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Simon Priest  
*Brock University*

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## Keynote Presentation

### **Research in Outdoor Education: Individual and Personal Growth**

Simon Priest  
Brock University

**Information about the Author:** Dr. Priest is an Associate Professor in the Department of Recreation and Leisure Studies at Brock University. He is director of the Corporate Adventure Training Institute. He may be contacted at St. Catharines, Ontario, Canada, L2S 3A1.

As the lead-off speaker at this research symposium, I feel an incumbent responsibility to present a short overview to "outdoor education" and to "research," so as to set the stage for my presentation on the topic of individual and personal growth. I'd like to begin by sharing one personal definition of "outdoor education" and then continue by presenting a philosophical research paradigm from which the bulk of my presentation will flow.

#### Outdoor Education

Since this gathering is about state-of-the-art research in outdoor education, I think the prudent starting place would be to define outdoor education. To have utility, any such definition should need to be general enough to incorporate all that takes place under our umbrella profession and yet be specific enough to identify the characteristics which make our field so unique. I offer the following attempt at ambiguity (Priest, 1986):

**Outdoor education** is an experiential method of learning, which takes place primarily through sensory involvement with the out-of-doors. In outdoor education, the emphasis for the subject of learning (in all three domains: cognitive, affective and motoric) is placed on **RELATIONSHIPS**: relationships concerning humans and natural resources.

Outdoor education has two main branches: **adventure education** and **environmental education**. Historically, each branch has addressed a different pair of relationships.

**Adventure educators** were principally concerned with the **intrapersonal** and **interpersonal** relationships: how humans understand themselves and work with others.

**Environmental educators** were primarily concerned with the **ecosystemic** and **ekistic** relationships: how components of an ecosystem interact and how humans influence or are influenced by the quality of those fragile ecosystems.

**Truly functional outdoor education** is a multidisciplinary combination addressing all four relationships regardless of the branch chosen by educators to deliver the learning.

The topic of my presentation is one of these four relationships: the **intrapersonal**. Other speakers will no doubt be addressing the remaining three relationships in turn. We will all be discussing our thoughts on what has been studied and what needs to be studied. However, in order to do justice to such a tall order, I believe some background on the nature of research is first warranted.

## Research

The word "research" comes to us from the Latin *rescisco* (to find out the facts or to understand and know through inquiry) and *servo* (to watch or to observe). The term "research" literally means to look and look again (ie: search and re-search). More than mere replication and extension, research follows a process of inquiry that is rigorous (closely adhering to strict procedures or fundamental rules) and scientific (within the laws or postulates of existing knowledge or understanding). It is an ongoing quest for truth, where future work is proposed on the basis of present findings, which in turn were founded on past results. So new work builds on top of old!

In an effort to communicate this step by step process of inquiry, I offer the following philosophical view. Let me first apologize for the fact that I am a devout positivist and explain that, as a result of my beliefs, the design of this paradigm is distinctly rational. Permit me to further share that a close colleague of mine, herself a devoted naturalist, has convinced me of the need for more research that is multimethodological and interparadigmatic. So for those of you present who adhere to the more naturalistic perspective, I hope you can modify this view to better fit within your research beliefs.

Two mentors of mine once said that "sound research asks more questions than it answers." The idea being that a good study sets out to answer research questions, but invariably ends up creating many new questions to go along with the new found answers. If we believe that research is stringent and sequential in its approach (with later questions formulated from earlier answers), then I propose that the generic series of questions that are often asked by researchers follow the list shown in this pyramid shaped diagram in Figure 1, where the word IT refers to the research phenomenon or the thing being studied.

When scientists first encounter a new phenomenon, they begin to build a base of truth and understanding about IT: what they call their interpretation for the professional body of knowledge. They begin by describing the new occurrence: what does IT appear to be? Next, they move to the differentiation stage by determining what IT is similar to and different from. Then, they consider relationships (things associated with IT) and influence (things IT effects or is affected by). Finally, they attempt to regressively predict (will IT happen?) and experimentally control (can IT be made to or not to happen?) for each particular phenomenon. The key concept being that "new looking" takes place atop a strong foundation of "old looking" or in other words, proposed study is based on the existing body of knowledge, which was itself determined from previous inquiry.

By way of illustration, consider earthquakes as the phenomenon of study. The first thing early scientists did not do was to attempt prevention, since they lacked a sufficient base of experience with earthquakes: they did not know how to proceed. Instead they described and recorded earthquakes as a violent shaking of the ground with occasional cracking of its surface (Stage 1: description). Initially, earthquakes were compared and contrasted with volcanic eruptions (Stage 2: differentiation). Later, they were found to be associated with fault lines (Stage 3: relationships) and impacted by the stress of tectonic plate systems (Stage 4: influence). Today, with a broad and deep working body of knowledge, scientists are attempting to correctly predict earthquake occurrences (Stage 5: discrimination & regression). In the future, once a predictive equation has been established, then (and only then) will scientists attempt to gain control over and thus prevent earthquakes (Stage 6: experimentation & causality).

