students. The product is students who are not only traumatized by their lack of linguistic competence, but are further marginalized as they are deemed inferior by their classmates and teachers (Chebanne, 2008).

**Methods**

To engage my research question across age demographics, I used a variety of research methodologies and methods, including ethnography and applied ethnographic research, semi-structured interviews, and narrative inquiry. On-site research and observations were conducted over a four-year period. Participants were categorized into three age groupings and come from two San Bushmen communities in the Kalahari Desert of Botswana, one of Nharo origin and one of Ju’hoansi origin. Of the twenty Bushmen I interviewed, eight are elders (three men and five women), six are middle-age adults (one man and five women), and six are younger adults (five men and one woman). I chose semi-structured interviews as a research method because of the flexibility and conversational style it offers and because I had a previous rapport with most interviewees.

Transcriptions were analyzed both manually as well as using the computer assisted qualitative data analysis (CAQDAS) program Dedoose to assist with coding the data and to search for emergent themes. I coded and then re-coded the transcriptions in their entirety to increase the dependability of the study. In addition to my manual coding I had a second independent person code the transcribed interviews. We then rated our interrater reliability to determine the consistency of our judgements (Boyatzis, 1998, p. 49). I did code enumeration, putting positive and negative values on excerpts, for codes in which negative and positive responses were possible. Neutral responses were not counted as positive or negative, but are included in other data analysis.

**Results**

There were 81 Bushmen statements about schooling, which were 64% negative and 36% positive. Within Bushmen participant statements, there was a distinct variation of positive and negative responses dependant on age. In the Elder Bushmen group there were 82% negative and 18% positive statements; in the Mid-age Bushmen group there were 60% negative and 40% positive statements; and in the Younger Bushmen group there were 52% negative and 48% positive statements. Attitudes varied both between and within individuals.
Elder responses were mostly negative regarding formal schooling, and included sentiments about how children who are taken away to school are beaten, cheated, underrated, and lose their traditional ways. Most said that their children dropped out due to mistreatment, and that this was good as then the children came back to the ways of the bush. Many exhibit mixed emotions regarding schooling, mostly disliking school due to mistreatment and their desire that the children learn from the bush and their elders, yet wanting children to go to school so that they can read for them and warn if danger is coming.

Other responses, mostly by middle-aged Bushmen, state the importance of schooling mixed in with negative statements about the conditions at the schools. One mother wants her children to go to school so that they may help her when she is old, even though she knows of the mistreatment: “[My daughter] is having a crutch here, she was hit by another student there but she is just trying her best to just stay at school until she finish so she can come and help them….Even my daughter says that she doesn’t want to go anymore to school….I am trying to tell her no, that is your future, I am trying to tell her that maybe she will come out with something.” Many parents in this middle-age group want their children to go to school so that they can have help when they are old, though they still want them to learn the old ways as well.

Interviewees often noted that even if their children go to school they will not be given jobs. One 26 year-old younger formally schooled Nharo woman believes the reason that she cannot get work, despite having done well at school, is because she is Bushmen. She sees her Tswana/Bantu classmates getting work instead of her. She states; “When I was grow[ing] up they were not treating me as other students because sometimes even if black children are doing things they say we are the ones who are doing that….they don’t treat us the same….They didn’t treat us equal.” However, she wants her daughter to go to school when she is of age, and then to return to live with her in the bush (personal communication, 4 April, 2012).

A younger (age 23) Ju’/hoansi man who is a guide-in-training at a local lodge says “There is…nothing about school that will help us….Most of us who just go to school, just go back [home] without doing any working.” However, another man states how school has allowed them to become guides-in-training: “The school…actually for me and this guy to be here, to live here, and to bring this group here we just completed our Cambridge’s” (personal communication, 12 April, 2012), demonstrating conflict about schooling in the younger generation.

**Discussion**

Bushmen need stronger support for their traditional experiential approach to education, one that must be reflected in the formal school setting if they are to succeed in that venue. Many
younger Bushmen want to go to school, but often drop out or cannot find work once they are finished. The Bushmen have no written language, so their oral traditions and experiential transmission of indigenous knowledge is key to holding their indigenous knowledge. Indigenous knowledge (IK) is local knowledge that is usually unique to a particular culture (Berkes, 1999). In the 1950’s, outside influences in Thailand, including Thai schooling, came to the Urak Lawoi’s remote lands (Wongbusarakum, 2009). Their participation in formal education as well as the market economy has virtually discontinued their semi-nomadic lifestyle and thus their experiential transmission of knowledge. Wongbusarakum offers ways to counter this loss of traditional knowledge, including integrating it into the school curriculum. The author notes the successes he sees in indigenous Hawaiians and in the Maoris. Bates’s 2009 article on learning and Inuit knowledge in Nunavut, Canada supports the idea that indigenous transmission of TEK is experiential, not something that can be incorporated into a didactic school-system curriculum. It must be placed into its proper context – the land – and taught in a way that ‘students’ don’t even realize that they are learning. It is the way learning has been done traditionally in Bushmen culture. The contextual, experiential learning model that Bates (2009) presents is reminiscent of sustainable, place-based education. It acknowledges the interdependence of humans with social, economic, and ecological well-being (Sterling, 2001, p. 22). Bates’ point that knowledge transmission should be experience-based also acknowledges that this knowledge is not static and is not being truly ‘preserved’. Adaptability and flexibility in the use of modern technologies are part of IK.

The Bushmen culture is vanishing at a rapid rate. This egalitarian society is one of oral tradition, and for their indigenous knowledge to be kept alive intergenerational teaching and relationships must be kept strong. Since indigenous knowledge is not maintained in a written form, without oral and active transmission of knowledge to future generations, 40,000 years of knowledge can disappear in just a few generations.

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References


SEER 2013 ABSTRACT

Role Restructuring and Equalizing Experiences through Family Adventure

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**Introduction**

A limited number of studies have looked at outdoor adventure programs (OAPs) as a method to enhance family communication and lead to positive relationship development (Ewert et al., 2011; Freeman & Zabriskie, 2002; Huff, Widmer, McCoy, & Hill, 2003). These studies show that OAPs hold promise as effective and attractive leisure experiences for family members. However, more research is needed to understand the processes of relationship negotiation and development during the experience itself, as well as the ways in which this experience may be drawn upon in the future. The purpose of this study was to explore the phenomenon of father-child relationship development within the context of an Outward Bound (OB) family course, an environment that may both disrupt the ordinary aspects of an established relationship, and provide activities to purposefully encourage relationship development. Specific attention was given to the ways in which the OB course functioned as a disruption to established roles and the ways in which mutually understood roles and obligations were renegotiated in response to the demands of the situation.

**Literature Review**

Marsiglio, Roy and Fox (2005) specifically called for more research that explores “unique physical and social spaces for men’s fathering,” including leisure settings such as wilderness courses where money is a prerequisite to participation (p. 21). These authors theorize that some men may consider their participation in these settings as a means of “discharging”
their fatherly obligations, while others may see it as a way of expressing themselves as fathers apart from the distractions of their day-to-day obligations. Additionally, these authors allude to the “intriguing” situation that occurs when father and child take a lesson together in some sort of leisure activity, noting the interesting role-set a father takes on as both pupil and parent. The OB family course combines both of these above scenarios, answering this call for an in-depth analysis of a unique site where situated fathering takes place.

Social statuses and roles have long been theorized as being major building blocks of social structure (Merton, 1957). Merton defined status as a position in a social system and role as the designated rights and obligations associated with that status. The study of roles and statuses has been used to understand social interactions at a variety of levels. Pearlin (1983) described a very specific type of social situation, which he labeled “role restructuring,” and defined as “situations where it is necessary to adapt to shifts in the expectations, obligations, and governing norms among role-related people whose prior relationships were guided by significantly different constraints and imperatives,” (p. 24). Much of the literature in this area has looked at major changes in the life course, such as when adult children begin to take care of the their aging parents, but this phenomenon may exist at least temporarily in other situations, in a way that facilitates or promotes relationship development.

In the case of OB family courses, individuals arrive within an established status hierarchy, and with pre-defined roles, or behavioral expectations that are attached to their social positions. The introduction of these individuals into a very different social situation may create the necessity or opportunity to renegotiate previously established roles in order to conform to the new setting of the OB family course and wilderness environment.

**Methods**

In order to better understand the phenomenon of father-child participation in an OB family course, this study utilized an ethnographic case study design, beginning with in-depth observation of an OB family course, coupled with pre-course interviews (1-2 weeks prior to course) and post-course interviews (three months after participation). Additional interviews were conducted with several groups of participants, including students who had participated in a family course within the previous one to five years, members of a family contract course, and family course instructors. With the exception of the contract course, families in this study all participated in an eight-day wilderness-based adventure experience, which included rock climbing, rappelling, a peak attempt, and travel and camping in rugged environments. These courses were not intended to serve as therapy, but rather were designed in a manner to allow family members to capitalize on shared time and experience in a wilderness setting.

Sampling for all groups followed a sequential criterion-based sampling method (Goetz & LeCompte, 1984). In addition to eight consecutive days of participant observation, 27 interviews were conducted with 21 participants, who were members of nine different families, or who were instructors. Data collection and analysis followed the recommendations for ethnographic and social science field work by Emerson, Fretz and Shaw (1995) and Lofland, Snow, Anderson and Lofland (2006). Data were transcribed verbatim and imported into NVivo, a qualitative data analysis software that facilitates the collection, storage, management and analysis of large datasets. Data analysis was an iterative process that involved visiting and revisiting data as more sources were added; this open coding process gave way to the creation of themes and then returning to the data for more focused coding.

