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Self-Efficacy of Risk Taking in Outdoor Recreation as a Predictor of the Self-Efficacy of Risk Taking in Essay Writing

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Abstract

During two decades of teaching, we have observed that writing students seem more emotionally honest when their writing class is accompanied by an outdoor recreation component. The ability to take perceived risks is important to both outdoor recreation and writing; thus, we postulated that confidence gained in taking risks in outdoor experiences might affect students' confidence in taking risks in their reflective writing. In this study, we applied Bandura's (1997) self-efficacy theory to two classes of writing students, one that included outdoor experience and one that did not. We examined whether participating in outdoor activities would increase the self-efficacy of risk taking in the experimental group and whether this growth of self-efficacy in outdoor contexts would be accompanied by increased self-efficacy of risk taking in writing personal essays. Findings indicated significantly more growth of self-efficacy scores pertaining to risk taking in the writing of students in the experimental group versus those in the control group.

KEYWORDS: reflective writing; self-efficacy; outdoor recreation; adventure therapy

Many outdoor adventure programs use writing, primarily in the form of a journal or field notebook, to reinforce learning, facilitate group cohesion, prompt reflection, or accomplish other pedagogical goals (Brew, 2003; Gregg, 2009; Higgins & Wattchow, 2013). Writing teachers occasionally use outdoor experience to create cohesiveness in the writing group, provide students immediate subjects to write about, and introduce an experiential component into the writing process (Bennion & Olsen, 2002). However, most of what we know about the relationship between outdoor experience and writing is instinctive, anecdotal, and imprecise. Despite the widespread use of writing in connection with outdoor experience, few empirical studies show how writing and outdoor experience affect each other (Dyment & O'Connell, 2003; McCombie, 1997; O'Connell & Dyment, 2003).

This lack of knowledge results in presumptions about writing. Some educators assume that literate individuals instinctively know how to write clearly their emotions and perceptions about experiences, when in reality reflective writing, and in fact reflection in general, is a skill that must be developed (Simpson, Miller, & Bocher, 2006). Even writing teachers, being proficient writers themselves, may not recognize that others are not accustomed to reflection. Also, writing teachers often separate the act of writing from experience; they do not usually try to engage with the students in experiences that might produce good personal essays or other kinds of reflective writing. Writing teachers and outdoor educators may benefit from knowing more precisely the reciprocal effect of writing reflectively during and after the outdoor experience so that they can better design curriculum to meet program objectives.

While teaching outdoor writing for two decades, we have observed that students in our course had little difficulty finding subjects for their writing, that their writing was emotionally full and detailed, and that they bonded well with each other and the faculty. We postulated that ability to take managed risk is one factor influencing this growth. Participating in adventure therapy programs provides individuals opportunities to engage in risk in a controlled environment, producing physical and emotional stress, often resulting in self-discovery and personal growth (Bennion & Olsen, 2002; Priest, 1993; Priest & Baillie, 1987; Taniguchi, Freeman, & Richards, 2005; Terry & Schoel, 2000). Reflective writing also promotes self-exploration, and students take risks in their writing by sharing thoughts and feelings. Scholars of writing pedagogy suggest that the practice of taking risks is a skill that not only personal essay writers but also all writers must have to be successful (Freeman & Le Rossignol, 2010).

Our study group was a personal essay course paired with a recreation management course; the control group was a personal essay course without the outdoor recreation component. Both groups were given complete freedom to choose their own subjects for their essays, although the experimental group often chose to write about their outdoor activities. We framed risk taking, our focus of study, in the context of Bandura's (1997) self-efficacy theory, which claims perceived mastery in one domain can generalize to increased perceptions of mastery in other domains. Specifically, we designed this study to determine if increased self-efficacy of risk taking in outdoor activities generalized to increased self-efficacy of risk taking in essay writing.

Literature Review

In this review, we examine the current literature on self-efficacy theory, adventure therapy, risk taking in writing, and the relationship between solid writing and general academic self-efficacy.

