LEADERSHIP DEVELOPMENT THROUGH AN OUTDOOR LEADERSHIP PROGRAM FOCUSING ON EMOTIONAL INTELLIGENCE

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Dedication

This dissertation is dedicated to my family, my father Mutsuo, my mother Akiko, and my brother Tetsutaro. Without their continuing support, patience, love, and education, the completion of the long process would not have been possible.

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ABSTRACT

Leadership Development through an Outdoor Leadership Program

Focusing on Emotional Intelligence

Ayako Hayashi

This study examined the impacts of an outdoor leadership program on the development of emotional intelligence and leadership. Furthermore, an effort was made to understand the relationships among emotional intelligence, transformational leadership and outdoor experience as well as kinds of experiences during the programs that contributed to the development of emotional intelligence and leadership.

Data for this study were collected between March and November 2005 from nine outdoor leadership programs and three classroom-based college courses. After screening out invalid and inconsistent subjects, 72 complete sets of questionnaires for the treatment group and 38 complete sets of questionnaires for the comparison group were retained and analyzed for this study. The research instruments included the Bar-On Emotional Quotient Inventory: Short (EQi:S) (Bar-On, 2002), the Multifactor Leadership Questionnaire (MLQ 5X short) (Bass & Avolio, 1997), the New Social Desirability Scale (NSDS) (Strahan & Gerbasi, 1972), the Outdoor Leader Experience Use History (OLEUH) (Galloway, 2003), the Emotional Intelligence Experience Questionnaire, and the WEA Final Assessment Summary forms. Additionally, semi-structured interviews were conducted with seven participants from two of the outdoor leadership programs.

The results revealed a significant positive relationship between emotional intelligence and transformational leadership; specifically, interpersonal aspects and positiveness of emotional intelligence were positively correlated with all factors of transformational leadership. A

MANCOVA found that the participants in an outdoor leadership program significantly developed their emotional intelligence through their participation, especially stress management skills, but not transformational leadership. Furthermore, participants who received the Outdoor Leadership Certification showed significantly higher levels of emotional intelligence and transformational leadership at the post-test than those who were not certified. Answers from the open-ended questions revealed that certain kinds of experiences supported specific components of emotional intelligence and leadership, for example, debrief & feedback, leadership role, challenging experiences, entire expedition experience, and evaluations & assessments.

Based on the results of this study and literature, a developmental stage of emotional intelligence and leadership was discussed. Participants' experience level and program components regarding participants' developmental stages should be considered for future programming. Further studies are needed to examine more diverse populations (age, experience levels, program types etc.) for theoretical and practical implications.

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1. INTRODUCTION

Emotional intelligence has become an increasingly visible construct both for identifying potentially effective leaders and as a tool for developing effective leadership skills (Palmer, Walls, Burgess, & Stough, 2001). Salovey and Mayer (1990) defined emotional intelligence as "the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (p189). While emotional intelligence has received much attention as an essential component of leadership in the fields of business (Goleman, Boyatzis, & McKee, 2002; Mayer & Caruso, 2002) and education (Haskett, 2002), little work has been done in the area of outdoor leadership.

Leadership is a critical element in any field, but especially so in one like adventure programming where the safety of participants is of central concern (Priest, 1999). Outdoor leadership involves a wide range of competencies and has been researched from various perspectives including ethical concerns (Fox, McAvoy, Mullins, Robinson, & Ryan, 2004), international perspectives (Priest, 1989), and personality types (Easley, 1985). Outdoor/adventure programming requires a wide range of competencies for outdoor leaders to avoid accidents, reduce damage to the environment, and maximize client learning (Priest, 1999). The competencies of outdoor leadership are often categorized into three types of skills: *hard skills* including technical skills, safety skills, and environmental skills; *soft skills* including instructional skills, communication skills, and organizational skills; and *meta skills* which involve problem solving, decision making, and judgment skills (Priest, 1999).

According to Feldman (1999), emotional intelligence consists of *core skills* such as knowing yourself, maintaining control, perceiving others accurately, and communicating with

flexibility; as well as *higher-order skills* including taking responsibility, generating choices, embracing a vision, having courage, and demonstrating resolve. A combination of core and higher-order skills can often lead to effective leadership, possibly because these indicate an awareness of others' needs and the ability to respond effectively to a variety of situations. Considering Feldman's (1999) typology of emotional intelligence which introduced the idea of core and higher order skills, and Priest's three categories of outdoor leadership competencies, emotional intelligence could be considered an important component (perhaps encompassing the soft and meta skills of outdoor leadership) in helping outdoor leaders use existing skills to deal more effectively with situations involving both individuals and groups.

Hattie, Marsh, Neill, & Richards (1997) found from their meta-analysis that there were large effects of adventure programs over most leadership dimensions. The range of effect sizes over leadership dimensions was between .05 and .47, and the mean was .38. They concluded that most adventure programs impact students' leadership competencies. Furthermore, the variables explored that yielded large effects, such as self-concept, assertiveness, achievement motivations, emotional stability, interpersonal skills, and flexibility, are similar to the components of emotional intelligence. Emotion is a fundamental aspect of the adventure experience (Sharpe, 2005). Holyfield and Fine (1997) contended that adventure programming is implicitly founded on the belief that successful emotion management during risky situations builds character.

Based on these conceptual and empirical backgrounds, it is reasonable to assume that emotional intelligence would benefit outdoor leadership, and that adventure programs would develop students' emotional intelligence. This study examined leadership development through outdoor leadership programs as it relates to emotional intelligence.

Statement of the Problem

This study examined the impacts of an outdoor leadership program on the development of emotional intelligence and leadership. Since emotional intelligence is considered to be an important facet of outdoor leadership, development of leadership through an outdoor leadership program was also examined to determine if a relationship with emotional intelligence existed.

The degree of leadership development is a function of active participation in a variety of outdoor-related activities such as classes, workshops, personal experiences, reading, leadership responsibilities, and past outdoor-related jobs (Propst & Koesler, 1998); moreover, past outdoor experience has been shown to be positively related with the levels of emotional intelligence and leadership (Hayashi & Ewert, 2006). Therefore, the level of outdoor experience was determined to be a critical element for this study. Furthermore, the kinds of experience during the program that contributed to the development of emotional intelligence and overall leadership were assessed from participants' self-observation.

Purpose of the Study

The purpose of this study was to identify how an outdoor leadership program experience impacts participants' development of emotional intelligence and leadership. Furthermore, this study was designed to reveal critical information regarding development of emotional intelligence and leadership, such as the relationship between different levels of outdoor experience and the development of emotional intelligence, as well as how different kinds of experience during an outdoor leadership program contribute to the development of emotional intelligence and leadership. The results of this study are expected to provide useful information for future practical implications and on which to expand our understanding of

outdoor leadership.

Significance of the Study

Leadership is a major component for many outdoor adventure programs, (e.g., Outward Bound, National Outdoor Leadership School, and Wilderness Education Association, etc.). Since many of these programs seek to develop leadership skills in their participants that will be useful beyond the outdoor setting, it is important to provide evidence of leadership development through outdoor adventure programs. Emotional intelligence is a widely accepted indicator of leadership in the areas of psychology and business, therefore, use of emotional intelligence is assumed to increase credibility and generalizability in this study.

While emotional intelligence is a new concept in the field of outdoor/adventure education, research examining the utility of emotional intelligence for predicting effective leaders is gaining momentum in psychology (Gardner & Stough, 2002). Numerous studies done on emotional intelligence within the fields of business, psychology and education have found positive correlations between aspects of emotional intelligence and leadership (Sosik & Megerian, 1999). Moreover, emotional intelligence has often been a strong predictor variable of transformational leadership, self-efficacy, and spirituality (Hartsfield, 2003), a predictor of life satisfaction (Ciarrochi, Chan, & Caputi, 2000), and a predictor of academic success (Parker, Creque, Barnhart, Harris, Majeski, Wood et al., 2004). The results of these studies have led many to recognize emotional intelligence as one of the leading indicators of success in life (Boyatzis, Goleman, & Rhee, 2000).