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Results

This abstract reports on one section of a larger study, and focuses specifically on the ways in which fathers and children negotiated their roles within the context of an OB family course. Within this larger theme, several sub-themes were identified, including (1) role-restructuring, (2) OB as an “equalizing experience”, (3) the impact of the equalizing experience on relationships, (4) power dynamics and role conflicts, and (5) the ways in which instructors worked to create the equalizing experience. Due to space limitations, this discussion primarily attends to the first three sub-themes.

The power and authority inherent to a traditional parent-child relationship is unequal. Parents typically have the final say in what children may do, and are also responsible for maintaining the safety and well-being of their child(ren); this is normative role behavior. In the OB family course setting, however, an interesting tension emerged as fathers and their children negotiated their previously established roles. Fathers and children were observed to move back and forth between the established governing norms of their relationship and the development of new norms. Immersion in an unfamiliar environment led to a sense of mutuality and some trading of the care-taking role. Fathers were sometimes observed engaging in traditional parenting, such as checking to make sure their daughters had put on sunscreen, or had their raincoats accessible, while at other points the daughters were observed checking in on their fathers, making sure they were doing okay with the level of exertion, or cheering them on through a challenging activity. During their interviews, the daughters discussed how taking care of their fathers was new to them. These sorts of everyday moments tended to foreshadow the larger instances of role restructuring, which were not always directly observable, but discussed very clearly by both the fathers and the children in their interviews.

The ways in which the OB course functioned as an “equalizing experience” was of primary importance to this discussion. These courses required parents and children to both assume the role of student and to face new challenges, often relying on each other as equals and seeing one another in new ways. Most of the participants cited this as an integral component of their course experience, and it was coded in 42 instances from 16 different sources. In some cases this was described as parents beginning to see their children in a different light, trusting them more, or beginning to see them as adults. For example, one father said:

“Well, I think [the conversations] were probably more adult, I think they were probably more like peer conversations. Less ‘I am the dad, here’s what we are going to do’ or like ‘straighten out for gosh sakes’ it was a little more…we were more on the same level I think in terms of what we were trying to accomplish.” (Dave\(^1\), Family G)

In other cases, the children began to see the parents differently, perhaps understanding their mistakes and foibles, or seeing them visibly afraid for the first time. For example, one of the daughters said of her dad: “He’s a doctor, he’s pretty fearless... But, seeing him scared was really weird, because he sees me scared all the time, but you don’t ever see your parents like sad or scared…you realize its like they’re just human, too.” (Katie, Family A)

Study participants described the shifting and restructuring of roles as an important factor in their overall relationship development, which included bonding, enhanced communication, and in some cases, long-term relationship change:

“But, for a parent, you definitely tend to underestimate your own kids, so it was good for me to know that she is more capable than I think she is, which means that I can step
back….I don’t treat her like a baby anymore. I ask her what we should do as opposed to tell her what we should do.” (Nicholas, Family E)

Similarly, children referenced being more open with their parents and experiencing increased trust within their immediate families.

Discussion

For the upper-middle class participants in this study, finding ways to highlight the sons’ or daughters’ abilities, combined with opportunities for the fathers to be vulnerable and relinquish some control, appears to have been both useful and beneficial to the father-child relationship. While this experience appears to primarily affect the ways that the individuals viewed one another, it also impacted the ways in which they viewed themselves. For example, the fathers started to see themselves as more of a peer to their children, which allowed them to relinquish some control, and the children began to see themselves as more capable and adult-like. Study participants indicated that these changes persisted after the conclusion of the course.

These findings are important to both the adventure education field, and to the overall development of a sociological understanding of the family unit and the relationships embedded therein. Unlike the majority of OAPs, family courses are comprised of individuals who typically return home together and can continue to draw on their experiences after the conclusion of their course. These types of experiences are therefore unique within the realms of both family development activities and adventure education.

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References


SEER 2013 ABSTRACT

Exploring Course Outcomes Utilizing A New Outward Bound Outcomes Instrument

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Increased attention has been focused on the need for robust evidence-based research and evaluation in experiential education programs (Sibthorp, 2009) and the difficulties that often accompany this type of investigation (Bialeschki, Henderson, Hickerson, & Browne, 2012). Furthermore, many such programs must continue to develop their own evaluation instruments, utilize existing tools or partner with researchers in order to demonstrate the efficacy of their programs (Bobilya, Holman, Lindley & McAvoy, 2010). One such program is Outward Bound (OB) whose wilderness programs in the United States recently experienced a major shift when they were decentralized and returned to their original regional school model (Guerlin, 2013). In October, 2011 this organizational change stopped OB’s national efforts to design and implement an outcomes instrument linked directly to its educational framework. Each school was now tasked with designing its own outcomes instrument. The North Carolina Outward Bound School (NCOBS) adapted the previously developed OB Outcomes Instrument (OBOI) to match its educational framework and created the NCOBS Course Impression Survey (NCOBSCIS). A psychometric analysis demonstrated that the NCOBSCIS is a valid and reliable measure (Faircloth & Bobilya, 2013).

The next step in understanding the usefulness of the NCOBCIS was to assess the pilot data that was collected using the tool, including both quantitative and qualitative questions and following a mixed-method analysis (Creswell & Plano Clark, 2007). This study was not intended to test any theoretical framework a priori. Given the limited information on the OBOI, a grounded theory approach was utilized (Creswell, 2009). The quantitative portion of the study was guided by one primary research question: What are the differences in participants’ perceptions of their own Character Development, Leadership, and Environmental Awareness qualities as they report them to have been prior to and now immediately following participation in a NCOBS course? Secondary research questions were: 1) Are there differences in the ways women and men experienced their NCOBS course? 2) Are there differences in the ways students of different course lengths experienced their NCOBS course? and 3) Are there differences in the ways older and younger students experienced their NCOBS course? In addition, the qualitative investigation was guided by the open-ended survey questions at the end of the NCOBSCIS. The qualitative questions chosen for this study were: 1) Describe your proudest accomplishment or greatest challenge on course, 2) How will your course impact you at school or in your career/life goals? and 3) What did you learn about yourself (or about life) as a result of your course?

Methods

The sample for the current study was drawn from NCOBS participants who completed an open-enrollment wilderness course of four days or longer during June – August, 2011. Two individuals were removed from the analyses due to missing data (*n* = 266). The sample consisted of more males (*n*=172) than females (*n*=94), and an age range of 12 – 54, with a mean age of 18.
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 or sum score, in addition to 3 separate factor scores for Character Development, Leadership, and Environmental Awareness. Higher scores indicate stronger agreement with the survey outcomes (Faircloth & Bobilya, 2013). In addition, the measure included various open-ended questions. Paired sample t-tests were conducted to compare Pre and Post means of the Character Development, Leadership, and Environmental Awareness factors. Additionally, a series of ANCOVA models were generated to assess gender, course length, and age as potential moderators. The qualitative responses were typed, coded, and categorized using a combination of open and axial coding processes (Strauss & Corbin, 1998). Emergent themes were then constructed and refined using the constant-comparative method (Glasser & Strauss, 1967). An inter-coder analyzed 20% of the responses to ensure trustworthiness of the qualitative findings.

**Results**

Table 1 presents the results of paired-sample t-tests indicating significant differences between the Pre and Post scores for all three factors.

<table>
<thead>
<tr>
<th>NCOBSCIS factor</th>
<th>μ Pre (SD)</th>
<th>μ Post (SD)</th>
<th>(df)</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Character Development</td>
<td>41.90 (7.25)</td>
<td>49.22 (4.96)</td>
<td>258</td>
<td>20.29***</td>
</tr>
<tr>
<td>Leadership</td>
<td>50.00 (7.42)</td>
<td>55.52 (5.67)</td>
<td>245</td>
<td>17.84***</td>
</tr>
<tr>
<td>Environmental Awareness</td>
<td>15.61 (2.92)</td>
<td>17.84 (2.45)</td>
<td>259</td>
<td>17.29***</td>
</tr>
</tbody>
</table>

*** p = .000  
*Note. μ = Mean, SD = Standard Deviation*

The ANCOVA comparing men and women on Character Development scores was found to have a statistically significant main effect for gender, $F(2,259) = 3.20, p = .04$. The results suggest that female participants reported significantly higher mean scores on Character Development following participation in a NCOBS course, controlling for pre scores. However, there was no evidence of gender moderating program effects on the Environmental Awareness or Leadership factors. When it comes to differences in the ways that participants from different course lengths responded to the NCOBSCIS, it seems clear that longer courses (e.g., 21 and 28 day) differed significantly from shorter courses (e.g., 4 and 8 day). The pattern of effects indicates that there are differences in the ways that participants report their Character Development $F(4,259) = 2.45, p = .05$ and Leadership $F(4,246) = 2.51, p = .04$, and those differences depend on the length of the course. In general, participants who completed courses of longer lengths (e.g., 21 and 28 day) reported higher mean scores for Character Development and Leadership than did participants who completed shorter courses (e.g., 4 and 8 day). There were no differences found for any outcome variable when examining younger or older participants.

The qualitative results are briefly presented by question followed by the major themes that emerged in rank order. Some participant comments were coded in multiple categories and themes with less than fifteen responses were removed or collapsed into other themes. The first question asked participants to describe their proudest accomplishment or greatest challenge on course and their responses resulted in the following themes: (1) completing course components ($n = 129$); (2) skill development ($n = 101$); (3) personal growth ($n = 71$); (4) overcoming the
challenge \((n = 50)\), (5) perseverance \((n = 37)\); (6) group dynamics and interpersonal skills \((n = 32)\); and (7) finishing \((n = 16)\).

The second question was “What did you learn about yourself (or about life) as a result of your course?” The following major themes emerged from the data: (1) general self awareness \((n = 180)\); (2) self confidence \((n = 70)\); (3) edgework \((n = 50)\); (4) group dynamics and interpersonal skills \((n = 35)\); (5) perseverance \((n = 30)\); (6) goal setting \((n = 24)\); (7) appreciation \((n = 16)\); and (8) environmental awareness and appreciation \((n = 16)\).