# A Question of Research

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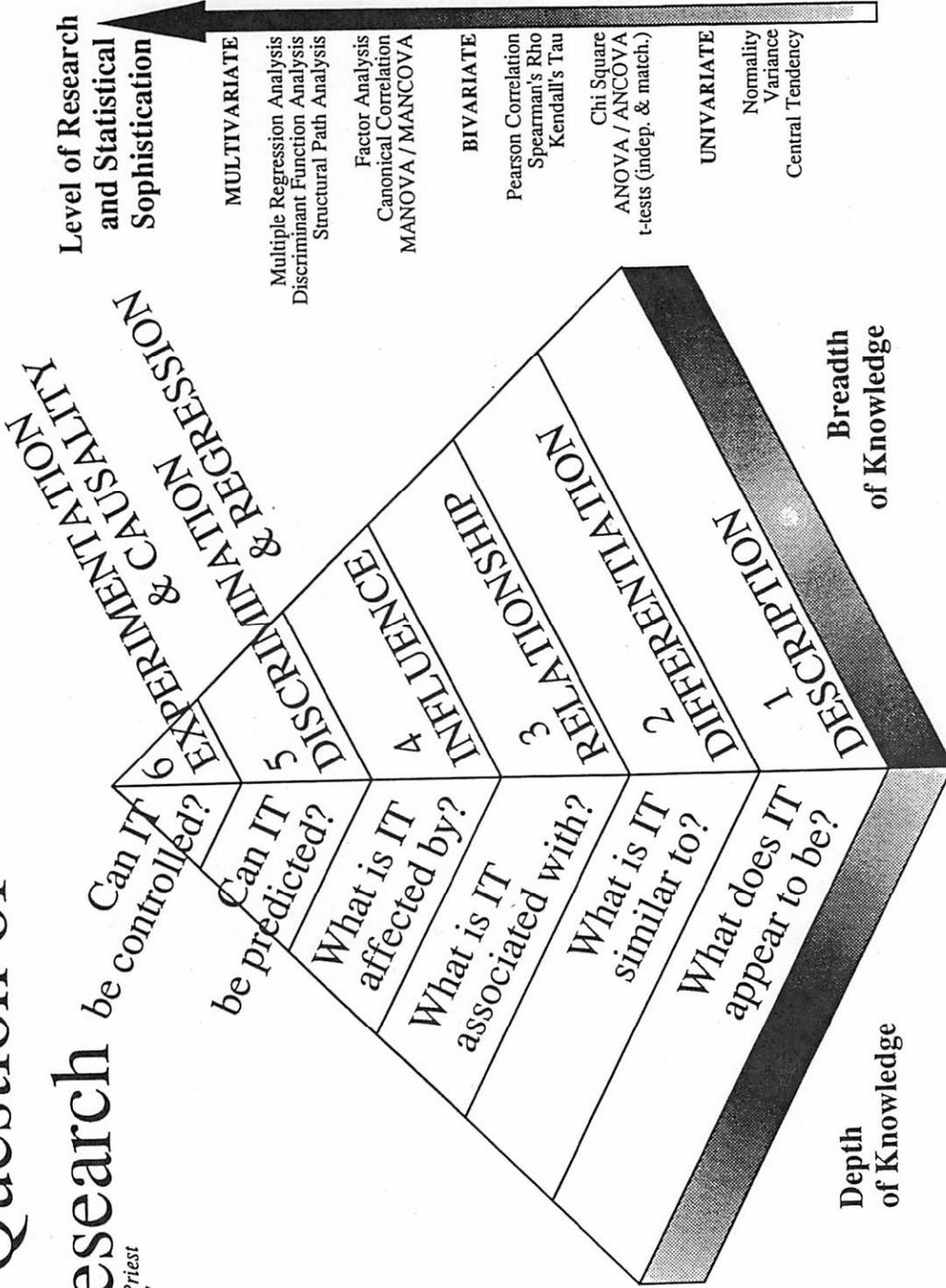


Figure 1. A Question of Research

This same six stage sequence of inquiry is followed by the vast majority of scientific disciplines. In epidemiology, every time a new disease is discovered (e.g., AIDS), doctors and health researchers begin by describing it and carefully move sequentially through the six stages, building on earlier research. They do not go straight for finding a cure! Instead, they must build an underlying strata of truth and understanding. Such credible research takes time to slowly and cautiously build each layer of knowledge. To short cut or bypass stages, and attempt research at an unfounded level, risks wasted time, energy or resources. Furthermore, an accompanying probability is high that findings may be unapplicable or useless in adding to the professional body of knowledge. Hence, prior to constructing subsequent layers, the need for a strong foundation in earlier stages becomes painfully obvious.