From a general recreation perspective, Russell (2005) describes the current changes in leadership as moving from simply being in command to the more contemporary approach of negotiation within a democratic relationship with participants. She suggests that in today's

society, a recreation leader's repertoire of skills should include communicating, enabling, innovating, dreaming, teaching, coordinating, motivating, problem-solving, and decision-making roles. These skills appear to be very similar to the soft and meta skills of outdoor leadership explained by Priest (1999).

Similarly, since the 1990s, research in outdoor leadership has also focused on the soft and meta skills, such as communication skills (Chase & Priest, 1990), judgment (Clement, 1996; Teeters, 1994), and decision-making abilities (Galloway, 2003). While these studies have examined many of the social and situational components in outdoor leadership, the intrapersonal or emotional components of outdoor leadership have received less attention.

George (2000) explored the role of moods and emotions in human and organizational affairs and concluded that rather than being simply an additional factor to consider, feelings play a central role in the leadership process. Since the concept of emotional intelligence includes intrapersonal, interpersonal, and situational components, it is expected to shed light on new aspects of outdoor leadership.

According to the conceptual framework proposed by Grandey (2000), burnout is one of the long-term consequences that affect individual well-being because of the difficulties in regulating the emotions during tasks that produce strong emotional responses. Emotional intelligence is an important individual factor during the emotion regulation process. Since outdoor leaders are particularly susceptible to experiencing professional burnout because of their high commitment, independence, lifestyle, experience base, and hopes and dreams (Priest & Gass, 1999), it may be beneficial to pay more attention to this idea. Grandey (2000) explained that burnout occurs when an employee becomes too emotionally involved in their work interactions and has few ways to replenish those emotional resources being spent. The

work of outdoor leaders can be considered as highly emotional labor. Price, Arnould, & Tierney (1995) suggested that the combination of the extended, affectively-charged, and intimate nature of adventure travel and the resulting boundary-open exchange amplified the emotional labor and fatigue of adventure workers. Therefore, as Grandey (2000) discussed, effective affect regulation through emotional intelligence could be helpful for outdoor leaders' emotional well being.

Delimitations

This study was delimited to the following:

1. Subjects in this study included students who participated in outdoor leadership programs sanctioned by the Wilderness Education Association (WEA) as a treatment group and students who enrolled in classroom-based college courses as a comparison group.

2. The programs were held at wilderness settings in the United States using various kinds of outdoor adventure activities, such as backpacking, mountaineering, rock climbing, canoeing, and kayaking.

3. Emotional intelligence was assessed using the Bar-On Emotional Quotient Inventory: Short (EQi:S) (Bar-On, 2002) at the beginning and end of the course.

4. Leadership was assessed from the perspective of transformational leadership Theory using the Multifactor Leadership Questionnaire (MLQ) (Bass & Avolio, 2000) at the beginning and end of the course, as well as student evaluation forms assessed by instructors at the end of the course.

5. Levels of outdoor experience were measured by the Outdoor Leader Experience Use History (OLEUH) (Galloway, 2003) at the beginning of the course.

6. Kinds of experiences that contribute to development of emotional intelligence

were examined using open-ended questions and a scale of importance regarding experiences during the program that participants perceived the importance for their leadership development. Qualitative data about experiences regarding development of emotional intelligence were obtained from seven selected subjects by interviews.

7. The data were collected from March 2005 to January 2006.

Limitations

The results from this study were interpreted considering the following limitations:

1. The subjects in this study volunteered to participate in the research study. Due to the lack of random sampling, the generalizability of the study's findings is limited to the tested sample.

2. Five of six research instruments used in this study are self-report measures. Three of them are affective measures. Therefore, the data might include systematic response bias, such as social desirability.

3. There were many variables which were not able to be controlled, such as instructors, activities, venues, weather, individual experiences, group dynamics, and so on.

4. All instructors were trained to design and teach standardized programs based on the WEA curriculum, but the degree of experience, teaching skills, styles and programming varied.

5. While all programs had similar goals, formats and evaluations, each of the nine different groups and individuals had different experiences.

6. Since data for the treatment group were collected at the program locations, physical locations and surroundings depended on programs and environmental constraints.

7. The researcher was unable to personally administer all tests and collect other data,

but written and verbal instructions were given to people who administered tests and collected data in an effort to make all data collections consistent.

Assumptions

The basic assumptions of this study included:

1. Outdoor leadership programs have impacts on participants' development of emotional intelligence and leadership.

2. Emotional intelligence is an important facet of leadership, and it would aid effective outdoor leadership.

3. Levels of outdoor experience were related to levels of emotional intelligence and leadership effectiveness.

4. Subjects would complete the questions on all instruments honestly.

5. Although programs were offered in different settings by different instructors, all programs were designed based on the WEA standard curriculum using the same assessment methods and taught by instructors who went through similar training processes. All programs were sanctioned by the WEA Standards Committee. Therefore, all WEA National Standard Programs were assumed to be similar enough to be collapsed together for analysis.

Research Questions

This study was designed to answer the following research questions:

1. What is the relationship between emotional intelligence and transformational leadership in individuals who participated in an outdoor leadership program?

2. What relationships can be found between emotional intelligence and level of past outdoor experience and between transformation leadership and level of past outdoor experience?

3. Are there significant changes in emotional intelligence and transformational leadership of individuals associated with participation in an outdoor leadership program?

4. What kinds of experience are perceived by participants to be associated with their development of emotional intelligence and leadership?

Definitions

The following terms are defined to clarify their use in this study:

Adventure education. A variety of self-initiated activities utilizing an interaction with the natural environment, that contain elements of real or apparent danger, in which the outcome, while uncertain, can be influenced by the participant and the circumstance (Ewert, 1989). The common features of adventure education programs are (a) wilderness or backcountry settings; (b) a small group (usually less than 16); (c) assignment of a variety of mentally and/or physically challenging tasks/activities, such as mastering a river rapid or hiking to a specific point; (d) frequent and intense interactions that usually involve group problem solving and decision making; (e) a nonintrusive, trained leader; and (f) a duration of 2 to 4 weeks (Hattie, Marsh, Neill, & Richards, 1997).

Emotional intelligence. The subset of social intelligence that involves that ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions (Salovey & Mayer, 1990).

Outdoor leadership. The area of leadership that involves purposefully taking individuals/groups into the outdoors for recreation or education; teaching skills; problem solving; ensuring group/individual safety; judgment making; and facilitating the philosophical, ethical, and aesthetic growth of participants (Ewert, 1989). It includes helping the individual

or group identify goals and objectives; utilizing specific action to achieve those goals; creating the opportunities for learning (Buell, 1983), and training new or less experienced outdoor instructors and leaders (Ewert, 1989).

Transformational leadership. A form of leadership process emphasizing raising followers' consciousness levels about the importance and value of designated outcomes and ways of achieving them (Bass, 1990) to achieve results beyond what was originally thought possible (Sivanathan & Fekken, 2002).