The third question was, “How will your course impact you at school or in your career/life goals?” resulting in the following themes: (1) ability to make decisions and set goals \((n = 67)\); (2) increased self confidence \((n = 58)\); (3) increased work ethic \((n = 57)\); desired lifestyle changes \((n = 38)\); (4) new perspective \((n = 36)\); (5) group dynamics and interpersonal skills \((n = 33)\); (6) increased perseverance \((n = 28)\); and (7) personal growth \((n = 23)\).

**Discussion**

In this study, participants were asked to make retrospective reports in addition to current reports on each of the outcomes at the end of the course. It is not clear that participants are able to make distinctions between their level of functioning at that time and how they would have rated those same outcomes prior to the course experience. Future research utilizing the NCBOBSCIS should allow participants to provide the Pre data prior to starting their course, allowing true Pre-Post questions to be asked about change in outcomes over time. The qualitative results from the NCBOBSCIS were analyzed by question and yet there is considerable overlap in the way that participants describe the meaning of their NCBOBS course across questions indicating common outcomes (e.g. self-confidence). The inclusion of open-ended questions in a mixed-method design continues to enhance our understanding of participants’ wilderness course experience and its potential impact.

The findings of this study may be helpful as we continue to understand how to best assess similar program outcomes. This instrument and these analyses may also be beneficial to other Outward Bound schools and wilderness experience programs as they develop their own outcomes-based assessment tools and adapt their programming. For example, participants reported improvements in Character Development through NCBOBS participation but it appears that females experienced an even more profound shift, than did men, in the way they thought about their Character Development after completing an NCBOBS course. However, men and women benefit from NCBOBS courses equally in terms of the ways they report their own improvements in the areas of Leadership and Environmental Awareness. Likewise, all participants reported improvements in Character Development and Leadership through NCBOBS participation but it appears that participants of longer courses experienced an even more profound shift in the way they thought about their Character Development and Leadership after completing an NCBOBS course. Participants (despite course length) benefit from NCBOBS courses equally in terms of the ways they report their own improvements in the area of Environmental Awareness. Taken together, these findings help to further understand the interaction between Outward Bound course characteristics and participant characteristics. Furthermore, this information can inform both the marketing and informational materials used to promote Outward Bound programs.

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References

SEER 2013 ABSTRACT
Is Risk the Real Reason for Adventure Recreation: Motivation Stability in Adventure Activities

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Introduction
Why people seek risk in outdoor adventure activities has been a social-psychological research mystery for over 50 years, with adventure recreation researchers trying to determine why people participate in outdoor activities that involve uncertainty, danger, and risk since the early 1960s (Noyce, 1958; Berlyne, 1960; Klausner, 1968). More recent theories have attempted to refine our understanding of why people are motivated to participate in adventure recreation. Examples include: Noyce’s instinctual drive (1958), Berlyne’s arousal seeking (1960), flow theory (Csikszentmihalyi, 1990; Fave, Bassi, & Massimini, 2003; Jones, Hollenhorst, & Perma, 2003), attribution theory (Ewert & Hollenhorst, 1994), sensation-seeking (Slanger & Rudestam, 1997), normative influences (Celsi, Rose, & Leigh, 1993), sense of freedom (Kiewa, 2002), and motivations for pursuing adventure recreation activities (Ewert, Gilbertson, Luo, & Voight, 2013).
The importance of this effort should not be underestimated given that the Outdoor Industry Foundation (OIF) has tracked outdoor adventure activities for several decades and found that in 2011, risk activities such as kayaking and rock climbing have increased over 25 percent since 2009, implying that an increasingly number of people and programs are engaging in adventure-based activities. Two major variables were of interest in this current study: risk-taking and stability of motivations.

**Risk-Taking:** Many prior studies have assumed that the primary reason for participation in outdoor adventure activities is risk seeking. For example, Straub (1982) found that people interested in mountain climbing scored higher in Zuckerman’s Sensation Seeking subscale of Thrill and Adventure-Seeking. In addition, Ewert & Hollenhorst (1989) developed a theoretical model that predicted that the greater the experience level of the individual the greater the propensity for risk-taking. Despite these and other research efforts to better understand the adventure experience, the issue remains as to how important risk-taking is in experiential education activities that focus on adventure and challenge.

**Stability of Motivation:** In addition to risk-taking, what other motives exist in the adventure experience and have these motives remained relatively stable over a period of years. For this aspect of the study, the research question was, “How stable are the motivations of participants through time?” We wanted to know the extent that the motivations remained stable through time. We calculated motivation stability by the activity, not individual participants. If motivations changed through time, what does that imply for the adventure programmer or manager?

**Methods**

In a six-year study conducted from 2000-2008, Ewert, Gilbertson, Luo, & Voight (2013) investigated motivations including varying skill levels (beginner to advanced) and different activity types (canoeing, rock climbing, whitewater paddling, and sea kayaking) to determine motivations across skill levels and activity types. Reliability of the instrument was \( \alpha = .85 \) for the 22 motivation items. Participants registered for participation in adventure activities through a Midwestern university outdoor program that offered all activity types and skill levels were sought in this study. Participants were from throughout the U.S., but predominantly from Minnesota and Wisconsin.

The instrument used was adapted from the original study by Ewert and Hollenhorst (1989). It was a 40-item questionnaire that asked participants about their skill levels, activity types, and motivations for participating in outdoor adventure activities.

Data were collected during the years 2000, 2002, 2003, 2006, 2007, & 2008 and resulted in a sample size of 930, with an age range of 13-64. Data were analyzed using Principal Component Analysis, MANOVA, and Logistic Regression Modeling to identify significant motivations for participation, including the importance of risk and the stability of these motives over a six-year time frame

**Results**

Five motivation factors emerged: social, self-confidence, sensation seeking, self-image, and escape. Sensation seeking was analogous to risk seeking. That motivation remained stable throughout the six years of data collection. It is assumed that risk (sensation seeking) was a given as part of the type of activity chosen by the participants. What was new was how the other motivations of escape, self-confidence, and social interaction changed through time. The response measure was a Likert scale of 1-10 with 1 the lowest level of motivation.
Relative to the overall stability of the motivations over time, findings revealed that escape remained stable with a slight rise in 2008 (mean = 6.5 – 7), sensation-seeking was stable (mean = 5.8 – 6), self-confidence was stable with a rise in 2008 (mean = 6 – 6.8), social was stable from 2000-2006 and then rose significantly from 2006-2008 (mean = 4.8 – 6.9), and self-image having the lowest mean score (mean = 3 – 2.2). These results reveal that participants were more motivated to participate in adventure activities for escape, to gain self-confidence, and for social interaction. Sensation seeking remained stable (See Figure 1).

![Motivation Change Over Year](image)

*Figure 1: Motivation changes over 8-year time period.*

**Discussion**

These results suggest that while there is inherent adventure in the activities subjects participated in, it appears that their motivations for doing so are more complex than seeking risk alone and that seeking an activity away from “normal” life (escape), for social interaction and to gain greater self-confidence were more important to their experience. This study suggests that experiential education and adventure programmers need to account more for interpersonal and intrapersonal development than merely through providing a risk experience.

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**References**


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SEER 2013 ABSTRACT

AMPLIFYING OUTDOOR ADVENTURE EDUCATION AS AN INNOVATIVE TOOL FOR THE 21ST CENTURY

*Jeff Glover, Prescott College*

**Adventure Movement Project (AMP) Introduction**

This research explores how to create a sustainable adventure movement and increase the use of outdoor adventure education as an innovative educational tool in schools, communities and businesses in perpetuity. Taking a whole system approach, and applying leading social movement and diffusion theories, the Adventure Movement Project (AMP) seeks to develop a framework for integrating outdoor adventure education into whole communities to inspire servant leadership, achieve sustainability, and drive innovation.

**Literature Review**

Getting a new idea adopted, even when it has obvious advantages, is difficult.

Everett Rogers, 2003, *Diffusion of Innovations*, p. 1
The Adventure Movement Project is founded on the premise that outdoor adventure education is an innovative educational tool that can spread like any innovative idea. To that end, AMP takes the unique perspective of applying social movement theories to outdoor adventure education. A common theme in virtually all the social movement theories (Gladwell, 2002; Hawken, 2007; Jones, 2012; Moore, 2002; Rogers, 2003; Rosenberg, 2011) is the need to have a clear, concise message that resonates with a critical mass in order to call people to action. Therefore, to present a clear message, the field of outdoor adventure education must unify around its core principles and values that it inherently champions. To do this a larger community of advocates must be engaged in this discussion, and professionals in the field of outdoor adventure education must be unified around this mission.

Methods

For the Adventure Movement Project original exploratory research study, seven outdoor adventure education experts with broad backgrounds and careers were engaged in a Delphi study. First they received a survey of open ended questions that framed the research around thinking about outdoor adventure education as an innovative tool, and what it would take to significantly increase the use of outdoor adventure education in perpetuity. The questions focused on defining a clear outdoor adventure education message and strategies that could potentially be used to diffuse outdoor adventure education. Experts’ responses to all questions were compiled in one document per expert, and the experts were given code names to protect their identities. Experts then received a second survey with follow up questions, which gave each participant a chance to respond to other first survey comments and clarify their own positions. Finally, I summarized all responses in a final report to reflect both general consensus and areas of disagreement. The quotes from the experts in the sections below were taken directly from my original research.

Results

A clear, concise message drawn from this research can simply be stated as, outdoor adventure education intimately engages three critical pillars which will determine the future of this planet: 1) sustainability; 2) innovation; and 3) servant leadership.