Self-Efficacy Theory

Bandura's (1986, 1997) work in self-efficacy demonstrates efficacy beliefs are the best predictor of future performance. Self-efficacy and the associated outcome expectancies influence motivation and persistence in the face of challenge and adversity (Pajares, 1997). These beliefs influence activities that people choose to participate in or avoid. People tend to avoid situa-

tions and contexts that they believe present challenges beyond their abilities. Conversely, people will readily engage in tasks that they believe they can complete. "Advantageous self-precepts of efficacy that foster active engagement in activities contribute to the growth of competencies" (Bandura, 1986, p. 393). Clearly, individuals reap substantial benefits from strong efficacy beliefs, whether they are beliefs about ability to engage in intellectual activities such as writing or in physical activities such as cross-country skiing.

Designing efficacy-enhancing experiences targeted at key areas of competencies, such as social efficacy, coping skills, or academic efficacy (including essay writing efficacy), holds the potential to influence development and future performance positively (Duerden, Taniguchi, & Widmer, 2012; Duerden, Widmer, Taniguchi, & McCoy, 2009; Widmer, Duerden, & Taniguchi, 2014). Bandura's (1997) writings and research describe the specific mechanisms affecting efficacy judgments: enactive attainment, vicarious experience, verbal persuasion, and physiological arousal. Some research in the leisure literature has examined the use of recreation modalities to increase self-efficacy in an effort to promote perceived freedom and personal control (e.g., Ellis, Maughan-Pritchett, & Ruddell, 1993; Maughan & Ellis, 1991; Wells, Widmer, & McCoy, 2004; Widmer et al., 2014; Wise & Trunnell, 2001). Further, increased efficacy in one domain (e.g., adventure recreation) can be systematically generalized to another life domain (Grossman & Salas, 2011). Increasing efficacy in an area of life functioning or skills has direct benefits.

For example, Wise and Trunnell (2001) examined the viability of increasing efficacy in weight lifting and generalizing increases to activities of daily living among people with disabling conditions. Other research suggests that increasing efficacy in challenging outdoor recreation in families generalizes across domains to promote collective conflict resolution efficacy in families (Wells et al., 2004). One study, specific to challenging outdoor experiences, showed these experiences can be intentionally designed to increase academic efficacy and motivation in adolescents (Widmer et al., 2014). Although generalization occurs as a natural process, research identifies five specific mechanisms to enhance generalization of increased efficacy: overwhelming mastery experiences, identification of similar subskills, codevelopment of subskills, cognitive restructuring of efficacy beliefs, and generalizing subskills (Bandura, 1997, pp. 50–54).

Overwhelming mastery experience. Overwhelming mastery experiences occur when people face and overcome challenges that they previously thought were substantially beyond their capabilities. Bandura (1997) first recognized this phenomenon when working with people who had phobias of snakes. As individuals engaged in activities that they believed were well beyond their capability, such as licking a snake, they experienced increased efficacy across diverse life domains. Bandura provides a quote from a research participant describing this experience: "The biggest benefit to me of the successfulness of treatment was the feeling that if I could lick snakes, I could lick anything. It gave me the confidence to tackle, also successfully, some personal stuff" (p. 53).

Identification of similar subskills. Good cross-country skiers learn to use herringbone and side-stepping to climb inclines; they must also know how to match technique to terrain. They learn, when going down a steep trail, that they can control the speed of their descent by snow plowing. Skiers unfamiliar with the techniques and unable to adapt them to different physical contexts often fall and feel out of control. Even worse, they might go down a slope without knowing how to be safe. Most important, they learn the cognitive skill that they can take minor risks to expand their ability as a skier. Similarly, students studying writing in a classroom setting are asked to understand and remember principles related to organization or to sentence and paragraph structure. Knowing structuring principles allows them to face a blank page with confidence. More advanced students can begin to feel comfortable taking emotional risks to make their writing more relevant and vital. Although writing and skiing seem different, the cognitive skills necessary to understand, remember, and apply subskills are similar. Essentially, skills with similar qualitative features and common subskills are the most likely to hold generalizing power.