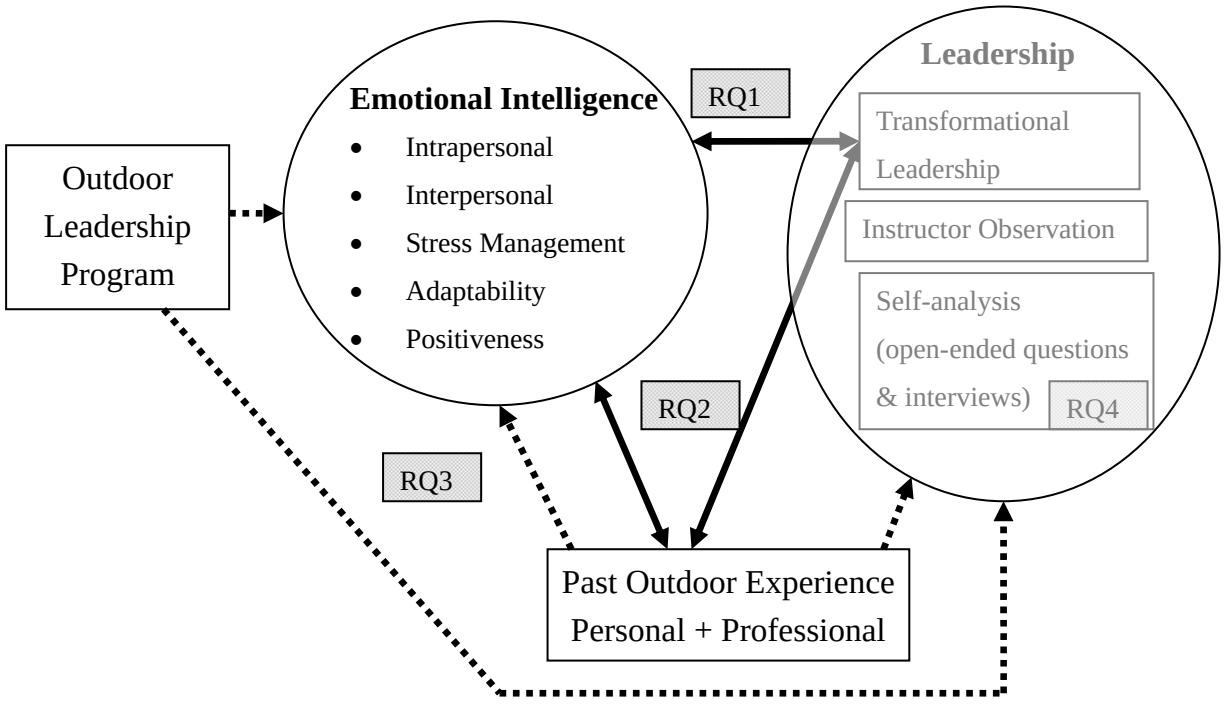


Figure 1
Hypothetical Model of Outdoor Leadership Program and Emotional Intelligence.

2. REVIEW OF THE LITERATURE

The literature related to outdoor leadership and emotional intelligence is reviewed in this chapter. For organizational purposes, the literature is presented under the following topics: (a) emotional intelligence, (b) leadership, (c) relationship between emotional intelligence and leadership, (d) outdoor leadership, and (e) summary.

Emotional Intelligence

Historical Development of the Concept of Emotional Intelligence

Emotional, social, practical intelligence and the like have been called nonacademic intelligences, noncognitive intelligences, and nonintellective intelligence (Hedlund & Sternberg, 2000) in distinction from the so-called Intelligence Quotient or IQ. Thorndike (1920) suggested that social ability was an important component of intelligence. Thorndike characterized social intelligence as comprising the abilities to understand others and to act or behave wisely in relation to others. A number of alternative conceptualizations of nonacademic intelligence have emerged since Thorndike's seminal work, including practical, emotional, kinesthetic, and even moral intelligence (Hedlund & Sternberg, 2000).

From 1920 through the 1990s, research interest in social intelligence has fluctuated and has been characterized by diverse approaches. Definitions of social intelligence have included the ability to deal with other people; interpersonal knowledge; insights into the states and traits of others; the ability to judge correctly the feelings, moods, and motivations of others; effective social functioning, skill at decoding nonverbal cues; and empathy (Hedlund & Sternberg, 2000). The concept of practical intelligence, as a component of successful intelligence (Sternberg, 1997), is the ability to accomplish personally valued goals by adapting to the environment, shaping (or changing) the environment, or selecting a new environment.

Jones and Day (1997) noted that practical, social and emotional intelligence share a focus on declarative and procedural knowledge, flexible knowledge-retrieval capacities, and problem solving that involves more than one correct interpretation or solution. Hedlund and Sternberg (2000) explained the differences among them as having to do with the knowledge content and the types of problems emphasized.

During the same period, other theories challenging traditional IQ-based views of intelligence emerged, including most notably Gardner's theory of multiple intelligences (Gardner, 1993). Gardner acknowledges the role of social, or what he calls interpersonal intelligence, and defines it as understanding others and acting on that understanding. Intrapersonal intelligence, in Gardner's theory, is the ability to understand oneself: to know how one feels about things, to understand one's range of emotions, to have insights about why one acts the way one does, and to behave in ways that are appropriate to one's needs, goals, and abilities. Much of the emerging research on emotional intelligence has shown an interest in the concept of interpersonal and intrapersonal intelligence.

The concept of emotional intelligence has gained popularity through the publication of a number of commercially successful books (e.g., Goleman, 1995). According to Hedlund and Sternberg (2000), although research explicitly targeting the construct of emotional intelligence is fairly recent, a number of tests purporting to measure social intelligence or social competence assessed skills have since been subsumed under the label of emotional intelligence. One of them, the Beth Israel Psychosomatic Questionnaire (Apfel & Sifneos, 1979), was developed to measure alexithymia, which refers to a difficulty with verbal expression of emotions and externally oriented thinking (Sifneos, 1973). The concept of alexithymia is related to the concepts of emotional self-awareness and emotional expression,

which are represented in current frameworks of emotional intelligence (Bar-On, 1997). In Taylor, Bagby and Luminet's empirical study (2000), a strong negative correlation between emotional intelligence and alexithymia was found.

Concepts of Emotional Intelligence and its Measurements

The idea of emotional intelligence—originally denoting a domain of abilities specifically linked to the perception and utilization of emotion (Salovey & Mayer, 1990)—has received intense attention, and both the various conceptualizations of what emotional intelligence is or what might characterize it and measures of those characteristics have been widely explored since 1990. Among the various characterizations of emotional intelligence and their measures, most fall into one of two models distinguished by Mayer, Caruso, and Salovey (2000): ability models or mixed models.

Mixed models of emotional intelligence. Mayer et al. (2000) referred to models such as Goleman's (1995) and Bar-On's (1997) as mixed models because they combine skills that can be characterized as mental abilities, such as problem solving, and others that can be considered personality traits, such as optimism. The author of the best-selling book, *Emotional Intelligence*, Daniel Goleman attempted to capture the concept of emotional intelligence as a broad concept and defined emotional intelligence as "a set of dispositional attributes for monitoring one's own and others' feeling, beliefs, and internal states in order to provide useful information to guide one's and others' thinking and action" (Goleman, 1995). His framework includes emotional awareness, accurate self-assessment, self-confidence, self-control, trustworthiness, conscientiousness, adaptability, innovation, achievement drive, commitment, initiative, optimism, understanding others, influence, communication, cooperation, and so on. Hedlund and Sternberg (2000) have criticized this extended framework, pointing out that is

stretches the definition of intelligence far beyond acceptable limits.

In order to capture broad individual traits and abilities related to emotional intelligence, Goleman and his colleagues developed a multi-rating measurement, the Emotional Competence Inventory (ECI) (Boyatzis, Goleman, & Hay/McBer, 1999). The ECI includes four aspects of emotional intelligence: self-awareness, self-management, social awareness, and social skills. An advantage of using the multi-rating method is that one obtains objective information about a person's ability. Objective information about a person may be more important than his or her actual abilities for some purposes, and may be less influenced by social desirability than self-report, but objective information is also different from actual abilities.