1. Sustainability

A common theme that ran through multiple responses in the AMP research study was the ways in which outdoor adventure education could impact people’s awareness of sustainability and natural principles. Providing people with a direct, immersion experience in the natural world is a core principle in outdoor adventure education and can be a pathway to environmental sustainability. One Delphi participant elaborated and another agreed when she said, “We do not understand the natural world as the source of all other resources. We must protect it and we can only do that with people who have been there.” Framed another way one participant reflected, “Respect for the natural world and a curiosity about that world are the underpinnings for individuals to become truly educated. Only through experiences can that respect be achieved.”

2. Innovation

Framing outdoor adventure education as a tool that can drive innovation, innovative products, and innovative systems could be a potential way we can tweak the outdoor adventure
education message to incentivize its use for innovative businesses, schools, and whole economic and educational systems.

Business organizations have a crisis of people who have business skills. Adventure education builds business skills such as responsibility, accountability, the ability to work successfully in teams, the ability to lead and influence others, the ability to see the big picture and what needs to be done now,” stated one Delphi participant again with agreement from another.

The business skills referred to in the above quote are also aligned with the skills necessary to drive innovation. Another Delphi participant expanded on these skills by stating, “When EE or AE is facilitated effectively, it presents participants with opportunities to affirm, develop, reflect, transform intrapersonal and interpersonal skills. Such skill sets instill confidence, self-esteem, compassion, encourage creativity, boldness, and humility when considered in terms of relationships, respect, responsibilities, and actions taken or not taken with others and the ecological and environmental world.” Connecting outdoor adventure education directly to innovative thinking and developing innovation skill sets is integral to reframing a more inspiring message in order to break through to a critical mass.

3. Servant Leadership

Knowing what to do in a situation filled with uncertainty, having the conviction to do it, and inspiring others in the process are fundamental attributes of leadership. A strength of outdoor adventure education as stated by one Delphi participant is that it can, “Start teaching people how to navigate uncertainty. No, this is not easy; but fundamentally it is what we are great at.” Leadership development has a long standing as a core outcome in outdoor adventure education, and this research demonstrated that leadership development continues to be fundamental to this field. Stated another way one participant shared, “With so much of today’s world society in flux, it is those skill sets that can ground youth and adults for the uncertainty and challenges facing them now or yet to be encountered. Traditional/didactic types of teaching or workshops cannot offer the opportunities for this part of life education.”

Discussion

With a clear message conferred, the next area explored in this research was how to create a sustainable adventure movement. One Delphi participant framed the need for the Adventure Movement Project to collaborate by advising to:

> Partner with organizations who are required to navigate complex adaptive problems, understand what their strengths and challenges are, identify ways that you can help them and the world will come calling. The world is becoming more rapid and complex, not less, and the leaders of tomorrow will be needing our skill sets.

The complexity of sustainability issues is the crux of the complex adaptive problems that we are dealing with as a society; Senge (2010) affirms that, “Partnering across sectors will be crucial in dealing creatively with all the core sustainability issues…” (p. 94). Another Delphi participant linked the issues by highlighting, “the need for cross sector collaboration to solve the world’s most pressing problems and again, we know that adventure programs builds people who
collaborate better.” Another participant agreed and expanded saying, “There is a larger effort at creating sustainable lives. To manage our time, money, relationships sustainably. We could play a huge role in that movement.” Targeting organizations and institutions that are attacking sustainability issues and have a sustainability ethic will be a focus of the Adventure Movement Project moving forward. Getting connected with this larger movement and creating a simple, effective message that positions Outdoor Adventure Education as a tool to achieve sustainability, drive innovation, and inspire servant leadership will help create a sustainable adventure movement. One participant summarized, “We have a tool. What we don’t have is a critical mass who understand the issues deeply enough to know why we would want to fix it.”

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References

SEER 2013 ABSTRACT

Assessment of Critical Thinking Across Four Experiential Learning Settings

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William F. Heinrich, Michigan State University
Heather L. Johnson, Michigan State University

Introduction

Our research addressed the question: How do experiential competency-based approaches to sustainability enable institutions to better educate for complex global problems, engage learners’ curiosity and responsibility on behalf of their communities, and prepare an engaged citizenry capable of meaningful participation in complex global issues? Research surrounding the outcome of ‘engaged citizenry’ includes a combination of sustainability education research, experiential and social learning theories, instructional design including backward planning and learning scaffolding, and models of critical thinking. No one of these concepts fully engage learners in critical thinking behaviors without attention to other areas. This research relies on an
examination of inputs, learner activity, and environments to explain critical thinking outcomes across different learning sites.

Site Descriptions (Table 1.)

<table>
<thead>
<tr>
<th>Site</th>
<th>Learners</th>
<th>Duration</th>
<th>Artifacts analyzed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability Semester Course (on-campus classroom)</td>
<td>24 undergraduates, traditional students (3 semester credits) 1 full time faculty</td>
<td>15 weeks, 3 contact hrs/week. Field trip and civic engagement project</td>
<td>1. Pre-class Video Review 2. Systems Diagram 3. Exam 2 - Diagram and essay 4. Post-class Video Review</td>
</tr>
<tr>
<td>Sustainability Study Abroad Course (in Australia-S. Australia, New South Wales, Far North Queensland)</td>
<td>11 undergraduates, traditional age (4-7 semester credits) 2 full time faculty</td>
<td>5 weeks total, 4 weeks in country traveling to various water and ecological resources</td>
<td>1. Essay (water) 2. Essay (food) 3. Essay (tourism) 4. Essay (agriculture)</td>
</tr>
<tr>
<td>Wilderness Philosophy field course (camping at Isle Royale Nat’l Park, MI)</td>
<td>5 undergraduates, 1 graduate student (3 semester credits) 1 lead instructor, 1 teaching assistant</td>
<td>Pre course readings &amp; blog, 10 field days on course, post course reflection</td>
<td>1. Blog Writing 2. Blog Entry #2 3. Wilderness Journal Entry 4. Blog Entry #3 (Post course)</td>
</tr>
<tr>
<td>Organic Farmer Training Program (on-campus farm)</td>
<td>11 adult learners (non-credit) 1 director, 3-4 instructors</td>
<td>9 months, field instruction and regular discussions</td>
<td>1. Application Questions 2. Article Review 3. Article Discussion Write-up</td>
</tr>
</tbody>
</table>

Methods

The qualitative research investigation began in 2011. Research on this project occurred in three phases. First, across five research sites collaborating instructors identified critical thinking as a key competency for learners. Learning sites in this research project varied in length, location, student number and type, instructor, topic, and expected outcome level for students. Learning sites came together through their interest in creating experiential learning that elicited critical thinking about sustainability and a willingness to use data to improve upon their courses. Each site was analyzed independently and a descriptive analysis map of site characteristics was made during the research process.

Prior to any intervention, we analyzed learner work (on-course essays, field journals, class trips, reflections, class discussions, course blogs) regarding the level of critical thinking and sustainability outcomes at each site. This project used a qualitative analysis of written learner artifacts. We utilize an expanded, assignment level critical thinking rubric identified by the American Association of Colleges and Universities (AACU) as the basis for our analysis.

In a second phase of the research, we consulted with site instructors as they planned to intervene in various pedagogical areas. Using tenets of backward design, various changes were made at each site. Included were changes to curriculum, use of learning scaffolding, adding or
adjusting the placement and duration of field visits, use of the experiential learning cycle, emphasis on the role of reflection activities, order of instruction, thematic grouping, as well as changes to what data were analyzed for critical thinking at two learning sites.

In the third phase, we analyzed critical thinking across the sites, post intervention. Artifacts collected from course assignments were coded using a codebook developed as an extension of the AACU Critical Thinking VALUE Rubric (Rhoades, 2010). Three coders analyzed a subset of data to generate inter rater reliability scores. Inter-rater reliability ranged from 0.89-0.97 agreement depending on the specific comparison and type of rating (Fleiss’ Alpha, Krippendorff’s Alpha, Cohen’s Kappa).

### Findings

<table>
<thead>
<tr>
<th>Site</th>
<th>Portion of the experience that helped elicit critical thinking</th>
<th>Site specific highlights- (factors believed to contribute to outcome)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Farmer Training</td>
<td>Highest individual level of analysis and synthesis exhibited in application describing interest and qualifications in course.</td>
<td>Reflections are regular, group conversation experiences. Readings and written analysis were too unstructured for critical thinking</td>
</tr>
<tr>
<td>Australia Study Abroad</td>
<td>Multiple sites were compared and contrasted to provide numerous contexts for sustainability and critical thinking about differences.</td>
<td>Short reflection times on course. Lack of questions or writing opportunities that ask for reflection.</td>
</tr>
<tr>
<td>Isle Royale</td>
<td>Role of instructor asking open ended questions, specific question stems, clear expectations for length and depth of analysis, engagement with the learner.</td>
<td>On course and on blog, instructor modeled desired reflection; scaffolded thinking for learners during group reflections, responded to student reflections and interactions. Then asked students to reflect.</td>
</tr>
<tr>
<td>Sustainability Course</td>
<td>Students demonstrated 4 + dimensions of critical thinking with written reflection as opposed to diagraming alone.</td>
<td>When a learner strongly supported the position present in material, the learner provided less evidence of critical thinking.</td>
</tr>
</tbody>
</table>

### Analysis and Discussion

To begin to address our research question, initial data analysis yielded thematic comparisons between learning sites, interventions and outcomes. A structuralist perspective encourages comparisons of learning interventions and impacts while an interpretivist perspective contrasts context and differences among learning sites and instructors (Kezar & Dee, 2011). We identify themes that help a reader identify interventions and inputs that have impact in relationship to the specific context of the learning experience.