Codevelopment. The principle of codevelopment suggests that the act of learning and becoming competent in one area enhances learning and development in other areas, even domains that may be seemingly unrelated, such as snowshoeing and reflective writing. The development of skills can be designed so skills in different life domains are learned at the same time. A key factor is the effectiveness or quality of instruction. High-quality learning environments are likely to produce strong codevelopment, whereas ineffective learning environments are not likely to promote learning in any area. In the context of a wilderness or adventure program, a high-quality learning environment around cross-country skiing or winter survival will produce increases in efficacy, positively affecting efficacy in writing classes occurring simultaneously. Codevelopment may involve dissimilar performance skills, but may require similar generic skills. Cross-country skiing and winter survival require skills around diagnosing task demands, constructing and evaluating different courses of action and the associated risk (e.g., What are the snow conditions? The gradient of the hill? The risk of avalanche? What route would be best to take climbing or descending?), and setting proximal goals to guide effort and progress. In both activities, individuals are required to manage stress and fear associated with perceived risks. The ability to master these self-regulatory skills underlies the influence of codevelopment. Further, as an individual succeeds in learning one new activity or skill area, the sense of mastery enhances persistence and effort when the individual approaches new skills (Bandura, 1997, p. 51). Some individuals have had disconcerting experiences in expressive writing. Fear associated with sharing personal thoughts, values, history, and writing skills with strangers can threaten self-concept. Codevelopment of skills can support the enhancement of efficacy in expressive writing.

Cognitive restructuring. Highlighting the commonalities between seemingly disparate activities (e.g., cross-country skiing/winter camping and expressive writing) is another mechanism for promoting generalizability. In the contexts of wilderness adventure experiences, activities can be systematically designed to allow effective cognitive restructuring. For example, as participants engage in building a snow cave, they must face sleeping outside in temperatures so low that they would be in danger without a snow cave that they must build themselves. Most individuals experience high levels of arousal associated with fear. Often, this emotional arousal is well beyond any "fear" that they have previously experienced. After they build and sleep in a snow cave, the fear is replaced by a sense of accomplishment and joy. In our outdoor writing program, we take time after the experience to process the participants' experience. Part of the processing involves having participants reflect verbally and in writing on other situations and challenges in their lives in which they experience high levels of fear or perceptions of risk. We help them recognize that the level of fear in these other areas is often far less than the fear they just overcame. Essentially participants learn to debate, to see differently; they see how similarities will facilitate their success in the face of a challenge, whether it be fear, effort, or some other debilitating belief.

In summary, Bandura (1997) said, "Powerful mastery experiences that provide striking testimony to one's capacity to effect personal changes can also produce transformational restructuring of efficacy beliefs that is manifest across diverse realms of functioning" (p. 53). This applies to diverse realms such as winter adventures and reflective writing. This transformational restructuring may allow a person with a debilitating fear of heights to develop a new mental map on which the fear is dramatically moderated. Often, people begin to see the conquest of one phobia linked to others. They essentially use reflective writing to restructure their belief system cognitively.

In the classes we taught prior to this study, and in the class used for this study, the outdoor adventure activities were designed to provide overwhelming mastery experiences. Repeated experience with snowshoes and skis and extended time being outdoors seemed to make the students more confident in those situations and consequently more able to succeed in these challenges. As competence and self-efficacy grew in our students and other participants in outdoor education, their ability to take further risks also seemed to grow.

Adventure Therapy

These goals for writers are similar to the goals of adventure therapy programs, including the recreation management class used in this study. Ewert, McCormick, and Voight (2001) defined the adventure therapy paradigm as activities that provide novel situations requiring participants to develop new ways of thinking and acting. The experience must be at a specific level of difficulty; when skill level is inferior to the challenge, anxiety is produced, and when skill exceeds a challenge, boredom or apathy is the result (Jackson & Roberts, 1992). Mastery of skills leads to an increase in confidence or self-efficacy (Caldwell, 2001; Gass, 1995; Neill, 2003; Wise & Trunnell, 2001). Recent research demonstrates that outdoor skills efficacy in theoretically designed programs for adolescents can generalize to academic efficacy (Widmer et al., 2014).