Unfortunately, this pattern of a sequential inquiry process is not being followed (to the extent it should be) in the field of outdoor education. A fair descriptive base exists as to what programs are like, what they contain, and what happens during them. Some differentiation has taken place with aspects of programs being compared or contrasted with contemporary educational and recreational offerings. However, very little of the middle stage research has been conducted on relationships and influences such as identifying precise parts of a program associated with specific human behaviors. Instead, research has jumped to the upper levels of attempting to predict changes in human behavior and trying to "prove" that these changes are caused by outdoor education. Such upper level efforts may crumble and fall down (due to poor design and lack of rigour) likely resulting from unsettled lower layers (a weak truth or understanding of the "thing" being studied).

#### Research into Individual & Personal Growth

The remainder of my presentation will now focus on the body of knowledge concerning individual and personal growth in outdoor education. Within the domain of intrapersonal relationships in outdoor education, self-concept has received the most attention and is a fitting place to start. This construct has been measured by varied means and as many variables: self-actualization, self-esteem, self-evaluation, self-perception or locus of control scores to name a scant few.

For the most part, the following review considers sources published in the past decade only. Readers interested in research conducted prior to 1982, are referred to Ewert's (1983) excellent summary of self-concept and outdoor adventure. In Outdoor Adventure and Self-concept: A research analysis, Ewert reviewed and critiqued approximately fifty self-concept studies mostly connected with Outward Bound as a form of outdoor education or adventure programming. We will begin our treatise of self-concept at the point where he last left off.

If people accept my premise regarding the pyramid diagram presented moments ago, then I hope you will permit me to share "what is known" about self-concept (in general) and outdoor education or adventure programming (in specific) within that framework. Let's begin with the first layer of description and work toward causality.

#### Studies of Description

Numerous studies have described outdoor education programs and how these programs apparently improve self-concept. In earlier years, these studies concentrated on changes in the self concept of campers (Harris, 1976; Iida, 1976) school children (Henderson, 1986), or Outward Bound students (Hopkins, 1985; Pollack, 1976; Richards, 1977; Shore, 1977). In recent years, a broadening of the body of knowledge has taken place with descriptive and evaluative studies of self-concept gains in a wider variety of outdoor education clientele: youth at risk (Berman & Davis-Berman, 1989), families (Mason, 1987), teenage mothers (Goode & Broesamle, 1987), visually handicapped (Hackney, 1986), hearing impaired (Luckner, 1989), behavior disordered (Langsner

& Anderson, 1987), the chronically ill (Kessell, Resnick & Blum, 1985), psychiatric patients (Stitch & Sussman, 1981), Native Indians (Gale, 1989), camp staff (Henderson & Bialeschki, 1982) and exceptionally talented and gifted children (Milosevich, 1988). For the most part, these many studies have described changes in self-concept and have attributed these changes to outdoor education. They provide a solid foundation upon which we can build a better understanding, but they provide little else.

### Studies of Differentiation

With a broad and deep descriptive base of self-concept and outdoor education in existence, a few notable studies of differentiation have been conducted. Several studies compared two groups. One was always the treatment group, while the other was a control (no treatment or other treatment) groups.

Kolb (1988) administered the Piers-Harris Children's Self-concept Scale to 41 treatment and 46 control subjects randomly assigned to a Solomon design. Subjects were grade nine students enrolled at an independent Christian preparatory school in Georgia. Those in the treatment groups underwent a twenty hour program (2 hours/week for 10 weeks) and a three day field trip. Subjects in the control groups received no outdoor experience, but were enrolled in other classes with the treatment subjects (hence the potential for cross-group influences to take place). Participation of all subjects was dictated as mandatory to avoid the influence of volunteerism. No mention was made of "challenge by choice" in the actual program activities: group initiatives, first aid training, rappelling, rock climbing, caving and wilderness living skills. Pre-tests were conducted within one week of the program start and post-tests were completed two weeks after the program finished. Several significant differences were detected by MANOVA, with group, test time, and gender as independent variables and the total raw score, plus three cluster scales (physical, anxiety, and popularity) as dependent variables. Although representation of the data did not follow convention and the interpretation was not clear, the outdoor education program appeared to have "a positive effect on the self-esteem of the subjects, with males showing greater change than females" (Kolb, 1988, p. 36).