Findings suggest that fostering critical thinking for sustainability requires greater attention to developing and aligning instructional design elements such as learning outcomes, competencies, instructor inputs, learning activities, experiential learning cycles, learner performances and assessments of critical thinking outcomes. That being said, each learning context required a different mix of intervention, alignment, and focus on instructor or student performances.
One design element proved important to critical thinking improvements in several sites. Learning Scaffolding describes the process of breaking apart tasks that are initially beyond the learner’s capacity, thus permitting a learner to concentrate upon and complete only those elements within the learner’s range of competence (Wood, Bruner & Ross, 1976, p. 90). In our research, learner attention to critical thinking in written assignments appeared most often in the presence of learning scaffolding to encourage critical thinking (Australia & Systems Thinking courses).

The highest levels of critical thinking outcomes arose in the course (Isle Royale) with the experiential learning cycles used in nested lessons and with medium-large focus on course outcomes, along with the use of student blogs for reading discussion moderated by the instructor. Greater scaffolding of reflection time consistent with experiential learning theory (Kolb, 1984) also appeared in learning sites with higher levels of critical thinking. Assignments encouraged learners to engage with academic content and integrate their personal fields of knowledge when they required significant personal motivation, repeated reflection using multiple dimension of critical thinking. Where reflection received less emphasis, critical thinking remained lower.

Interventions such as the use of scaffolding learning and data collection strategies, such as interactive blogs with moderation, produced more effective use of evidence and context. Learners in these sites developed well-stated conclusions. While not a statistical association, these relationships encourage us to look deeper into other contextual factors of the course experiences that helped identify key factors in the whole research project.

Conclusions

When addressing experiential education for sustainability and critical thinking for global problem solving, several concepts rose to the surface. Strategies that seem to improve critical thinking include assignments requiring compare/contrast for comprehension or cause and effect question stems, use of reflection, and the use of an experiential learning cycle.

Recommendations for instructional design include a need to: identify and define learning outcomes, scaffold critical thinking, allow for learner processing time, consider emotional impact on critical thinking and processing, and plan for different assignment types to elicit different elements of critical thinking. Strong instructors provide timely feedback, provide clear instructions, and scaffold critical thinking in assignment directions and expectations. Future research is needed into the deeply contextual picture of learning and critical thinking related to instruction, context, instructor and learner efforts, and specific elements of instructional design.

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References

SEER 2013 ABSTRACT

Effects of a College Outdoor Orientation Program on Social Provision and Its Contribution to School Adjustment

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Tomohiro Miyamoto, Seitoku University, Japan

Introduction

With a growing rate of students going to higher education (54.5% in 2010), “First Year Experience (FYE)” which is a freshman orientation program has gained popularity over last ten years in Japan (Yamada, 2012). In 2007, 97% of institutions in Japan offered some type of FYE. However, few schools have offered outdoor orientation programs. Biwako Seikei Sport College (BSSC) has developed a 4 or 5 day adventure-based outdoor orientation program called Freshman Camp (FC) for all freshman students since the founding of the College in 2003 in order to build the learning community through developing interpersonal relationships. The program mainly consists of team-building activities, problem-solving activities, and group-challenging activities based on the simple camp life setting. Anecdotal evidence shows that 40% of graduates think FC was their most powerful class in four years and helped their transition to college and the development of friendships, but it is necessary to empirically examine how FC contributes to school adjustment and personal development of students for further effective programming as well as maintaining support from faculty members.

Some key tasks of transitioning to college life are developing healthy and productive social support systems in a new environment (Bell, 2006). Social Provision (SP) is one of more accepted measures of social support, and it is defined as what we receive from relationships with others (Weiss, 1973). The subfactors include attachment, guidance, tangible support, social integration, competence, and nurturance (Weiss, 1973). Significant increases of SP through wilderness orientation programs have been reported (Bell, 2006). In this study, effects of the College Outdoor Orientation Program (FC) on social provision (SP) and its contribution to school adjustment (SA) over two years were examined. It is expected that the friendship gained from FC would develop SP that would contribute to their successful college life. In addition, the development of a Japanese version of the Social Provision Scale was utilized in this study.

Methods

The two FCs of 4 day adventure-based program were offered in April 2010 and included initiative games, living in a camp setting, outdoor cooking, recreational activities, mountain climbing, camp fire, and reflective activities under the supervision of faculty members and junior and senior students majoring in outdoor sports. Since FC is a required subject for all freshman students, it is difficult to establish an experimental research design. Therefore, in this study, a waiting list control design, a type of quasi-experiential design, was used to examine the effects of FC. As Table 1 shows at the 2nd test, only group A had experienced their FC, and group B had
participated yet. In order to avoid a bias from too many repeated tests within a week, another test after the FC-B was not conducted.

Analysis of variance and multiple regression statistical methods were used to analyze the data. The measures used in this study include the translated version of Social Provision Scale (SP) (Cutrona and Russell, 1987), the School Adjustment Scale (SA) (Okubo, 2005), and other additional questions about their college life including self-evaluation of academic level, concern about relationship with friends, satisfaction, personal goals, and health. SP has six factors, however, only the total scores of 22 items (excluding two) were used in this study due to the high inter-factor correlations among factors. Reliability using Cronbach’s alpha was .939. As for SA, four factors include “sense of comfort,” “existence of task and purpose,” “feeling of acceptance and trust,” and “absence of feeling of inferiority.” A total of 30 items were used and reliability using Cronbach’s alpha appeared to be .95. A total of 222 complete sets of data over two years out of 320 students were used for analysis (69%).

Table 1. Research Design (Waiting list control design).

<table>
<thead>
<tr>
<th>Group/Test</th>
<th>1: Pre FC</th>
<th>2: Post FC-A (Pre FC-B)</th>
<th>3: After 6 mo</th>
<th>4: After 2 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A (n=113)</td>
<td>SP</td>
<td>SP</td>
<td>SP&amp;SA+ α</td>
<td>SP&amp;SA+ α</td>
</tr>
<tr>
<td>Group B (n=109)</td>
<td>SP</td>
<td>SP</td>
<td>SP&amp;SA+ α</td>
<td>SP&amp;SA+ α</td>
</tr>
</tbody>
</table>

Results

Figure 1 shows the changes of SP over 4 testing times based on the results of an analysis of variance. An interaction effect appeared to be statistically significant ($F(3, 660) = 5.54$, $p<.01$). The significant difference between groups at the post FCA (pre FCB) indicates effects of FC on SP. Scores of SP at six months and two years later on both groups were significantly higher than scores at pre FC, suggesting the significant increase of SP of both groups was been maintained over two years.

Based on the results of multiple correlations, exploratory multiple regressions were performed between each 4 factors of SA as dependent variables and SP, academic level, concern about relationship with friends, possession of clear dream, and health as independent variables at 6 month and 2 years respectively (Table 2). $R^2$ at both times were from .30 to .57. Distinctive results include: 1) at 6 months, SP was the strongest indicator of SA, but at 2 years, other indicators became more important, especially academic level and health; and, 2) concern about relationships with friends is an important indicator for SA at both times.

Figure 1. Changes of SP over two years.
Table 2. Multiple Regression: Factors of SA as DVs.

<table>
<thead>
<tr>
<th>6M later</th>
<th>Comfort</th>
<th>Task &amp; Purpose</th>
<th>acceptance</th>
<th>No inferiority</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP6M</td>
<td>.62***</td>
<td>.56***</td>
<td>.49***</td>
<td>.39***</td>
</tr>
<tr>
<td>Academic</td>
<td>.06</td>
<td>.03</td>
<td>.07</td>
<td>.03</td>
</tr>
<tr>
<td>Friends</td>
<td>-.24***</td>
<td>-.07</td>
<td>-.20***</td>
<td>-.33***</td>
</tr>
<tr>
<td>Goal</td>
<td>.14**</td>
<td>.33***</td>
<td>.18**</td>
<td>-.02</td>
</tr>
<tr>
<td>Health</td>
<td>-.05</td>
<td>.02</td>
<td>.025</td>
<td>.04</td>
</tr>
<tr>
<td>R²</td>
<td>.57***</td>
<td>.50***</td>
<td>.43***</td>
<td>.35***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2Y later</th>
<th>Comfort</th>
<th>Task &amp; Purpose</th>
<th>acceptance</th>
<th>No inferiority</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP2Y</td>
<td>-.01</td>
<td>-.03</td>
<td>.01</td>
<td>.03</td>
</tr>
<tr>
<td>Academic</td>
<td>.24***</td>
<td>.15**</td>
<td>.14*</td>
<td>.25***</td>
</tr>
<tr>
<td>Friends</td>
<td>-.51***</td>
<td>-.24***</td>
<td>-.34***</td>
<td>-.34***</td>
</tr>
<tr>
<td>Goal</td>
<td>.053</td>
<td>.37***</td>
<td>.24***</td>
<td>.03</td>
</tr>
<tr>
<td>Health</td>
<td>.25***</td>
<td>.22***</td>
<td>.20**</td>
<td>.25***</td>
</tr>
<tr>
<td>R²</td>
<td>.45***</td>
<td>.35***</td>
<td>.31***</td>
<td>.30***</td>
</tr>
</tbody>
</table>

Discussion

Development of SP through a FC was proved and the increase was maintained over two years. Contribution of SP developed by FC to SA was also confirmed at 6 months. However, in two years, other indicators became more influential on SA. This can be explained by the results indicating that the importance of SP remains, but other indicators evolve over time. The results of this study suggest the FC as FYE was successful in terms of SP, but additional support for students to assist their SA would be necessary after FYE depending on their stage of college life, for example offering support for study and health, opportunities for building interpersonal relationships, and school counseling. SP is expected to continuously help to deal with issues relating to friendships.