Risk Taking in Writing

Lopate (1994) wrote that writers of personal essays (reflective writing) must be willing to risk disclosing personal information and opinions that may not be acceptable to other people. Unlike many forms of writing proceeding from a position of certainty, the personal essay tests the unknown. He suggests that the personal essay is traditionally experimental: "To essay is to attempt, to test, to make a run at something without knowing whether you are going to succeed" (p. xlii). This involves taking risks, he writes, "striking out toward the unknown, not only without a map but without certainty that there is anything worthy to be found" (p. xlii). Barthelme (1986) has written about the considerable anxiety produced by a blank page, produced in part because the identity of the writer is being tested: Can the writer produce something new that is also distinctively in his or her voice? Elbow (1998) said that he knows when he has found voice in any piece of writing when he "can feel the reality of the person in the words," and he associates "real voice" with "sounding like our real self" (pp. 292–293). This "real voice" requires self-disclosure, taking emotional risk. This is especially important for student writers; Branthwaite, Trueman, and Hartley (1980) demonstrated that a self-confident and assertive style (a powerful voice) would achieve higher grades. In summary, the professional and the student writer must take risks by voyaging into the unknown, speaking in their own voice (being honest), and using self-disclosure.

Relationship Between Solid Writing and General Academic Self-Efficacy

Academic self-efficacy is defined as "a learner's judgment about his or her ability to successfully attain educational goals" (Elias & MacDonald, 2007, pp. 2519–2520). Pajares (2002) performed two decades of research that confirmed that students' academic self-efficacy beliefs influence their academic attainment. According to Elias and Loomis (2000), "Having instructors increase the amount of opportunities students have to be successful, they will be aiding in the development and strengthening of those students' academic self-efficacy" (p. 453). Confidence in doing a task can increase effort, persistence, academic aspiration, and resilience—factors known to lead to improvement in academic performance (Bassi, Steca, Fave, & Caprara, 2007; Lane & Lane, 2001; Schunk, 1991, 1995; Telbis, 2010).

Solid writing ability is a good indicator for the overall academic standing of the student (Bartholomae, 1985; Cumming, 2013; Rose & McClafferty, 2001). Academic language is part of a complex cultural code of behavior (not usually explicitly recognized) that students must adopt if they are to succeed at the university and in their professions. Jones's (2008) study of 118 students placed into basic skills sections of college English suggested that changing students' negative self-beliefs is a particularly important predictor of success in weak writers in first-semester courses. Other studies confirm the relationship between writing performance efficacy and efficacy in other important academic skills (Corkett, Hatt, & Benevides, 2011; Dahlman, 2010; Klassen, 2002; Pajares, 2003).

Other findings lend support to the effectiveness of using self-efficacy measures in academic settings (Lane, Lane, & Kyprianou, 2004; Pajares & Schunk, 2001). For example, Lane et al. (2004) asked participants to take a survey in which they ranked themselves 1 to 100 according to their confidence to perform certain academic tasks. The general categories of the survey items were as follows: "Coping with the intellectual demands of the program," "Maintaining motivation in light of difficulties you might meet," and "At least a pass in the end-of-semester assessments." Although studies have been done on general academic self-efficacy, the specific relationship between efficacy developed during adventure therapy and improvements in written skills has not yet been explored in the literature.

Our hypothesis concerning whether risk taking in outdoor activities would generalize to risk taking in essay writing had two components:

- H1: The participant group will experience significant ($p > .1$) positive change on the outdoor risk self-efficacy measures.
- H2: The participant group will experience a significantly higher ($p > 1.$) change on the writing risk-taking self-efficacy measure than the comparison group.

Method

This study was conducted at a large university in the western United States. We used a single-factor, two-group quasi-experimental design to examine our hypotheses. The first group of students enrolled concurrently in an outdoor recreation class and a personal essay writing class during a 14-week winter semester. The following semester, a second group of students participated in an essay writing class and did not participate in an outdoor recreation class.

Sample

We used a convenience sample; we recruited participants by asking students already enrolled in the writing course if they were willing to participate in the study. The participant group comprised students ($n = 22$; ages 17–23 years) who were required to register concurrently for the outdoor class, in which they were taught the hard skills and safety knowledge needed to experience a variety of outdoor, winter-related recreation activities, and a writing course, in which they focused on the skills and principles of personal essay writing. Students generally select this course because they want both writing and outdoor adventure, but experience with writing varies quite a bit. Because a prerequisite writing course is waived for this group, their focus on writing varies. Many do not take the course with the intent to improve or to take risks in their writing. We modified the level of risk in the adventure activities to ensure the students experienced challenge and the sense of mastering a demanding task. Generally, some of our students had used cross-country skis or snowshoes previously, but most had not built a snow cave and slept in it. Similarly, some had experience being outside in the wilderness in the winter, but many had not.