McDonald and Howe (1989) also employed the Piers-Harris Children's Self-concept Scale with two groups of abused children. Over 28 consecutive days, the treatment group (n=18, random) received one hour/day of challenge/initiative games, inclusive of a debriefing period; while the control group (n=20, random) participated in traditional recreational games for the same amount of time, without any debriefing. The authors acknowledged possible bias from the novelty of the challenge/initiative games as compared with more common recreational games and from the influence of one researcher "instructing" both sets of games. Instrumentation was administered immediately before and immediately after the four weeks of gaming. Analysis of the data revealed (as expected) that the abused children had lower than average self-concepts prior to the treatment (thus giving them more room to increase). Both groups improved self-concept as a result of gaming (regardless of whether the games were challenge/initiative or traditional recreation), but the group experiencing the challenge/initiative games showed a significantly higher increase in self-concept than the group experiencing traditional recreational games. Similar differences were found on four of the six cluster scales (behavior, anxiety, popularity and happiness), leading the researchers to contend "that challenge/initiative games conducted in an existing recreation setting for one hour daily over four weeks could be an effective treatment to enhance the self-concept of abused children living in a residential [c]are facility" (MacDonald & Howe, 1989, p. 250). In calling for further research, the authors wondered what role the debriefing played in improving self-concept and what impact more traditional recreational games with an added debrief might have on self-concept.

Hazelworth and Wilson (1990) used the Tennessee Self-concept Scale to evaluate four sessions of an outdoor adventure camp in North Carolina. The instrument was given either side of

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the first six days of what was a nine day camp. During these six days, subjects (39 boys and girls aged from 12 to 15) in four session groups (unreported, but obviously small sample sizes) prepared for a final three day expedition by learning a series of outdoor skills. The final three day trip differed for all four sessions (mountain camping, whitewater canoeing, sailing and coastal exploration) and so it was not included in the study. The first six days were relatively consistent across all four sessions in terms of outdoor skills (group initiatives, ropes course and camping), but differed in terms of philosophical focus. Session #1 stressed group cooperation and respect for others through camping and orienteering. Session #2 focussed on cooperation through small group "family-style" campouts and canoeing. Session #3 saw campers signing a contract agreeing to standards of behavior during small group living. Session #4 included the same contract, but changed the living arrangements from "family-style" to large group "social-style" camping. For the nine self-concept categories covered by the Tennessee Self-concept Scale, none changed in session #1 (group cooperation and respect for others). An increase (better self-concept) was noted for the family category in session #2 (cooperation through small group "family-style" living). Positive changes were similarly noted in the moral-ethical and family categories for session #3 (signed contract and small group "family-style" living). Lastly, the categories of moral-ethical and social showed positive shifts for session #4 (signed contract and large group "social-style" living). After emphasizing the flaws of their study, the authors concluded "that the structural organization of a camp directly affects the self-concept of participants in certain areas. Further investigation into the influence of different camp organizations [and structures] on specific areas of self-concept would be of great help to camp directors" (Hazelworth & Wilson, 1990, p. 36).

Gillett, Thomas, Skok, and McLaughlin (1991) applied the Tennessee Self-concept Scale and the Coopersmith Self-esteem Inventory to a treatment group of 61 high school students from British Columbia. Their control group consisted of 16 classmates who chose not to attend the outdoor education program (indicating an obvious bias in a self-selected sample). The treatment for this study was six days of backpacking at moderate altitude in the rugged Canadian Rockies, with the instrumentation being administered one week before and two weeks after the trip. With established pretest score equivalency and homogeneity, no changes across the treatment period were found for the control group, while the treatment group showed significant enhancement of self-concept on the identity and behavior categories of the Tennessee Self-concept Scale and on the general and total scales of the Coopersmith Self-esteem Inventory. Despite tabulated data which seem to somewhat misrepresent the statistical outcomes, the researchers confirmed that "there appears to be enough evidence in the present study and collectively in the literature to indicate changes in self-concept can occur as a result of participation in a short-term or a long-term wilderness experience" (Gillett et al., 1991, p. 42).

Most of these studies had one thing in common: uncontrolled extraneous variables. Without rigor, this research failed to "prove" causality, but was sufficient in establishing a difference between outdoor education and other educational programs or no programs at all. Maybe just being away from the usual routine (school, home or work) was enough to improve a person's self-concept!