Finally, the Japanese version of SP appeared to have high inter-factor correlations among factors, and scores of negative questions tended to be lower. This might reflect cultural context and needs to be considered for interpretation and re-constructing in a future study.

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SEER 2013 ABSTRACT

Dissecting the Wilderness Therapy Client: Examining Clinical Trends, Findings, and Industry Patterns

Matt Hoag, Second Nature Entrada
Katie Massey, Second Nature Wilderness Programs
Sean Roberts, Second Nature Entrada

Introduction

Over the last 15 years wilderness therapy research has increased substantially in both quality and quantity. A clear definition of wilderness therapy and its methods were developed (Russell, 2001, 2003a), and several outcome studies provide evidence of efficacy (Behrens, Santa, & Gass, 2010; Behrens & Satterfield, 2007; Hoag, Savicki, & Burlingame, 2001; Magle-Haberek, Tucker, & Gass, 2012; Russell, 2003b, 2005). The research within this field, however, is still limited in scope, and lacks methodological sophistication and data on young adults – a growing population of wilderness therapy clients (Russell, 2007; Tucker, Želov, & Young, 2011).

As we developed a research program, we realized the need to better understand the diagnostic makeup of those referred for a wilderness intervention. Our research questions included: What is the diagnostic profile of clients in wilderness therapy? Do young adult and adolescent clients differ diagnostically? Do males and females differ diagnostically?

Method

We conducted a secondary analysis of discharge summaries for clients who admitted between October 2010 and November 2011 to four wilderness therapy programs. Two of the programs were located in Utah, one in Georgia, and one in Oregon. The wilderness programs incorporated a strong clinical emphasis into the wilderness setting, using staff as a part of the treatment team. The critical therapeutic elements included primitive living, ceremony and metaphor, group process, and task accomplishment to build self-efficacy.

Since the average wilderness client has multiple Axis I diagnoses, we distinguished between the primary diagnosis and the first four diagnoses listed in the client discharge summary. Diagnoses were coded according to the nine most common DSM diagnostic categories found in our population: Substance-Related Disorders, Mood Disorders, Behavior Disorders, Anxiety Disorders, Learning Disorders, Pervasive Developmental Disorders, Attachment Disorders, Psychotic Disorders, and V Codes (American Psychiatric Association, 2013). Chi-square tests were conducted in SPSS to examine differences between groups.

Results

Of the 929 participants in our analysis, 737 were adolescents (218 females, 519 males), and 192 were young adults (35 females, 157 males). For adolescents, the mean age was 15.6
years; for young adults the mean age was 20.3 years. Seventy-four percent of adolescents and 55% of young adults had four or more diagnoses.

The chief diagnostic categories for adolescents were Mood, Behavior, Substance, and Anxiety. Mood Disorders were by far the most common primary diagnosis (39%), followed by Behavior Disorders (19%), Substance-related Disorders (17%), and Anxiety Disorders (15%). Looking at the first four diagnoses, 69% of adolescent had a Mood Disorder, 68% had a Behavior Disorder, 63% had a Substance-related Disorder, and 49% had an Anxiety Disorder.

Among young adults, Mood Disorders were the most common primary diagnosis (43%), followed by Substance-related Disorders (22%) and Anxiety Disorders (17%). While Mood Disorders accounted for the most primary diagnoses, more young adults had a Substance-related Disorder (82%) within their first four diagnoses. Mood, Anxiety and Behavioral Disorders were also seen in the first four diagnoses of 68%, 55%, and 39% of young adults, respectively.

A chi-square test of independence showed diagnostic differences between age groups and genders. Young adults had significantly greater rates of Substance-related Disorders, $X^2(1, N = 929) = 24.92, p = .000$, and Pervasive Developmental Disorders, $X^2(1, N = 929) = 7.83, p = .005$; while adolescents had significantly greater rates of Behavior Disorders, $X^2(1, N = 929) = 54.82, p = .000$, Attachment Disorders, $X^2(1, N = 929) = 11.42, p = .001$, and V Codes, $X^2(1, N = 929) = 41.42, p = .000$. Compared to young adult females, young adult males had higher rates of Mood Disorders, $X^2 (1, N = 192) = 5.19, p = .023$, and Behavior Disorders, $X^2 (1, N = 192) = 13.28, p = .000$. Adolescent boys had higher rates of Behavior Disorders, $X^2(1, N = 737) = 4.73, p = .030$, and Substance-related Disorders, $X^2(1, N = 737) = 11.88, p = .001$, while adolescent girls had higher rates of Anxiety Disorders, $X^2(1, N = 737) = 14.41, p = .000$.

### Discussion

This study supports and expands upon diagnostic trends in wilderness therapy by confirming the pervasiveness of dual diagnosed clients and substance issues, and bringing to light the impact of Mood Disorders and differences between young adults and adolescents. Analyzing data from the discharge summaries adds a level of accuracy, and distinguishing between the primary diagnosis and secondary diagnoses adds clarity and depth of insight to previous findings.

Earlier research on adolescents reported that behavioral and substance-related issues were the primary reasons for referral to outdoor behavioral healthcare programs (Behrens & Satterfield, 2006; Russell, 2007; Russell, Gillis, & Lewis, 2008). These two categories of diagnoses were ubiquitous within our sample; however, they do not appear to be the primary area of concern. Mood Disorders were the most frequent primary diagnosis, and appeared nearly two times more often than any other primary diagnosis category for adolescents and young adults. Also, among young adults, Behavior Disorders were not a major diagnostic category, accounting for only 5% of primary diagnoses. Additionally, the types of Behavior diagnoses among young adults were primarily Attention Deficit Disorders, rather than Oppositional Defiant or Conduct Disorders as with adolescents. This implies that a large number of client’s substance use or behavioral issues are secondary to other issues.

When combining Mood and Anxiety Disorders, 85% of young adults and 81% of adolescents had a one or both within their first four diagnoses. In addition, Mood and Anxiety diagnoses accounted for 65% of primary diagnoses in young adults and 54% in adolescents. This finding is congruent with Young and Gass’ study in 2010, which found that mood disorders and
depression were the most common primary diagnosis, rather than substance-related diagnoses and behavior diagnoses. This trend indicates that wilderness is being used for much more than behavioral or substance use problems. Wilderness field instructors and therapists are no longer just providing a sober experience; rather, they are providing intensive mental health treatment in the setting of the wilderness.

These findings carry several implications in regards to approach to therapy, staff training and support, and admissions screening. The presence of more varied and complex profiles demands that an array of interventions and treatment modalities be implemented to best serve each client. Therapists and managers must be well-trained and keep abreast of the latest research to assure that appropriate and effective practices are implemented for the presenting issues of each client. Ethical issues surrounding non-maleficence also arise as there is an increasing risk of doing damage or harm to clients with more complex emotional and personality dynamics. Additionally, these findings further highlight the need for staff equipped to deal with multiple clinical issues, as opposed to primarily serving as outdoor staff providing a structured, sober experience. There is a potential for higher burnout and turnover when staff are asked to deal with more challenges (Marchand, 2008). Managers must be attuned to staff well-being and competency and do whatever possible to support staff through training, emotional support, and time-off. The last important implication is that, it may be more likely that a client, whose needs are too much for wilderness, is still referred for admission. Employees who work in admissions must be trained to identify this or defer to clinical directors to assure proper placement.

As the field of wilderness therapy develops and matures, it is important to understand the population we serve and how they may differ from one another. This knowledge can be used to inform treatment, enhance the recognition of wilderness therapy as a viable treatment option for a wide range of diagnoses, and challenge programs to meet the increasing complexities of the wilderness therapy client.

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**SEER 2013 ABSTRACT**

Adventures Learning to Promote GreenSTEM Education and Physical Activity in Schools

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**Introduction & Review of the Literature**

Today’s youth are facing challenges in both physical health domains (e.g., obesity) and science, technology, engineering, and mathematics (STEM) education achievement (CDCP 2010, CDC 2011). This study addresses both issues by conducting a weeklong pilot study of an Adventure Learning-based GreenSTEM curriculum with 55 Idaho high school students. This program meaningfully integrated nature-based STEM topics and outdoor activities through the Adventure Learning framework. Participation in this study promoted engagement and motivation for both healthy and active lifestyles (HAL) and STEM topics. Findings provide practical directions for future program development that effectively explores the intersection of HAL and STEM as well as show gains in Intrinsic Motivation (IM), Self Determination (SDT), and climate science content knowledge.

The Adventure Learning framework guided efforts to combine GreenSTEM with meaningful physical activities for a program we called Adventure Learning @ Brundage. Here
we define GreenSTEM as Science, Technology, Engineering and Math content teaching related to ‘green’ topics such as alternative energy, recycling, or in this instance- climate science. Brundage Mountain is a predominant ski resort in central Idaho and served as the outdoor classroom for students to explore climate science. Adventure Learning has been found to motivate students (Moos & Honkomp, 2011) and inspire meaningful collaborations and inquiries for students and teachers (Doering & Veletsianos, 2008; Veletsianos & Doering, 2010). The Adventure Learning framework consists of nine principles that guide the development of curriculum and learning environments, notably in this study using a technologically rich curriculum to elevate the authentic narrative of the students in the program (The Learning Technologies Collaborative, 2010). Additionally, the Adventure Learning framework was adapted for use at the McCall Outdoor Science School (MOSS) and has moved the MOSS curriculum and programming into the next phases of development and implementation under the Adventure Learning @ - or AL@- approach, which invites students to become ‘experts in their own experiences’ through posting of class activities onto an interactive website (Hougham, Eitel, & Miller, 2013; Eitel, Hougham, Miller, Schon, & LaPaglia, 2013; Miller, Hougham, & Eitel, 2012). Adventure Learning as it is operationalized for this study should not be confused with “adventure education” (Hattie, Marsh, Neill, & Richards, 1997), which includes programs derived from the National Outdoor Leadership School, Outward Bound, and other similarly positioned approaches that highlight active experiences in the outdoors with a limited emphasis on traditional academic content.