The comparison group ($n = 13$; ages 17–23 years) comprised willing student participants taking a traditional classroom personal essay writing course. The focus of this course was similar to the treatment group's writing course. The major difference between this comparison group and the treatment group was the lack of a concurrent outdoor recreation course. This course is designed for students who have taken a required introductory course and who choose the greater challenge and focus of an intermediate course.

Both courses emphasized growth and self-actualization of students. The same English professor taught both writing classes and the curriculum in both classes contained lectures on the necessity in good writing of being honest, using self-disclosure, and taking emotional risks. Students in both classes practiced short writing exercises that encouraged them to open up and then the students would read these exercises out loud to their respective classes. Both classes read professional essays that modeled being honest and emotionally significant in their writ-

ing. Self-selection of students in the outdoor class probably implies an interest in taking risk in the outdoors; self-selection of students in the control group probably implies an interest in taking risk in writing. Because of these differences, in our study we focused on growth in the self-efficacy of risk taking.

Instruments

Using Bandura's (2006) "Guide for Constructing Self-Efficacy Scales," we developed self-efficacy assessments. One set of assessments (22 items) measured risk self-efficacy across different types of outdoor activities. Questions included statements such as "I can go into the outdoor wilderness with friends in winter conditions" and "I can go cross-country skiing with friends on just about any moderate terrain confidently." Using a numbered rating scale, in increments of 10, for which 0 meant *cannot do at all,* 50 meant *moderately certain can do,* and 100 meant *very certain can do,* respondents selected a point value that they felt accurately rated their perception for each statement of mastery. Table 1 provides a complete overview of the outdoor risk self-efficacy scales.

Table 1
Outdoor Risk Self-Efficacy Measures

Measure	# of items	Cronbach's α
Cross-country skiing risks	9	.98
Snow caving risks	4	.92
Snowshoeing risks	9	.97

The second instrument (12 items) measured gathering ideas and risk-taking self-efficacy in writing personal essays. Example statements include "I can use writing to stretch myself" and "I can step out of my own safe zone when I write." The response format was the same as the outdoor measures previously described. Table 2 provides information on the writing measure.

Table 2
Writing Risk-Taking Self-Efficacy Measure

Measure	# of items	Cronbach's α
Writing risk taking	12	.92

Data Collection

The outdoor recreation experiences course met eight times during the semester, and both writing classes met twice a week throughout their entire respective semester for a total of 28 classes each. In the outdoor recreation course, participants were introduced to fundamental skills and knowledge of cross-country skiing, snowshoeing, and snow cave building, including techniques, proper equipment selection, safety concerns, and environmental considerations. These were taught in a classroom and in the outdoors. The course included a 2-day snowshoe experience to a remote wilderness area at 7,000 ft elevation. Participants constructed snow caves and then spent the night in these caves. Participants then completed a 4-day cross-country ski tour in a remote wilderness area above 9,000 ft, where they skied to yurts to spend the night. On the trail and in the yurts, participants discussed their experiences and considered the risks taken, wrote about their experiences, and socialized. Later, students were assigned to write about their experiences in the personal essay course.

In the companion writing course, students were provided opportunities to read personal essays written by successful authors, such as Edward Abbey, Terry Tempest Williams, and Wendell Berry. Students wrote drafts of personal essays from their personal past and the experiences they had during the outdoor recreation course. There were many opportunities for peer and instructor reviews. The same curricular structure occurred in both groups; however, the control group read published essays with less emphasis on natural history writing. All of the essays read in the participant and comparison groups were examples of honesty, clarity, and revelation of identity through voice. Students were given identical opportunities to progress as writers, but they experienced no wilderness education and no common outdoor adventure experiences.