This same criticism was levelled by those more familiar with the body of knowledge prior to 1982 (Iida, 1976; Richards, 1977; Shore, 1977). Ewert (1983) summed up their points neatly with his own comments:

Despite a number of studies which contained flawed designs or reported negative findings, the preponderance of research literature supported a belief that Outward Bound [or a related outdoor adventure education program] can positively enhance an individual in a variety of ways, i.e., self-concept, self-esteem, locus of control,...A powerful suggestion is made that Outward Bound [or a related outdoor adventure education program] does something 'good' to or for the participant, but like electricity, we know it does something, but we're not sure how it does it (p. 27).

The addition of my words "[for a related outdoor adventure education program]" to Ewert's comments above, points out the need for at least one more study of differentiation: the comparison of Outward Bound programs' impact on self-concept with that of additional outdoor education programs, including the so-called "Outward Bound spin-off" programs. Nevertheless, these studies fall well short of the pyramid's apex: Can we control the enhancement of self-concept?

### Studies of Relationships and Studies of Influence

Comparative studies, (e.g., Marsh, Richards and Barnes, 1986a; 1986b) have taken a step toward noting the relationship and influence that time has on self-concept in an outdoor education program. These researchers gave the Self-Description Questionnaire (SDQ) III to a total of 361 subjects (75% male), ranging in age from 16 to 31, who participated in one of 27 groups in 10 Australian Outward Bound courses. Subjects completed the instrument one month before their course (Time #1), the first day (Time #2), the last day (Time #3) of the course (348 subjects completing all three rounds), and 18 months later (Time #4: where 229 or 63% of the original subjects completed the fourth round). The Self-Description Questionnaire III has thirteen sub-scales (as determined by factor analyses). Means for 1 of the 13 sub-scales (emotional) increased and 5 of the 13 sub-scales (verbal, academic, problem solving, physical abilities and appearance) decreased in advance of the first program day (from Time #1 to Time #2). Both shifts were attributed to the growing "proximity of a challenging or stressful experience" (Marsh et al., 1986a, p. 199). All 13 sub-scales increased over the program period (from Time #2 to Time #3), where the pattern was attributed to the Outward Bound program and was found to be present in almost all of the 27 groups (changes in same and opposite sex peers were not noted for identical gender programming). After presenting overwhelmingly positive findings and strongly convincing arguments for the lack of control group versus the viability of a time series design, the researchers postulated a post group euphoria (PGE) bias. "There are two separate issues related to a possible PGE bias: first, whether the inferred short-term effects of the program and the self-concept responses are valid... ..and second, whether the program effects are maintained over time, based on the assumption that a PGE is short-term" (Marsh et al., 1986a, p. 201). In the follow-up study (March et al., 1986b), the long term impact of the Outward Bound program on self-concept was considered. Of the 13 self-concept sub-scales elevated after participation in the program; 8 remained elevated, 2 continued to improve (physical abilities and opposite sex peers) and 3 dropped off (parents, honesty and emotion). These minor variations were explained as vestiges of maturation as subjects grew out of adolescence into adulthood. Although a PGE bias could not be totally ruled out, the authors summed up their works thusly: "a powerful intervention specifically designed to affect self-concept was shown to influence responses to the SDQ III significantly; the largest effects were observed with the dimensions chosen a priori [by the OB school director] to be more relevant to the goals of the program; and these changes were maintained 18 months after the completion of the program" (Marsh et al., 1986b, p. 490). Clearly, this study pointed to the need for further studies of a times series design.

No other recent research could be found that considered any of the relationships and influences among program elements, such as duration (day, week or month long programs), location (urban, rural, primitive or wilderness), facilitation (style, format or content), activities (group initiatives, ropes courses or outdoor pursuits), sites (residential or backcountry), and mix of participants (gender, dis/ability, or race). Clearly, if work in the arena of self-concept is to progress, beyond knowing that the electricity works, and toward knowing how it works, we need to establish these causal connections. We must also consider the relationship between self-concept and any related human behaviors such as confidence, risk taking, competence, dealing with fear and coping with anxiety. Lastly, we need to better understand the aspect which permit transfer of improved self-concept from the adventure back to daily living, as March, Richards and Barnes (1986a, 1986b) tried: what about self-concept transfers, how much, for how long, and due to what

program elements? In combination these links should permit us to establish causality at a higher level of understanding.

### Studies of Discrimination & Regression and Studies of Experimentation & Causality

Until we know which components are in the mix, by studying relationships and influences, we will not be able to determine how they should be combined and in what proportions. This latter desire falls in the realm of discrimination, regression, experimentation, and causality. Needless to say, no studies of these types were found in lengthy computer searches of four extensive databases. If we knew the contributory components which enable self-concept to improve during an outdoor education experience, then we could devise path analyses type studies to help trace the order and means by which the components contribute, thus permitting us to establish a causal process.