Bar-On (1997) also defined emotional intelligence as incorporating a broad array of factors. He proposed a model of noncognitive intelligences that included five broad areas of skills or competencies, and within each, more specific skills that appear to contribute to success. These include intrapersonal skills (emotional self-awareness, assertiveness, self-regard, self-actualization, independence), interpersonal skills (interpersonal relationships, social responsibility, empathy), adaptability (problem solving, reality testing, flexibility), stress management (stress tolerance, impulse, control), and general mood (happiness, optimism).

Bar-On developed the Emotional Quotient Inventory (EQ-i) (Bar-On, 1997) based on his model of noncognitive skills. It has been widely tested among different populations and has shown fairly high internal consistency as well as high correlations with various measures related to personal traits. Hedlund and Sternberg (2000) pointed that the high correlations might suggest possible redundancy with existing measures, such as personality and

self-concept measurements. They also questioned the impact of response sets, a tendency on the part of the examinee to approach the test in a manner that distorts the test results, especially, social-desirability, which is the tendency to choose responses that respondents believe are most socially approved of, or accepted (Thorndike, 1997). Recently, the EQ-i 360, which is a multi-rating scale for EQ-i, has been developed to deal with these concerns. The EQ-i is the only emotional intelligence instrument to have been tested cross-culturally among various ethnic groups with no significant differences found in emotional intelligence based on ethnic or racial background.

Ability model of emotional intelligence. Mayer, Salovey and Caruso (2004) view emotional intelligence as a member of a class of intelligences including the social, practical, and personal intelligence that they call "hot intelligence." The label refers to the fact that these intelligences operate on "hot" cognitions—cognitions dealing with matters of personal, emotional importance to the individual. Salovey, Mayer, and their colleagues (1993, 1997) have gradually shifted from an all-encompassing model of emotional intelligence to a more restrictive model. They redefined emotional intelligence as "the capacity to reason about emotions, and of emotions to enhance thinking. It includes the ability to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" (Salovey & Sluyter, 1997, p.10). They have argued that emotional intelligence should be distinguished from other personality variables and defined more strictly as a specific ability to recognize the meanings of emotions and to use that knowledge to reason and solve problems. These abilities pertain to (a) accurate appraisal and expression of emotions in oneself and in others, (b) assimilation of emotional experience into cognition, (c)

recognition, understanding, and reasoning about emotions, and (d) adaptive regulation of emotions in oneself and in others (Salovey & Sluyter, 1997).

Salovey and Sluyter (1997) developed the Multifactor Emotional Intelligence Scale (MEIS) which consists of twelve ability measures that fall into the four classes of abilities identified above: perception, assimilation, understanding, and managing emotions. They pointed out that ability testing is the gold standard in intelligence research because intelligence corresponds to the actual capacity to perform well at mental tasks, not just one's beliefs about their capacities (Mayer & Salovey, 1993). Although their definition does not fit into the traditional framework of emotional intelligence as noncognitive intelligence, the concept and the measure of emotional intelligence corresponds with the major understanding of intelligence.

State of Emotional Intelligence Studies

While emotional intelligence has gained wide publicity in the utility both as a concept and as a tool, the scientific viability of emotional intelligence as a concept has been debated based on measurement difficulties caused by the conceptual elusiveness; however, high levels of interest in emotional intelligence have resulted in a considerable body of research suggesting the importance of the concept and implying a further range of possibilities for study stemming from it.

Psychometric properties of emotional intelligence. Regardless of variation of measurements, various psychometric properties of emotional intelligence have been revealed by studies. In terms of gender, Bar-On (2002) tested his instrument using a normative sample consisting of 3,174 adults and provided psychometric property information. Although no gender differences were found in the total emotional intelligence scores, some gender

difference were found in the components of emotional intelligence, e.g, males were found to score significantly higher than females in intrapersonal skills and general mood, suggesting males are more self-aware and optimistic than females; females were found to score significantly higher than males in interpersonal scale suggesting females have higher levels of social skills. Some studies found that females have overall higher levels of emotional intelligence (e.g., Kemp, Cooper, Hermens, Gordon, Bryant, & Williams, 2005; Mandell & Pherwani, 2003).

Although the difference is not large, older groups score significantly higher than younger groups on the most emotional intelligence scores (Bar-On, 2002; Kemp et al., 2005). However, wide individual differences were also found (Gohm, 2003; Jacques, 2002), especially depending on their leadership experience and/or training (King, 1999; Purkable, 2003), which might reflect the nature of emotional intelligence as something that can be learned, unlike IQ.

Bar-On's measurement EQi:S (2002) was tested among various ethnic groups, and there were no significant differences found among ethnic groups; however, the sample size of the non-Caucasian ethnic groups was small, only 225 out of 3,174 total subjects. Normative samples included Caucasian/White, Black/African, Asian, and Hispanic, and the studies were conducted only in North America; therefore, the cross-cultural validity of the instrument and/or concept is still being debated. Since emotion, emotional expression, and self-identification are constructed within a person's cultural context (Johnson-Laird & Oatley, 2000; Zirkel, 2000), it is assumed there will be variation across cultures.

Predictive validity of emotional intelligence. Many of the proponents of emotional intelligence view it as more powerful than IQ, or as a better predictor of success in life (Mayer,

Salovey, & Caruso, 2004). Such claims suggest that emotional intelligence may influence major life outcomes and behaviors at levels virtually unheard of in psychological science. Examples of such outcomes and behaviors include academic performance (Parker et al., 2004), deviant behavior (Mayer, Carlsmith, & Chabot, 1998; Rubin, 1999), positive interactions with others (Lopes, Salovey, & Straus, 2003), life satisfaction (Ciarrochi, Chan, & Caputi, 2000), leadership (Hartsfield, 2003; Kobe, Reiter-Palmon, & Rickers, 2001; Schulte, 2003), and team performance (Prati, Douglas, Ferris, Ammeter, & Buckley, 2003). These studies revealed that emotional intelligence plays an interesting role in individuals as well as groups.

Issues and implications in emotional intelligence studies. Studies in emotional intelligence have been criticized on conceptual and methodological grounds. The common debates include whether the concept itself exists, whether the concept is measurable, if measurements of emotional intelligence are different from personality measurements or other cognitive metrics, and if the measurements are valid or reliable (Davies, Stankov, & Roberts, 1998; Roberts, Zeidner, & Matthews, 2001). While researchers have made efforts to answer these questions (e.g., Bar-On & Parker, 2000; Mayer, Salovey, & Caruso, 2004), much further research is definitely needed.

Since the concept of emotional intelligence is complex, specific relationships should be clarified. For example, the ability aspect of emotional intelligence might have more direct connections with specific forms of behavior, such as outcome performance. Trait aspects of emotional intelligence need to be distinguished from those of general personality. Mixed models of emotional intelligence might be best at measuring the variety of traits involved in the complicated concept of leadership.

Methodological improvements might help reduce contradictory findings. Mayer,

Salovey and Caruso (2004) listed the priorities for research in the area: (a) learning more about what emotional intelligence predicts, (b) understanding how emotional intelligence relates to other intelligence, (c) understanding the processes underlying emotional intelligence, (d) determining whether teaching emotional knowledge has a desirable effect on behavioral outcomes and might change emotional intelligence itself, and (e) expanding emotional intelligence measurement to a wider range of age groups to better understand its developmental courses (p. 211).

Leadership

Leadership appears to be a rather complex and culturally-specific concept (Russell, 2005). The definition of leadership is highly subjective. Over 130 definitions of leadership exist in academic publications (Burns, 1978). Russell (2005) defined leadership as "interpersonal influence exercised by a person or persons, through the process of communication, toward the attainment of an organization's goals" (p. 16). This definition recognizes that leadership is typically an ongoing activity and involves facilitating the progress of a person or group toward the accomplishment of certain goals. Jordan (2001) clarified how individual and cultural experiences influence one's views of leadership as follows: leadership as a role, as service, as power difference, as a group process, and as behavior. She defined leadership as:

> a dynamic process of interactions between two or more members of a group which involves recognition and acceptance of leader-follower roles by group members within a certain situation. It also involves activities on the part of the leader and followers which aid the group in moving toward its goals (p.5).