![Adventure Learning](image)

**Figure 1**

Allowing students to participate in GreenSTEM curriculum experiences within an Adventure Learning framework was expected to promote engagement and motivation for both healthy and active lifestyles and STEM topics (Figure 1). Research has also highlighted the intrinsically motivating nature of outdoor adventure activities, which often require heightened challenges and skills. For example, a longitudinal study of teen development identified intrinsic motivation and enjoyment of optimally challenging activities as the best predictors of students’ long-term commitment to an area of study (Rathunde & Csikszentmihalyi, 1993). There is also evidence that intrinsic motivation is facilitated when psychological needs (e.g., autonomy, competence, relatedness) are met. The diverse literature highlighting the benefits of nature, physical outdoor activities, meaningfully integrated STEM curriculum, Adventure Learning, and
intrinsic motivation led the research team to anticipate that an Adventure Learning-based GreenSTEM curriculum, which integrated optimally challenging outdoor adventure activities with GreenSTEM topics, would result in increased interest and engagement in: (a) healthy and active living (e.g., snowshoeing, and skiing); and (b) STEM topics (e.g., climate change issues, human/nature interaction, and sustainability).

**Method**

Participants were a convenience sample of high school students \( N = 55 \), ages 14-18) already enrolled in a four-day residential Snow Science course at science school in the northwest in March 2012. This research enabled collaboration with a local ski area that enhanced the physical activity (i.e., Healthy Active Living) and environmental (i.e., STEM) components of this course. Thus, this project enriched investigation regarding the efficacy of an Adventure Learning-based GreenSTEM curriculum by allowing students to engage in active outdoor learning activities related to understanding snow science and climate change. Data collection included validated measures of intrinsic motivation and psychological needs, content understanding, and levels of physical activity occurred before the course, at pre-determined intervals throughout the course, and following the course to assess within-subject differences. Data analysis included descriptive statistics, repeated measures ANOVA and pair-samples t-Tests.

This methodology is adapted from a previous program conducted at the Storm Peak Laboratory in Colorado, which focused on climate science through snow measurements (Haller, McCubbin, & Wright, 2011). The research in this study built upon this framework by (a) more specifically addressing GreenSTEM topics; (b) explicitly connecting GreenSTEM to the importance of Healthy and Active Lifestyles; and (c) incorporating the Adventure Learning framework which allows students to fully participate in and connect to the project in the field and virtually.

**Results**

Paired t-tests showed that flow and intrinsic motivation were statistically significant (p<.05) during the program than at school pre- and post-program. Students reported greater feelings of autonomy after the program. Relatedness was shown to be statistically significantly higher post-program, while remaining somewhat constant pre-program (5.30) to program (5.56). Results for Activity Measures showed no differences in Active Outdoor Identity (AOI) or Physical Activity Perceptions (PAP) between the formal school setting and the Adventure Learning @ Brundage program. Students came into the program with high scores on AOI – 30-45 (avg. between 3.75 - 5 out of 5 on the 9 items) and were fairly high on PAP - 33-49 (avg. between 4.7 - 7 out of 7 on the 7 items). Student climate content knowledge results showed increase (vs. Pre-Post at School) for program participants.

**Discussion**

An AL@ outdoor recreation setting can promote the optimal blend of challenge and skill for STEM learning. The AL@ setting enhanced: motivation, sense of autonomy, competence, and sense of social relatedness in relation to STEM activities. An outdoor setting such as the one designed for Adventure Learning @ Brundage incorporated physical activity as well as learning, which in turn engendered feelings of enjoyment and fun. Fun and enjoyment in a physically
active environment shows strong potential for leading to more physical activity later in life, potentially curbing obesity and may encourage STEM career decisions in the future. Outdoor programming that integrates Healthy and Active Lifestyles with STEM education provides benefits to students and can be successfully implemented with the help of educators and practitioners. Combining active learning opportunities with content such as climate science offers an approach that can make content accessible and relevant through engaged experience. Further, the technological affordances made possible through the web environment add further enhancement to the student experience through social media products found in the blog postings. Further analysis and research are needed in elements of this effort that include climate science content knowledge as well as in the impact of technology enhanced delivery of authentic narratives through blogging.

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Introduction & Literature Review

Schooling matters. It matters for individuals and it matters for society. A free society needs citizens who know important facts, and, more importantly, who can think critically and creatively. Society needs citizens who can develop solutions to complicated problems. Society needs good schools to help grow these educated citizens. And if schooling matters, it is critical that it is the right kind of schooling, delivered in a way that enables authentic learning of important curriculum for all the students in a school.

There has been significant research over the past decades (for example, Acosta, 2001; Feiten, 2010; Ruus et al., 2007) examining the relationships between school climate and academic performance, typically using standardized test results as the dependent variable. Research has converged (Cohen and Geier, 2010) around the idea that by using behavioral and process-oriented tools to improve school climate – particularly in terms of feelings of safety, social cohesion and social engagement – schools can improve academic performance. During this same period, students and teachers have experienced increasing pressure to achieve high scores on standardized tests while dealing with downward pressure on school resources. The rational response to this dual pressure has been to increase focus on academic subjects so as to improve achievement on standardized tests. Consequently, public schools have reduced focus on non-academic work, such as school sports, outdoor activities, music, art, and theater programs (Gentry, 2006) – the very programs that encourage social cohesion and creative thinking. Kim (2011) used long term results from the Torrance Tests of Creative Thinking (TTCT) to conclude that while children’s IQ and standardized test performance have increased in recent decades, their levels of creativity have decreased over the same period.

The purpose of this study was to explore elementary and middle school classroom learning and the environment for creative problem solving, with the aim of developing an evaluative framework on the public school experience from the student perspective.

Method

Three waves of cognitive interviews (Beatty and Willis, 2007) were conducted with a representative sample of elementary and middle school students in grades three, four, seven, and eight attending a Pre-K-8 public elementary school in the Bridgeport, CT public school system. Interviews were conducted on school premises and during normal school hours, in the office of the school social worker. Students were shown a series of PowerPoint slides containing questions and answer choices, and asked to read and verbally answer the questions shown on the
Open-ended probes were then used to help participants think aloud about how they answered the questions, with the intention of understanding the cognitive processes involved. A total of eighteen students were interviewed. Eleven students were girls and seven were boys, six self identified as black or African American, ten as white, one as Native American and one as black/Asian. The sample consisted of four 8th grade, five 7th grade, three 4th grade, and six 3rd grade students. Interviews were conducted during February and March 2013. Interviews were organized into waves so as to improve the quality of the questions, and subsequently retest the questions with another wave of students. The questions and answers were related to school community, classroom learning, and the environment for creative problem solving. There were four or five answer choices on the screen for each question presented and students were asked to select the answer choice which best aligned with their perspective. Students were then asked to explain why they chose a particular answer choice. Scripted and unscripted probes allowed the researcher to further explore the respondents’ cognitive processes. Questions were initially developed from the literature on school climate and creative problem solving, starting with broad perspectives on school and family life, and zeroing in on classroom learning and the environment for creative problem solving. Students were asked to define key words themselves as part of the interview process. Definitions of question or answer words were not provided.

Student responses were recorded using a digital recording device and later listened to, with responses and comments being extracted and transcribed into an Excel worksheet. These responses were categorized under topic-related headings, and coded using simple phrases to identify links and connections. The final version of the questions and answers, organized into an online survey, is the basis of an instrument to evaluate the experience of learning in a public school from the student perspective.

**Results**

**School Safety and Community.** Student perspectives on their school were generally positive. Most students in the study had strong family support, with family members checking homework, reading report cards, meeting teachers, and encouraging students to work hard at school. Almost all students reported that their closest school friends helped, supported, and encouraged them to learn. Most students either liked or loved their school, with just two reporting that school was “ok.” When asked what would make them dislike or hate their school, a variety of answers were given, ranging from “other students being mean” to “if we didn’t have the lighthouse (after school mentoring) program.” Students felt safe during their school day and in most locations on the school campus. The lunch room and parking lot were the two least safe locations, with several students expressing a dislike of the “drama” which occurs in these places.

**Classroom Learning.** Most students were engaged and motivated to learn, and were able to articulate an understanding of their classroom learning. Students understood the goals of their learning and believed they were learning “exactly what their teacher wanted.” On the whole students felt their teachers set high expectations (“expects excellent work”) and believed the reasons some students did not succeed was that they “didn’t show effort” or “don’t pay attention” in class. There were mixed feelings on variety of classroom activities and content, with one student stating, “Fridays are different, that’s when we have tests.” Over half of students had experience working in groups or pairs, and felt that “it’s fun to work in teams.” One student clearly stated, “I’d like to work with other people sometimes.” Several students contrasted
“CMT stuff” (Connecticut Mastery Test prep work) with “other work is fun.” One 7th grader summed up, “at times it can be good to learn with something hard, but not all the time!”

Creative Environment. Two students were puzzled by the questions about creativity, suggesting that “creative” was a word used to describe a student who doesn’t know the answers. One student defined creativity as “doing whatever you want,” going on to explain that this could be positive or negative depending on what you decided to do, and whether you put “time and effort into making it.” Several students defined creative in terms of “expressing yourself” or “having your own opinions about stuff” or “things that make you stand out.” Many thought of creativity only in terms of “imaginative” subjects, such as art, writing, or design, although one student felt she could be creative in math and science, having “made an awesome volcano in science last year.” On the whole, most students felt creativity was important in class, with only two expressing concern that “random answers might be one way to be creative: that is not OK.”