In summary, a broad and deep descriptive base exists for research in self-concept and outdoor education. Limited and flawed studies have shown that something about outdoor education or adventure programming appears to enhance self-concept, but we have little evidence to claim that we are certain what it is. Beyond this reasonable foundation, a few notable researchers have attempted to erect support structures, but some have been built on thin air. Sadly, the self-concept and outdoor education scene has not grown in the past decade. The state of the art is still stagnant: save one or two refreshing new studies. Our research is still operating at the describing and differentiating levels: we have not moved on and built upon what we knew ten years ago. Perhaps new directions are warranted. Perhaps we should consider constructs other than self-concept.

### New Directions for Research

In terms of "what needs to be known" about individual and personal growth in outdoor education, the construct of self-concept is over worked. Past work by Wright (1982) confirmed the existence of many dimensions of self-concept, each being influenced in a different way by outdoor education experiences. Additionally, the transferability of self-concept ought to be limited by being so heavily dependent on the situation and the need for metaphor (Gass, 1985; 1991). A study by Iso-Ahola, LaVerde and Graefe (1988) suggested that while climbers gain specific perceived competence at rock climbing, they do not necessarily translate that gain into general perceived competence at life. Because I feel good about myself as a kayaker, this does not necessitate good feelings about myself when it comes to public speaking or sharing my creative ideas with others since the risks are plainly different. Aspects other than self-concept are likely to transfer more easily such as stress coping mechanisms as one example.

Instead of studying the global self-concept, we should be looking to examine more particular constructs of self. We should ask what is the greatest individual benefit participants can take away from an outdoor education experience? I would answer it is the personal certainty that they can succeed, in the face of situational uncertainty; if they have confidence in themselves and are willing to take a risk! Therefore, I believe that further enlightenment may be found in the study of self-efficacy (Bandura, 1977), effectance and competence motivation (Harter, 1978; White, 1959), risk taking, fear and anxiety (Ewert, 1986; 1988). Several authors have suggested these connections (Allen, 1987; Ewert, 1989; Harmon & Templin, 1987) and at least a couple of researchers have taken descriptive steps in this direction (Cockrell, 1987; Parle, 1986). Klint suggested that:

Further probings into how self-concept is affected through the adventure experience should start with theoretical frameworks. However, quantitative research relies on theories that are testable and can be broken down into variables.... ..very few theories of self-concept meet these requirements. Fortunately, there are a few testable theories that include a self-concept component in their explanation of another human phenomenon such as motivation.

These theories may be useful as a starting point for understanding the process of self-concept development in the adventure experience. (1991, p. 165)

She went on to note and described in detail the efficacy theories of Bandura (1977), White (1959) and Harter (1978). According to Klint, "inquiry into the adventure experience needs to move into the next stage, from describing the product to understanding the process.... .inquiry needs to move forward toward an understanding of *how* the adventure experience influences human perception and behavior" (1991, pp. 169-170). She concluded her treatise by noting that these theories and the models of other social psychologists can serve as a starting point for our work.

Several such theories and models have recently arisen in the research literature. Based on the optimal arousal theory of play behavior (Ellis, 1973), flow theory (Csikszentmihalyi, 1975; Csikszentmihalyi & Csikszentmihalyi, 1991), and various other writings (Mitchell, 1983; Mortlock, 1984), Martin and Priest (1986) proposed the Adventure Experience Paradigm. The Adventure Experience Paradigm is a research tested view of how risk and competence dynamically interact in blended proportion to provide varying conditions of challenge, which change over time according to reality and the perceptions of participants in the adventure experience (Carpenter & Priest, 1989; Priest, 1987, 1991; Priest & Baillie, 1987).

Ewert & Hollenhorst (1989) have proposed the Adventure Model: a research tested view of how level of engagement in an adventure is dependent on a mix of individual attributes such as frequency of participation, skill/experience level, locus of control and of activity/setting attributes such as risks, social orientation and environmental orientation. A recent combination of these two theories (Priest, 1992) provides for an evolving truth of how individuals experience an outdoor adventure. Building new theory from old is a powerful and effective way to evolve the profession, provided research is employed to "test" the waters of any new ideas.

Furthermore, such combination of theories from other disciplines will undoubtedly shed new light on our understanding of personal and individual growth in outdoor education. For example, Harter's (1978) research on competence motivation evolved from White's (1959) efforts on effecance motivation. Although Harter's work was applied to children, her efforts appear to have found new application in both the fields of sport psychology and outdoor adventure (Klint, 1991). Additionally, Harter's theory provides a path for analyzing the contributions of key components to competence motivation and mastery attempts, thus tying in nicely with the notion of self-efficacy (Bandura, 1988). The next logical step is to combine her model with those noted above and to research the resulting theories at the third and fourth levels of the pyramid, thus helping to tie everything together and to begin building a unique body of knowledge regarding personal and individual growth through the field known as outdoor education.