A number of theories attempting to characterize leadership and the group dynamics

have been employed in attempts to analyze their effects on recreation experiences. The following approaches have been seen as the foundation of leadership as it applies to recreation: (1) a trait approach to leadership, (2) a behavioral approach to leadership, (3) a situational approach to leadership, and (4) a reciprocal approach to leadership (Russell, 2005).

Trait Approach to Leadership

The trait approach, the oldest approach, was first developed in the early 20th century. It suggests that there are certain inherent personal qualities, or traits, that are essential for effective leadership. Trait theories defined leadership as a function of an individual's characteristics or traits (Hersey & Blanchard, 1982). Those characteristics might consist of superior physical, intellectual, or personality traits which differentiate an individual from other group members. The typical research format for these early studies was to identify a group with leaders and followers and test for differences on the selected trait measures (Chemers, 2000). Jordan (2001) emphasized the differences in how important different cultures find various traits of leaders to be. Some cultures value creativity, superior intellect, and petite physical stature in leaders, while other cultures value large physical stature and physical strength. Stogdill (1948) provided an extensive review of 30 years of trait studies and concluded that although individual differences were certainly important in identifying emergent or effective leaders, the great diversity of situations in which leaders function make it unlikely that any one trait could be a universal predictor.

Similar to trait theories, attribution theory explains leadership through the belief that leadership is attributed to one who looks and acts like a leader (Jordan, 2001). Attribution theory also refers to how people tend to attribute "good" leadership to a leader of a group that has done something well with no regard to the leader's actual impact (Jordan, 2001).

Attributions may be based on facts, perceptions, feelings and stereotypes. Attribution theory can be utilized to help explain why people attribute leadership to certain individuals based on overall perceptions. Typically leadership is attributed to those with good interpersonal skills (Chemers & Ayman, 1993).

Behavioral Approach to Leadership

The behavioral approach is based on the assumption that leadership is best explained by what leaders actually do rather than the traits they possess (Russell, 2005). One early and well-known behavioral approach was an attempt by Lewin and his colleagues (Lewin, Lippitt, & White, 1939) to identify the behavior of the most effective leaders. They focused on three types of leadership behaviors: autocratic, democratic, and laissez-faire. The research results revealed that the same group of followers will behave differently under the different leader behaviors. For example, the studies found dependency on the leader under autocratic leadership, more self-initiative under the democratic, and less aggressive behavior under the laissez-faire leadership were observed. In terms of group performance, democratic leadership sometimes produced higher results, whereas at other times it was less effective than autocratic leadership. In response to laissez-faire leadership, followers felt less sense of accomplishment because their task progressed slowly and randomly (Russell, 2005).

Building on this early work, another classification of leader behavior was developed focusing on a leader's tendency toward either task or relationship concerns. In task-oriented behavior, a leader is concerned with productivity and derives satisfaction from completion of a task. In relationship-oriented behavior, a leader is mostly concerned with establishing and maintaining good group interpersonal relationships. Hersey and Blanchard (1982) found that some leaders focus mainly on directing task accomplishment-related activities, whereas other

leaders concentrate on providing emotional support through relationships with their followers.

The most extensive research using a behavioral approach, and the one with the most enduring impact on the field of leadership, was the set of studies surrounding the development of the Leader Behavior Description Questionnaire (LBDQ) at Ohio State University (Hemphill, 1950). This 150-item behavioral inventory was used to collect ratings of military and industrial leaders by supervisors, subordinates, and observers. Subsequent factor analyses revealed that a major portion of the variability in leader behavior could be explained by two major clusters; *consideration* and *initiation of structure*. Consideration included behaviors such as showing concern for the feelings of subordinates, making sure that minority viewpoints were considered in decision making, and attempting to reduce conflict in the work environment. These behaviors seemed to reflect leader intentions to support positive group morale and follower satisfaction. Initiation of structure included items measuring the leader's use of standard operating procedures, criticism of poor work, and emphasis on high levels of performance. These behaviors appeared to be related to a leader's focus on building a structure for task accomplishment. Although these factors were found reliably in ratings of leader behavior across a wide range of settings, they were less than completely successful at predicting the important outcomes associated with leadership effectiveness, that is follower satisfaction and group performance (Chemers, 2000). Various contradictory research results were found and the difficulty of predicting leadership using a behavioral approach was discussed.

Situational Approach to Leadership

Various systematic analyses of the situational characteristics of leadership claim that effective leadership is ascribed by the leader's trait and behavioral appropriateness to such

external factors as the followers, the entire group structure, and the characteristics of the organization (Russell, 2005). Fielder's contingency theory of leadership explained that "leadership effectiveness depends upon the leader's style of interacting with his (or her) group members, and the favorableness of the group-task situation" (Fiedler & Chemers, 1974). The three most influential factors in Fiedler's theory include group settings in terms of the degree of support and cooperation offered by followers, the clarity and structure of the group's task, and the leader's formal authority to direct and reward followers. These factors were combined into a dimension of "situational favorableness" or "situational control," as a reflection of the degree to which the overall situation gave the leader a feeling of certainty, predictability, and control over group processes (Chemers, 2000).

Fiedler's introduction of the contingency theory of leadership generated a multitude of research studies (Russell, 2005). Examples include *situational leadership theory* (Hersey & Blanchard, 1982), *normative decision theory* (Vroom & Yetton, 1973), and *path-goal theory* (House, 1971).

Hersey and Blanchard's situational leadership model illustrates changes of the four leadership styles, including telling, selling, participating and delegating, depending on the followers' maturity levels associated with the nature of task. Their theory is based on the amount of direction (task behavior) and the amount of socio-emotional support (relationship behavior) a leader must provide given the situation and the level of "maturity" or "readiness" of his of her followers (Hersey & Blanchard, 1982).

Vroom and Yetton (1973) offered a model of decision-making effectiveness that integrated leaders' decision strategy with situational factors. This theory explains the range of decision-making strategies of leaders in relation to the degree of follower involvement in the

process, suggesting that more participatory strategies build a more supportive environment over the long run.

The path-goal theory of leadership proposes that the leader can affect the performance, satisfaction, and motivation of a group in different ways, such as offering rewards for achieving performance goals, clarifying paths towards these goals, and removing obstacles to performance. The leader may adopt a certain leadership style based on the situation. Examples of the styles include: directive leadership, supportive leadership, participative leadership, and achievement-oriented leadership (House & Mitchell, 1973).

The research literature on contingency theories and other theories derived from the contingency theories suggests that actions by a group's leader can have strong effects on the motivational and emotional states of followers and on the successful accomplishment of the group's task (Chemers, 2000). The relationship of the specific leader actions to those outcomes depends on the interaction of those actions with relevant features of the interpersonal and task environment (Chemers, 2000).

Reciprocal Approach to Leadership

This approach focuses on the relational and reciprocal nature of the leader–participant interaction and emphasizes the mutual goals and motivations of both leaders and followers and elevated the importance of the role of followers in the leadership process (Russell, 2005). There was also a renewed recognition of the importance of leader traits and behaviors, something ignored by situational theories (Weese, 1995). These reciprocal approaches are referred to as transactional and transformational approaches to leadership.