Most respondents discussed being encouraged or allowed to rethink or reframe classroom problems, and being allowed to invent their own ways to solve classroom, across the curriculum. One student exemplified this by describing how his math teacher encouraged him to try new methods rather than simply use procedures he was given. Overall, students felt that creativity was part of doing excellent work: “I’m not a very creative person, but if something is well done, my teacher sometimes says that it is creative.” There was a reluctance to be creative unless the teacher said it was OK, one student said, “I like to take directions from the teacher.” When asked for examples of creative work in class, one student mentioned a creative writing prompt, “How would you rescue your brother or sister who was locked in a bathroom?” Another student mentioned, “doing something about spiders” as a creative assignment. Several students mentioned math and science classes as places where they were encouraged to think of different ways to solve problems. These were seen as “fun” ways to learn difficult subjects.

Conclusions and Implications

I expected to find students disinterested in their learning; I discovered instead a diverse group of students who loved school and were inspired by their teachers, who felt supported and creative, and were learning from their teachers. There was evidence of experiential learning in the school. The students in this study were engaged and interested in their school work, understood their role in learning, and appreciated the work of their teachers to inspire and support them on their learning journey. Students expressed a healthy and developmentally appropriate understanding of their learning goals and were focused on achieving them. Students connected “fun” with teamwork, engaging authentic content, and variety of activities.

Along with the comment by one student, that the only variety she had in school was Fridays, when they had tests, one piece of evidence of the impact of test prep happened by accident during the interview process. Two interviews were scheduled in the afternoon following a battery of practice tests in the morning. The two students involved were less engaged, less articulate, and more challenging to interview. This observation warrants further study – particularly the cognitive impact of batteries of test preparation on communication, engagement, and creativity in young students.

It became clear during the study that the selected school had a highly positive school climate and that students feared the loss of that positive school climate. Next steps for this work are to expand the scope of the study to include a variety of school sizes, types and locations, and particularly, to explore the environment in other schools with less positive learning
environments. To this end, the final versions of the questions and answer choices used in this study have been organized into a quantitative measurement instrument, the Climate4Creativity Student Perspectives Instrument (C4C/SP), which is currently being tested as an evaluative tool for use across other types of schools within an urban public school district.

Schooling matters. It matters for individuals and it matters for society. This school is doing many things right, and this study provides insight into how students feel about their experience as classroom learners at this school.

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**References**


**SEER 2013 ABSTRACT**

The Impact of Youth Conservation Corps on Participants: A Multi-Method Examination

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**Introduction and Literature**

The enactment of the 21st Century Youth Conservation Corps by the United States Department of the Interior in 2010 signified an initiative by the federal government to provide opportunities for youth to explore the outdoors and also learn more about potential career options in nature through environmental education (DOI, 2009). Serving in a youth conservation corps can satisfy both the immediate desire for accomplishment (e.g., completing a trail) and the long-term benefit of lifelong skills as participants are held accountable for their actions, such as being on time for work, getting camp chores done and looking out for fellow corps members’ safety (Prouty, 2009). Furthermore, in addition to learning about themselves, the hands-on work with nature characteristic of such programs can help connect young people to the natural environment.
The purpose of this study was to gain a better understanding of the impact youth conservation corps (YCC) experiences have on participants. More specifically, this study addressed the following research questions:

1. How do participants describe their youth conservation corps (YCC) experience and what does the experience of having participated in YCC mean to participants?
2. What do participants consider to be the most beneficial outcomes of their YCC experience?
3. What effect does participation in a YCC have on participants’ perceived level of independence, responsibility, teamwork and affinity towards nature?

Methods

In an effort to comprehensively address the research questions, a mixed methods approach was utilized. A onetime pre/post-test survey using a retrospective pre-test was administered at the conclusion of the participants’ term of service to assess participants’ perceived level of responsibility, independence, teamwork, and affinity towards nature. The survey format was modified from the American Camp Association Youth Outcomes Battery (YOB; ACA, 2011) to fit the conservation corps model (i.e., the word “camp” was replaced with “YCC”) and included four scales: (1) responsibility, (2) independence, (3) teamwork, and (4) affinity towards nature, totaling 64-items (32 two-part pre/post questions). The survey was administered to the entire population (N=109) of one particular youth conservation corps in the United States during the final week of their summer 2012 service term. Participants ranged in age from 16-24 years of age and came largely from the state in which the conservation corps was located.

During the last two weeks of their service term, 15 purposefully selected participants (eight female, seven male) within that population were interviewed by the researcher about their corps experience. The purposes of the semi-structured interviews were to explore the personalized impact that conservation corps can have individuals and to obtain a more in-depth understanding of the impact such programs may have on participants. Interview participants ranged in age from 16-24 years of age and were representative of the sample population of the cooperating agency regarding their age, gender, crew type and number of seasons completed with the conservation corps. Two interviewees served on a non-residential crew, three participated in a leadership intensive residential crew, and two female participants served on a female only leadership intensive residential crew. The remaining eight participants interviewed served on co-ed residential crews.

At the start of the interview, participants were asked to reflect back on their experience at the conservation corps in order to assess how it impacted them. Probes, when necessary, were used to further explore areas initially addressed by the interviewee. Notes were taken following each interview to record impressions and enhance clarity when coding. Interviews were transcribed verbatim and read several times prior to coding. Open coding followed by clustering of data into emerging themes was used to reduce the data (Creswell, 2007). To enhance trustworthiness, a second researcher independently reviewed and coded a subset of the interviews which was then compared to those created by the principle investigator and checked for consistency. Qualitative findings were considered in relation to quantitative findings to determine points of convergence and divergence.
Results

Of the 109 surveys that were distributed to the sample population, 101 of the participants chose to complete the retrospective-pre/posttest survey achieving a 92.7% response rate. Approximately 42% were male and when asked their ethnicity, 95% identified themselves as ‘White’. Eighty-three percent of participants indicated that this was their first season with YCC, 45.5% indicated that they were between the ages of 16-18, followed by 43.4% between the ages of 19-21, and the remainder were between the ages of 22-24. Sixty-three percent indicated that they served on a residential type crew, 19% served on a leadership intensive crew and the remaining 18% served on non-residential crews.

A one-way between-groups multivariate analysis of variance (MANOVA) was completed to investigate if the program had an overall impact on the four areas of interest: responsibility, independence, teamwork, and affinity towards nature. Significant values were found to exist in all four areas detailing: responsibility, $F(1, 186) = 243.92$, $p < .01$, $\eta_p^2 = .567$, teamwork $F(1, 186) = 57.27$, $p < .01$, $\eta_p^2 = .235$, independence $F(1,186) = 201.13$, $p < .01$, $\eta_p^2 = .520$ and affinity towards nature $F(1,186) = 59.97$, $p < .01$, $\eta_p^2 = .244$. Table 1 shows the means and standard deviations for the four areas of interest in both retrospective pre-test values and post-test values.

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<tr>
<th>Table 1 – Means and Standard Deviations</th>
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<td>Pre-Test</td>
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<td>Responsibility SD</td>
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<td>Teamwork M</td>
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<td>Independence SD</td>
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<tr>
<td>Affinity Towards Nature M</td>
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<td>Affinity Towards Nature SD</td>
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Interview analysis revealed three primary themes: (1) Community, (2) Empowerment, and (3) Skill Development. Participants reported feeling strong relationships form after only a few days of the crew being together with many participants hopeful of carrying on those relationships beyond their service term via e-mail and social networking websites. One 17 year old male participant on a non-residential crew stated that:

‘I thought that it was really cool that we were able to move a 600-700 pound stone with three people. And there’s so much amazement about how we can move all that with such little effort. We still had energy to go get another rock afterwards.’

All participants reported an increase in leadership skills and confidence in varying degrees dependent on the type of crew they served on. Interestingly, female participants who served in a female-only leadership intensive program indicated feeling empowered and confident more so than females that served in mixed gender crews. A 20 year old female participant on an all-female leadership intensive crew described why she felt this was the case:

‘It’s cool to learn how to use your body in a more physical way with a group of women. Having the guys take on the more difficult tasks of carrying heavy things or having a feeling like guys would step-up and be like “No we can do that, because we’re more physically strong up top or something like that.” Even if that weren’t the case in the moment, it’s still our perception of not having that block of having men that might be
more dominating in a group where there is physical labor. Just sort of learning how to do things on our own.’

Perhaps most commonly discussed by participants, and not surprisingly, was the tremendous sense of satisfaction with the work that they accomplished.

Discussion

Data collected from this study demonstrates significant positive gains in several life skills from serving in a youth conservation corps and is consistent with previous research that participants gain numerous skills and benefits from serving in a cooperative group service learning experience (Perry, et al., 1999; Gallini & Moely, 2003; Sagawa, 2007; Prouty, 2009). A limitation to this study is that it is only representative of one conservation corps in a network that contains over 127 conservation corps nationwide (The Corps Network, 2013). Conservation corps could benefit from an accreditation organization that would set forth consistent standards to ensure all participants receive the maximum amount of benefit possible no matter where they chose to serve in the nation. Qualitative findings demonstrated that participants join a YCC for differing reasons, yet gain many of the same benefits. Females when placed in an all-female crew gained tremendous confidence and empowerment that was not as prevalent in females on co-ed crews. Recommendations for all youth corps would be to provide more opportunities for females to experience this exponential growth in confidence that was found to be most effective in female-only crews. The difference in benefits seen between leadership intensive crews and traditional residential crews was apparent in favoring the leadership intensive crew model. Further recommendations include more intentional focus on leadership by providing crew members with more leadership opportunities that place them in decision making positions where they are directly responsible for the outcomes of their actions. Finally, additional longitudinal studies are recommended to understand if the benefits that participants received while serving in the YCC continue to impact their lives beyond the conclusion of the trail season.

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