#### References

- Allen, S. D. (1987). Risk Recreation A literature review and conceptual model. In J. F. Meier, T. W. Morash and G. E. Welton (Eds.) High adventure outdoor pursuits: Organization and leadership (2nd ed.), (pp. 95-130). Columbus, OH: Publishing Horizons.
- Bandura, A. (1988). Self-efficacy conception of anxiety. Anxiety Research, 1(2), 77-98.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory for behavioral change. Psychological Review, 84, 191-215.
- Berman, D. S., & Davis-Berman, J. L. (1989). Wilderness Therapy: A therapeutic adventure for adolescents. Journal of Independent Social Work, 3(3), 65-77.
- Carpenter, G., & Priest, S. (1989). The adventure experience paradigm and non-outdoor leisure pursuits. Leisure Studies, 8(1), 65-75.

- Cockrell, D. (1987, March). Changes in self-efficacy through outdoor skills instruction. Paper presented to the Symposium for the Use of Wilderness for Personal Growth, Therapy and Education at the 4th World Wilderness Congress.
- Csikszentmihalyi, M. (1975). Beyond boredom and anxiety. Jossey-Bass, San Francisco.
- Csikszentmihalyi, M., & Csikszentmihalyi, I. S. (1991). Adventure and the flow experience. In J. C. Miles and S. Priest (Eds.), Adventure Education (pp. 149-155). State College, PA: Venture.
- Ellis, M. J. (1973). Why people play. Prentice-Hall, Englewood Cliffs.
- Ewert, A. (1983). Outdoor adventure and self-concept: A research analysis. Eugene, OR: University of Oregon Center of Leisure Studies.
- Ewert, A. (1986). Fear and anxiety in environmental education programs. Journal of Environmental Education, 18(1), 33-39.
- Ewert, A. (1988). The identification and modification of situational fears associated with Outdoor recreation. Journal of Leisure Research, 20(2), 106-117.
- Ewert, A. (1989). Outdoor adventure pursuits: Foundations, models and theories. Columbus, OH: Publishing Horizons.
- Ewert, A., & Hollenhorst, S. (1989). Testing the adventure model: Empirical support for a model of risk recreation participation. Journal of Leisure Research, 21(2), 124-139.
- Gale, N. (1989). Positive self-esteem can protect Native American youth. Washington, DC: Native American Development Corporation.
- Gass, M. (1985). Programming the transfer of learning in adventure education. Journal of Experiential Education, 10(3), 18-24.
- Gass, M. (1991). Enhancing metaphor development in adventure therapy programs. Journal of Experiential Education, 14(2), 6-13.
- Gillett, D. P., Thomas, G. P., Skok, R. L., & McLaughlin, T. F. (1991). The effects of wilderness camping and hiking on the self-concept and the environmental attitudes and knowledge of twelfth graders. Journal of Environmental Education, 22(3), 33-44.
- Goode, M., & Broesamle, B. (1987). Teen moms and babies benefit from camping. Camping Magazine, 59(6), 28-29.
- Hackney, P. W. (1986). Education of the visually handicapped: A program description. Education of the visually handicapped, 18(2), 85-95.
- Harmon, P. & Templin, G. (1987). Conceptualizing experiential education. In J. F. Meier, T. W. Morash and G. E. Welton (Eds.) High adventure outdoor pursuits: Organization and leadership (2nd ed.), (pp. 69-77). Columbus, OH: Publishing Horizons.
- Harris, D. V. (1976). Perceptions of self. In B. van der Smissen (Ed.), Research, camping and environmental education (pp. 153-163). State College, PA: The Pennsylvania State University, College of Health, Physical Education and Recreation.
- Harter, S. (1978). Effectance motivation reconsidered. Human Development, 21, 34-64.
- Hazelworth, M., & Wilson, B. (1990). The effects of an outdoor adventure camp experience on self-concept. Journal of Environmental Education, 21(4), 33-37.
- Henderson, F. (1986). An annotated bibliography of abstracts, doctoral dissertations and journals dealing with the utilization of the outdoors to enrich the curriculum and to promote more effective learning in the elementary and secondary student. South Bend, IN: Indiana University.
- Henderson, K. A., & Bialeschki, M. D. (1982, March). Self-concept change in camp staff. Paper presented to the American Camping Association Conference, New York, NY.
- Hopkins, D. (1985). Self-concept and Adventure: The process of change. Journal of Adventure Education, 2(1), 7-13.
- Iida, M. (1976). Adventure-oriented programs: A review of research. In B. van der Smissen (Ed.), Research, camping and environmental education (pp. 219-241). State College, PA: The Pennsylvania State University, College of Health, Physical Education and Recreation.
- Iso-Ahola, S., LaVerde, D., & Graefe, A. (1988). Perceived competence as a mediator of the relationship between high risks sports participation and self-esteem. Journal of Leisure Research, 21(1), 32-39.