Burns (1978) proposed that the leadership process occurs in one of two ways, either as *transactional* or *transformational* process. Within the large spectrum of literature on

leadership, transformational leadership has attracted a great deal of empirical scrutiny (Bass & Avolio, 1997), with most of this research focusing on either its nature or effects (Barling , Slater, & Kelloway, 2000). Burns described transactional leaders as emphasizing work standards, assignments, and task-oriented goals. Conversely, transformational leaders focus on raising employees' consciousness levels about the importance and value of designated outcomes and ways of achieving them. Therefore, transformational leaders strive to motivate followers to achieve beyond what was originally thought possible (Sivanathan & Fekken, 2002).

According to Bass and Avolio (1997), transformational leadership can be thought of as a fundamental shift in orientation, with both long and short-term implications for development and performance. The shift is generally toward longer-term implications and impact on both process and outcomes (Bass & Avolio, 1997). Bass and Avolio proposed a model of the relationship between transformational and transactional leadership, suggesting that transformational leadership augments transactional leadership in predicting effects on associates' satisfaction and other outcomes. Specifically, transformational leadership accounts for the unique variance in ratings of performance above and beyond that accounted for by active transactional leadership. The highlighted motivation is linked to five empirically derived factors of transformational leadership: (a) idealized influence, reflecting high levels of leader competency, trustworthiness, or both; (b) inspirational motivation, involving the articulation of the group's goals in emotional, moral, or visionary terms; (c) intellectual stimulation, entailing the encouragement of followers to think independently and creatively and to move away from past ideas or limitations; and (e) individual consideration, relating to the leader's capacity to understand each follower's personal needs and goals (Chemers, 2000).

Chemers (2000) argues for “universal” effectiveness of transformational leadership, because it is difficult to square that idea with the equally compelling evidence supporting various contingency theories which show that effective leadership is the result of the appropriateness of fit between particular behaviors and particular situations. Chemers (2000) discussed a possible solution to the contradiction between contingency theories and transformational theories by reviewing findings on leadership efficacy (e.g., Watson, Chemers, & Preiser, 1996). The fit between the leader’ personal characteristics and situational parameters is an important determinant of a leader’s confident and efficacious behavior—behavior that is the basis for the critical functional elements of leadership. Leadership efficacy may be the psychological link between contingent fit and transformational behavior (p. 36).

Chemers (2000) conducted a historical overview of 80 to 90 year leadership theories and research and concluded that there are three functions that leaders need to fulfill to be successful based upon the common findings and streams of thought across theoretical perspectives. First, leaders must establish the legitimacy of their authority by appearing competent and trustworthy to their followers. Next, leaders must coach, guide, and support their followers in a way that allows the followers to contribute to group goal attainment while satisfying their own personal needs and goals. To do this, leaders must understand the abilities, values, and personalities of their subordinates. Sometimes leaders are so effective at creating a motivational environment that followers merge their personal goals with collective group goals and are transformed in the process. Finally, effective leaders must use the skills and abilities which they and their followers possess to accomplish the group’s mission. The first step is to create a sense of confidence and personal empowerment that encourages each group

member to produce his or her best efforts. The second step is focusing the resultant resources on the task environment in a way that provides the best fit between group process and environmental demand. Sensitive information processing and intelligent decision making are the keys to the group environmental interface.

Relationship between Emotional Intelligence and Leadership

Goleman (1998) argues that emotional intelligence is a prerequisite for successful leadership. Feldman (1999) discussed emotionally intelligent leadership as the development and application of emotional and social skills to positively influence others. George (2000) proposed that emotional intelligence contributes to effective leadership by focusing on essential elements of leader effectiveness: development of collective goals and objectives; instilling in others an appreciation of the importance of work activities; generating and maintaining enthusiasm, confidence, optimism, cooperation, and trust; encouraging flexibility in decision making and change; and establishing and maintaining a meaningful identity for an organization.

A number of studies have been done on emotional intelligence and leadership in the fields of business and education. Examples of research results include the positive correlations between aspects of emotional intelligence, leadership behavior, and performance varying as a function of self-awareness of managers (Sosik & Megerian, 1999), correlation between leadership and emotional intelligence, and between leadership and social intelligence (Kobe, Reiter-Palmon, & Rickers, 2001), and training effect, age difference, and leadership experience difference in educational leadership (King, 1999).

Specifically, due to the conceptual relatedness, emotional intelligence has been discussed as an important component of transformational leadership. Bass (1990) proposes

that transformational leaders must possess multiple types of intelligence and that social and emotional intelligence are critical because they are important to the leader's ability to inspire employees/students and build relationships.

Barling et al. (2000) asserted three reasons why individuals high in emotional intelligence would be more likely to use transformational behaviors. First, leaders who know and can manage their own emotions, and who display self-control and delay of gratification, could serve as role models for their followers, thereby enhancing followers' trust in and respect for their leaders. Second, with their emphasis on understanding others' emotions, leaders high in emotional intelligence would be ideally placed to realize the extent to which followers' expectations could be raised, a hallmark of inspirational motivation. Third, a major component of individualized consideration is the ability to understand followers' needs and interests accordingly. With its emphasis on empathy and the ability to manage relationships positively, leaders manifesting emotional intelligence would be likely to manifest individual consideration. Based on the Bass and Avolio's (1997) augment effect of transformational leadership on transactional leadership in predicting effects on associates' satisfaction and other outcomes and performing accordingly, it is assumed that emotional intelligence affects transactional aspects of leadership as well.

Empirical studies concerning emotional intelligence and transformational leadership revealed the following: (a) a positive relationship between them (Barling , Slater, & Kelloway, 2000; Palmer, Walls, Burgess, & Stough, 2001); (b) a positive relationship of emotional intelligence self reported by leaders with transformational leadership and leadership effectiveness perceived by followers (Sivanathan & Fekken, 2002); (c) emotional intelligence as the strongest predictor variable of transformational leadership, followed by self-efficacy,

and then spirituality (Hartsfield, 2003); and (d) gender differences in the relationship between emotional intelligence and transformational leadership style (Mandell & Pherwani, 2003). Although the possible conceptual overlap between emotional intelligence and transformational leadership was evident (Sivanathan & Fekken, 2002), these theoretical discussions and empirical studies have shown conclusively the importance of the effect of emotional intelligence on effective leadership and a close relationship between emotional intelligence and transformational leadership. Future research efforts examining training effects on the development of emotional intelligence and transformational leadership were suggested (e.g., Barling , Slater, & Kelloway, 2000; Sivanathan & Fekken, 2002).

Outdoor Leadership

Outdoor leadership involves purposefully taking individuals/groups into the outdoors for recreation or education; teaching skills; problem solving; ensuring group/individual safety; judgment making; and facilitating the philosophical, ethical, and esthetic growth of participants (Ewert, 1983). It includes helping the individual or group identify goals and objectives; utilizing specific actions to achieve those goals; creating the opportunities for learning (Buell, 1983), and training new or less experienced outdoor instructors and leaders (Ewert, 1989). Three primary goals define the practice of outdoor leadership (Petzoldt, 1984):

> (a) Outdoor leaders aim to ensure the safety of individuals engaging in outdoor education and recreation experiences; (b) outdoor leaders aim to ensure the protection and preservation of the natural environments into which people venture for outdoor education and recreation experiences; and (c) outdoor leaders aim to enhance the quality of outdoor experiences for individuals with whom they are working.

Research assessing outdoor leadership started in the 1980s. Many of studies in early

1980s examined outdoor leadership competences (Buell, 1983; Ewert, 1983; Priest, 1986; Priest, 1999; Raiola, 1986; Swiderski, 1981) and showed that an ideal outdoor leader must possess a wide and often divergent collection of skills and knowledge to do the job. Common competencies discussed in many of these studies include judgment, decision-making, outdoor skills, safety skills, medical skills, interpersonal skills, environmental ethics, and problem-solving skills. Recently, Martin, Cashel, Wagstaff and Breunig (2006) identified eight core competencies essential to the practice of outdoor leadership: foundational knowledge; self-awareness and professional conduct; decision making and judgment; teaching and facilitation; environmental stewardship; program management; and technical ability. Following in this line of conceptual development, since the late 1980s, outdoor leadership research has examined more complicated situations and/or relationships among various factors.