The treatment group completed pretests involving the outdoor risk and writing risk-taking self-efficacy measures at the beginning of the course (within the first week of classes), and as the final requirement for the courses on the last day of class, they completed posttests identical to the two pretests. The comparison group completed only pre- and posttests involving the self-efficacy of risk taking in writing measure.

Data Analysis

We analyzed the data collected from all self-efficacy instruments for descriptive statistics and hypothesis testing. We summed the results from three outdoor risk self-efficacy measures and the writing risk-taking self-efficacy measure. To test H1, we used paired *t* tests to determine if participants experienced significant positive growth on all outdoor measures. To test H2, we used a hierarchical regression to examine if participants experienced significantly greater growth on the writing self-efficacy measure than the comparison group.

Results

Twenty-two students completed both writing measures, but only 20 students completed both outdoor measures. We tested normality for all outdoor risk self-efficacy measures using the Kolmogorov–Smirnov test, which indicated that the differences between variables were normally distributed, which is the primary assumption for paired *t* tests. A Levene's test on the participant and comparison groups' writing risk-taking self-efficacy change scores indicated the homogeneity of variance across the two samples, the primary assumption for independent *t* tests. Thus, the data were deemed appropriate for the selected analysis procedures. Table 3 provides an overview of the descriptive statistics for all of the measures.

Table 3
Descriptive Statistics

Measure	Participants	Pre-*M* (*SD*)	Post-*M* (*SD*)
Cross-country skiing risk self-efficacy	$n = 20$	299.0 (290.1)	884.6 (115.2)
Snow caving risk self-efficacy	$n = 20$	159.7 (115.4)	371.8 (36.8)
Snowshoeing risk self-efficacy	$n = 20$	412.3 (323.5)	873.3 (41.6)
Writing risk-taking self-efficacy			
Participant group	$n = 22$	833.6 (207.9)	1073.1 (85.0)
Comparison group	$n = 13$	900.0 (159.3)	1002.0 (91.7)

Paired *t*-test results supported H1, indicating that participants experienced significant change in their cross-country skiing risk efficacy, $M = 585.85$, $SE = 56.7$, $t(19) = 10.332$, $p < .001$, $r = .92$; snow cave risk efficacy, $M = 212.05$, $SE = 25.68$, $t(19) = 8.26$, $p < .001$, $r = .88$; and snowshoeing risk efficacy, $M = 461.00$, $SE = 70.24$, $t(19) = 6.56$, $p = .001$, $r = .83$. Hierarchical regres-

sion results also supported H2. In the analysis, posttest scores for risk taking in writing were regressed on pretest scores for risk taking in writing in Block 1, and groups (i.e., participant vs. comparison) were regressed in Block 2. Results from the final regression model (see Table 4) indicated that group was a significant predictor of posttest scores for risk taking in writing, explaining 17% of the variance. These findings suggest that participant group members experienced significantly more growth in risk taking in writing than comparison group members.

Table 4
Hierarchical Regression Results Predicting Posttest Scores of Risk Taking in Writing

Step and predictor		R^2	ΔR^2	ΔF	*B*	*SE*	β
1	Writing risk-taking pretest scores	.036	.036	1.24	.127	.078	.262
2	Group	.206	.170	6.84*	79.25	30.30	.418*

Note. Significant values and unstandardized and standardized regression coefficients reflect the results of the final regression equation.

*$p < .05$.

Discussion

The results of this study supported the stated hypotheses. First, participants in the outdoor course experienced significant increases in outdoor risk self-efficacy. Second, the participants in the outdoor and writing classes experienced greater positive change in risk-taking self-efficacy in writing than comparison group members, who only took a writing class. This finding contradicts the possible assumption that a group of writing students who are focused on improving their writing (our comparison group) might grow more in confidence to take risks in writing than a group with mixed motives concerning improvement of writing (our participant group).

Based upon the principle of generalizability associated with self-efficacy theory (Bandura, 1997), we suggest that the findings indicate a potential relationship between increases in outdoor risk-taking and writing risk-taking self-efficacy, but a larger sample and more data will be needed to further test this assumption. The experiential nature of having to take risks in the outdoors seems to carry over into the skills of taking risks in personal essay writing. Writing students made statements such as the following: "I can use writing to stretch myself," "I can write about subjects which feel emotionally risky; I can take chances in my writing," "I can reveal myself through my writing," "I can use writing to understand myself better or see myself more clearly," and "I can step out of my own safe zone when I write."