- Kessell, M., Resnick, M. D., & Blum, R. W. (1985). Adventure, Etc.: A health promotion program for chronically ill and disabled youth. Journal of Adolescent Health Care, 6(6), 433-438.
- Klint, K. A. (1991). New directions for inquiry into self-concept and adventure experiences. In J. C. Miles and S. Priest (Eds.), Adventure Education (pp. 163-172). State College, PA: Venture.
- Kolb, D. C. (1988). Self-esteem change and mandatory experiential education. Journal of Experiential Education, 11(3), 31-37
- Langsner, S. J., & Anderson, S. C. (1987). Outdoor challenge education and self-esteem and locus of control of children with behavior disorders. Adapted Physical Activity Quarterly, 4(3), 237-246.
- Luckner, J. L. (1989). Effects of participation in an outdoor adventure education course on the self-concept of hearing-impaired individuals. American Annals of the Deaf, 134(1), 45-49.
- Marsh, H. W., Richards, G. E., & Barnes, J. (1986a). Multidimensional self-concepts: The effect of participation in an Outward Bound program. Journal of Personality and Social Psychology, 50(1), 195-204.
- Marsh, H. W., Richards, G. E., & Barnes, J. (1986b). Multidimensional self-concepts: A long term follow-up of the effect of participation in an Outward Bound program. Personality and Social Psychology Bulletin, 12(4), 475-492.
- Martin, P., & Priest, S. (1986). Understanding the adventure experience. Journal of Adventure Education, 3(1), 18-20.
- Mason, M. L. (1987). Wilderness family therapy: Experiential dimensions. Contemporary Family Therapy—An International Journal, 9(1-2), 90-105.
- McDonald, R. G. Jr., & Howe, C. Z. (1989). Challenge/initiative recreation programs as a treatment for low self-concept children. Journal of Leisure Research, 21(3), 242-253.
- Milosevich, D. D. (1988). The leadership experience. Gifted Child Today, 11(6), 26-30.
- Mitchell, R. G. (1983). Mountain experience: The psychology and sociology of adventure. Chicago: University of Chicago Press.
- Mortlock, C. (1984). The adventure alternative. Cumbria: Cicerone Press.
- Parle, M. D. (1986). A study on the role of self-efficacy in an Outward Bound School course: A summary. Unpublished manuscript. Tharwa, ACT: Australian Outward Bound School.
- Pollack, R. T. (1976). An annotated bibliography of the literature and research on Outward Bound and related programs. Morganton, NC: North Carolina Outward Bound School.
- Priest, S. (1986). Redefining outdoor education: A matter of many relationships. Journal of Environmental Education, 17(3), 13-15.
- Priest, S. (1987). Modelling the adventure experience. In R. Yerkes (Ed.), Outdoor education across America: Weaving the web. (pp 7-12). Las Cruces, NM: ERIC CRESS.
- Priest, S. (1991). The adventure experience paradigm. In J. C. Miles and S. Priest (Eds.), Adventure Education. (pp. 157-162). State College, PA: Venture.
- Priest, S. (1992). Factor exploration and confirmation for the dimensions of an adventure experience. Journal of Leisure Research, 24(2), 127-139.
- Priest, S., & Baillie, R. (1987). Justifying the risk to others: The real razor's edge. Journal of Experiential Education, 10(1), 16-22.
- Richards, G. E. (1977). Some educational implications and contributions of Outward Bound. Tharwa, ACT: Australian Outward Bound School.
- Shore, A. (1977). Outward Bound: A reference volume. Greenwich, CT: Outward Bound, Inc.
- Stitch, T. F., & Sussman, L. R. (1981). Outward Bound—An adjunctive psychiatric therapy: Preliminary research findings. Unpublished manuscript, Colorado Outward Bound School, Denver, CO.
- White, R. (1959). Motivation reconsidered: The concept of competence. Psychological Review, 66, 297-333.

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Wright, A. N. (1982). The effects of high adventure activities on adolescent self-concept: A comparison of situationally specific self-concept measurements and global self-concept measurements. Paper presented at the National Convention of the American Camping Association.