Trait Approach Research

Easley (1985) attempted to determine if the personality traits of instructors at the National Outdoor Leadership School (NOLS) were related to instructor effectiveness as perceived by their students, and to determine if instructor effectiveness was related to changes in the self-concept of students who completed a NOLS course. This research concluded that changes in self-concept occurred as a result of a wilderness skills oriented NOLS course, and students were able to discriminate instructor effectiveness on the basis of the personality-based teaching behaviors of NOLS instructors.

Aguiar (1986) compared selected characteristics, such as leadership opinions, personality characteristics, vocational/leisure interests, age, education, experience, and gender, of more successful adventure leaders with those of less successful leaders. The result showed

that more successful leaders had more years of education and higher levels of experience. The subjects of this study comprised only 17 leaders from a school offering adventure programs for youth-at-risk; therefore, selection bias and limited generalizability can be assumed. Aguiar (1986) argued the appropriateness of the instrument used in the study to assess the traits involved in successful leadership for use adventure research, since it was developed in the business field, and discussed a need to develop an instrument to measure leadership specifically in the area of adventure education.

Behavioral Approach Research

Bartley (1988) examined outdoor leadership using both behavioral and trait approaches. She examined Outward Bound instructors' leadership styles and relationships among gender, personality, previous soft skills training, and the effects on students' course outcomes. The results showed that the personality traits and soft skills training of instructors were associated with the students' course outcomes. Leadership style was not. A trend emerged that gender had some effect on leadership style. This study suggested that leadership style, which is a behavioral approach, was not a trustworthy indicator of effective outdoor leadership. She recommended that future studies concentrate on soft skills training and personality of the instructor and their apparent effect on course outcomes, rather than leadership style.

Hayashi and Ewert (2006) examined the characteristics of outdoor leaders using the Multifactor Leadership Questionnaires (Bass & Avolio, 1997). The results revealed that outdoor leaders reported a more laissez-faire type of leadership style than the general population in a comparison with the normative sample data provided by the publishers of the instrument. They speculated that the results might reflect the influence of these leaders

backgrounds in experiential education, which is a major educational foundation for many outdoor leaders. For instance, outdoor leaders often attempt to provide opportunities for students to deal with issues by themselves, rather than the leaders providing solutions. The researchers also found a significant negative correlation between outdoor leaders' experience level and laissez-faire leadership style, suggesting that more experienced outdoor leaders have a higher level of willingness to become involved with students' issues and problems, and assist when needed.

While these studies using traits approaches and behavior approaches revealed some characteristics of outdoor leadership, it does not seem that either approach has captured the complex and broad characteristics of outdoor leadership. As in other fields to which these approaches have been applied, traits and behavioral approaches can be seen to suffer significant limitations in the explanatory power of leadership behavior.

Situational Approach Research

Phipps and his colleagues have conducted various studies using situational leadership theories (Grube, Phipps, & Grube, 2002; Phipps, 1986; Phipps, 1991; Phipps, 1996; Phipps & Claxton, 1997; Phipps, Hayashi, Lewadoski, & Padgett, 2005). The systematic approach consists of the application of two models, the Situational Leadership Model developed by Hersey and Blanchard (1982) and the Group Dynamics Teaching Model developed by Phipps (1986). This combination of models and methods provides a systematic approach to teaching and learning the soft skills of leadership, called Experiential Leadership Education (Phipps, 1996). The method uses data from actual leader decisions and from the followers working toward becoming a cooperative team.

Phipps's study (1986) tested a systematic approach used to teach soft skills of outdoor

leadership to ascertain whether the method would increase leadership adaptability and effectiveness, and increase positive perceptions of the group dynamics. The study also investigated whether there was a relationship between leader effectiveness and group dynamics as measured by perceptions of the participants. The case study investigated trends in leadership styles and task/relationship decisions throughout the courses. Pre- and post-tests allowed study of within-group scores of the two treatment groups, and allowed some comparison between the treatment and other groups. A Group Dynamics Questionnaire allowed study of the students' perceptions of the overall leadership style, task, and relationship behaviors, and the leader adaptability and effectiveness that emerged on the post-tests. This research concluded the following: (a) leader behavior was affected positively using a systematic approach, (b) the unsystematic approach affected leader behavior attitudes negatively, (c) group dynamics were perceived more positively using a systematic approach, and (d) there was a relationship between leader effectiveness and the participants' positive perceptions in regard to the group dynamics. Overall, the systematic approach to learning leadership was found to offer theory-based information presented experientially, as well as helpful tools for implementing the program and providing feedback throughout the course.

Reciprocal Approach Research

Jordan (1992) introduced the concept of transformational leadership as an implementation of effective outdoor leadership for women. Raiola (1995) suggested some specific tools for becoming better communicators and more effective leaders based on the concept of transformational leadership. He emphasized the importance of encouraging, tone setting, modeling, active listening, paraphrasing, and summarizing for effective outdoor leadership.

Hayashi and Ewert (2006) examined outdoor leaders' transformational leadership in comparison with the general population using a normative sample data provided by the company that developed the instrument and found that outdoor leaders demonstrated a more transformational-type of leadership style than the general population. They also found that more experienced outdoor leaders exert a more idealized influence on their students (one of components of transformational leadership) than do less experienced outdoor leaders.

Phipps and Hayashi (2005) tested changes of students' transformational leadership in a 16 day outdoor leadership program in a wilderness setting. While the changes were not statistically significant, the scores of all constructs of transformational leadership increased after the program. They speculated that the non-significant result might be caused by high pretest scores which may have been due to participants' prior attendance of leadership classes. The program was designed for leadership development using the systematic approach based on situational leadership theory; however, they found various techniques of instructions observed during the courses that seem to relate to the concept of transformational leadership. They speculated that the theory of transformational leadership seems to be philosophically relevant to outdoor leadership programs; on the other hand, situational leadership theory provides an effective tool to develop leadership skills. Since effective leadership education requires the tools as well as the philosophical aspect (Hersey, 1992), using transformational leadership theory as a philosophical aspect in conjunction with tools such as situational leadership theory could produce overall a more comprehensive way to teach leadership development.

Approaches to Outdoor Leadership in Recent Studies

Since the 1990s, more researchers have focused on specific elements of outdoor

leadership, especially soft skills and meta-skills in outdoor leadership. Examples of the studies include research in communication skills (Chase & Priest, 1990), ethics (Fox & Reed, 1994), women's outdoor leadership (Henderson & Roberts, 1998), the process of leadership development (Propst & Koesler, 1998), judgment (Clement, 1996; Teeters, 1994), and decision-making (Cain, 1988; Galloway, 2003).

Martin et al (2006) discussed the importance of emotional intelligence for outdoor leaders in understanding the motivations, attitudes, and behaviors of program participants. Recently, a few studies examining the emotional intelligence of outdoor leaders have been conducted. Thompson (2004) tested the effects of an emotional intelligence curriculum on outdoor leaders by testing them in a curriculum composed of five emotional intelligence lessons. Four of five components of emotional intelligence, which were interpersonal skills, stress management, adaptability, and general mood, as well as the total score of emotional intelligence significantly increased after the curriculum but returned to the baseline after a few months.