Outdoor recreation experiences, such as cross-country skiing, snowshoeing, and snow cave building, require students to face and work through challenges. In writing, the ability to face the risks of writing personal essays, such as being honest with feelings and perceptions and being forthright with expressing those perceptions, is enhanced by having experienced other challenges that have been overcome, such as those in the outdoors. Our findings seem to indicate there is an advantage to helping people learn to overcome the risks of writing personal essays through helping them experience other challenges in a controlled outdoor environment.

Limitations

The small size of our sample group was a limitation. We plan to extend and strengthen this study by gathering data from future classes. Multiple years of such data will be valuable in considering how risk taking in writing and risk taking in outdoor activity are linked and how mastery in the one area is transferred to mastery in the other. Another limitation is that we did not measure and assess individual differences to determine the extent to which the groups were made up of relatively similar types of students. Self-selection of participants was another possible limitation,

but a necessary one, because both courses are elective courses at our university. Students who choose to take the recreation management course may have more confidence in their ability to take risks in the outdoors, just as students in the comparison group may have more confidence in their ability to take risks in writing. Finally, many studies show that enhanced self-efficacy does not translate into enhancements in competence or ability (Schumann, Schimelpfenig, Sibthorp, & Collins, 2012).

Questions for Further Study

Although many studies show that confidence in outdoor activity predicts ability in outdoor activity (Gatzemann, Schweizer, & Hummel, 2008; Hattie, Marsh, Neill, & Richards, 1997; Jones & Hinton, 2007), few studies support the link between confidence in writing and the quality of the writing produced. We want to further test whether self-efficacy in writing, as measured in our scale, predicts better writing. That would require writing specialists to measure the quality of the essays and then compare the growth of writing quality in first and last drafts to the growth of scores in pre- and posttests of self-efficacy of outdoor activity and writing.

Bandura's (1997) theory on generalization of mastery skills provides an explanation for the generalization of efficacy in outdoor skills to essay writing, but other theories may also explain this phenomenon found in our results. Some areas for further study concerning what happens when individuals take constructive risks in the outdoors and in writing are naturalistic decision making (Boyes & O'Hare, 2003, 2011; Galloway, 2002; Jonassen, 2012; Kahneman & Klein, 2009; Lipshitz, 1993), flow theory (Boniface, 2000; Czikszentmihalyi, 1990; Czikszentmihalyi & Czikszentmihalyi, 1990), the cognitive process theory of writing (Flower & Hayes, 1981), and discourse theories (Bakhtin, McGee, Emerson, & Holquist, 1986; Wetherell, Taylor, & Yates, 2001). What we observed may be the result not only of confidence but also of individual cognition and group structuring of experience. Considering these and other theories may eventually help show the complex interaction between experience and writing.

Conclusion

Results from our students provide preliminary support for the notion that the self-efficacy of risk is generalizable between the outdoor activities of cross-country skiing, snowshoeing, and snow cave building and essay writing. The self-efficacy of risk taking in writing and these outdoor activities improved as students became comfortable with taking perceived risks. We believe the symbiotic relationship between a writing class and an outdoor recreation class can produce academic growth for students learning how to write, especially with taking the risks of honesty, self-disclosure, and viewing oneself in a new manner. Improvement in writing can generalize to broad academic improvement, and this study offers evidence that outdoor programs that use writing improve the confidence of the participants in achieving solid academic performance. The results of our study are not directly generalizable to the broader population, because of the self-selected nature of our sample, yet these findings are encouraging.

Another important implication of our study is for writing teachers in English and other disciplines to know that incorporating an outdoor recreation activity with writing can improve students' confidence in their ability to take risks in their writing as much as traditional pedagogical techniques. Further study of courses and programs that use both outdoor adventure and reflective writing may yield more insight into the resulting hybrid vigor, whereby the personal growth of the participants is greater than the growth they experience if either the outdoor experience or the writing experience occurs independently.

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