Jacobs (2004) examined the effect of summer camp employment on emotional intelligence. Scores of emotional intelligence significantly increased through summer camp employment. In terms of the components of emotional intelligence, four of five components, intrapersonal, interpersonal, stress management, and general mood, showed significant increases, but the adaptability score did not. He also examined gender, and experience differences among camp staff. While statistically significant differences were not found between genders, the results showed that returning staff members (more experienced staff) experienced greater increases than first-year staff members. Using a qualitative approach, he examined the characteristics and attributes of summer camp employment which lead to

changes in emotional intelligence. The results were categorized into positive atmosphere and work environment at camp (46%), being around kids (35%), the lack of distractions (33%), and observing campers and reacting to camper needs (28%).

Hayashi and Ewert (2006) examined outdoor leaders' emotional intelligence and found relationships between certain components of emotional intelligence and types of outdoor experience. For example, outdoor leaders who have more overall outdoor experience reported higher levels of emotional intelligence, especially within intrapersonal components. More specifically, outdoor leaders who have a great deal of personal outdoor experience are better at dealing with intrapersonal relationships. Finally, outdoor leaders who have taught various kinds of outdoor activities were found to have higher levels of overall emotional intelligence. Similarly, the findings suggest that outdoor leaders who have more outdoor experience demonstrated a higher level of transformational leadership style. Although the correlations do not determine causal relationships, it could be deduced that increased outdoor experience contributes to the development of higher levels of emotional intelligence and transformational leadership.

The same study also found close relationships among components of emotional intelligence and components of transformational leadership. Particularly, interpersonal skill in emotional intelligence seems to be an important element in transformational leadership. Likewise, intellectual stimulation in transformational leadership is related to many constructs of emotional intelligence. Not surprisingly, a laissez-faire leadership style was negatively correlated with all components of emotional intelligence, thus suggesting more involved forms of outdoor leadership are more positively associated with a higher level of emotional intelligence. While the results implied the possible effect of outdoor experience on the

development of emotional intelligence and transformational leadership, the study suggested that future research needs to examine the causal links between the two variables.

Summary

Since Goleman's (1995) best-selling book, emotional intelligence has received a great deal of attention and is regarded as an indicator of success in life as well as a learnable ability unlike IQ. Although conceptual and methodological issues have often been raised, studies and discussions conducted in the fields of business and education have proven the utility of emotional intelligence for effective leadership. It would be reasonable to expect that emotional intelligence aids in effective outdoor leadership.

Research in leadership has increasingly focused on the relationship between leaders' and followers' mutually desirable goals and the leaders' ability to create motivating environments to help followers achieve goals. Similarly, in the field of outdoor leadership, specific skills in the soft and meta-skills of outdoor leadership have received much attention. While these studies have examined many of the social and situational components in outdoor leadership, the intrapersonal or emotional components of outdoor leadership have received less attention. Approaching outdoor leadership from the perspective of emotional intelligence, which includes intrapersonal, interpersonal, and situational components, would broaden our understanding of outdoor leadership. Although the possible utility of the concept of transformational leadership for effective outdoor leadership has been discussed in the literature, few empirical studies have been done in the field of outdoor leadership. As past studies revealed the close relationship between emotional intelligence and transformational leadership, the concept of transformational leadership can be assumed to help explain outdoor leadership as it relates to emotional intelligence.

Based on the review of previous literature, this study was designed under the assumption that emotional intelligence and transformational leadership would be important components of effective outdoor leadership. Furthermore, it is assumed that outdoor leadership programs will contribute to the development of participants' emotional intelligence and transformational leadership.

3. METHODOLOGY

The research problem guiding this study was how to characterize the impact of an outdoor leadership program on the development of emotional intelligence and leadership. A quasi-experimental design was used for the study; the methods are described under the following sections: (a) programs, (b) subjects, (c) measures, (d) pilot studies, (e) procedure for data collection, and (f) treatment of data.

Programs

Data collections were conducted at the venues of National Standard Programs (NSP) sanctioned by the Wilderness Education Association (WEA) offered from March to November 2005 at various wilderness areas in the United States. The WEA strives to promote the professionalism of outdoor leadership, improve the safety of outdoor trips, and enhance the conservation of the wild outdoors (Berman & Teeters, 2003). An NSP is designed to teach the WEA 18-point curriculum in an expedition-based format for certification as an outdoor leader. The 18-point curriculum covers broad outdoor leadership competencies including (1) decision-making and problem solving, (2) leadership, (3) expedition behavior and group dynamics, (4) environmental ethics, (5) basic camping skills, (6) nutrition and rations planning, (7) equipment and clothing selection/use, (8) weather, (9) health and sanitation, (11) safety and risk management, (12) navigation, (13) wilderness emergency procedures and treatment, (14) natural and cultural history, (15) specialized travel/adventure activity, (16) communication skills, (17) trip planning, and (18) teaching, processing and transference (Bonney & Drury, 1992). Students in an NSP learn and practice the WEA curriculum concurrently with an evaluation process, which includes a mid-course evaluation and final evaluation from selves, peers, and instructors. The main focus of an NSP is leadership

development by practicing and demonstrating good judgment and decision-making. Students have opportunities to take a leadership role as the leader-of-the day, debrief their experience everyday, and keep journals to reflect on their experience and practice analyzing their decision-making and leadership.

Instructors of NSPs are granted instructor status by the WEA Standards Committee after completing the certification process which includes successful completion of an NSP as a student, apprenticeship for NSP(s), an Instructor Training Clinic and medical trainings. Instructors must maintain their status by teaching programs, updating their medical trainings, and documenting their professional experiences on a regular basis.

Typically, an NSP is conducted as a 21-35 day expedition for 8-15 students with two or three instructors in a wilderness setting. There are several other types of formats for NSP courses, including two 2-week programs, one 2-week and two 1-week programs, and a professional-short Course (10-14 days) which is a short version of the NSP specifically designed for outdoor professionals. In order to maintain consistency, only programs utilizing a 21-35 day expedition format were assessed in this study. In 2005, 13 NSPs were sanctioned by the WEA and 12 were offered by the WEA affiliates, which are universities and organizations. Of these 12 courses, the lead instructors for the 11 courses which used a 21-35 day expedition format were asked to cooperate with this study. All invited instructors agreed to help with the study. However, due to the cancellation of one course and instructor replacement for another course, only nine courses were able to cooperate with this study. While each program was offered in a different location using a variety of activities led by different instructors, all program designs were based on the standard curriculum using the same or modified assessment methods and were taught by instructors who had gone through similar training

processes. All programs were sanctioned by the WEA Standards Committee prior to the first day of the program. Therefore, all WEA National Standard Programs were assumed to be similar enough to be collapsed together for analysis. However, other variables, such as weather, activities, group dynamics, instructors, and other logistics, were not controlled in this study. The detail program information is listed in the Table 1.

Table 1
Program Information

Program	Date	Location	Activities	Number of students	Returned sets of questionnaires	Usable sets of questionnaires	Interviews
1*	3/23-4/11	CO & UT	mountaineering, rock climbing & desert trip	17	15	14	4
2	5/17-6/4	PA	backpacking & canoeing	11	11	11	
3	5/16-6/7	NC	backpacking, rock climbing and canoeing	10	10	7	
4	5/16-6/15	FL	sea kayaking	7	0	0	
5	5/17-6/17	VA, SC & NC	caving, canoeing, rock climbing and backpacking	12	12	11	
6	6/1-7/6	UT	backpacking, rock climbing, & kayaking	18	5	4	
7	6/11-7/23	WY	backpacking, mountaineering & rock climbing	11	8	5	
8*	7/25-8/14	WY	coastal kayaking, backpacking & rock climbing	12	7	6	3
9	8/1-8/31	WA	backpacking	9	6	5	
10	8/13-9/10	CA	sea kayaking and backpacking	canceled	0	0	
11	10/28-11/18	CA	sea kayaking and backpacking	11	9	9	
			Total	118	83	72	7
						(F:31; M:41)	(F:4; M:3)

* the researcher was one of the instructors

Subjects

Treatment Group

The subjects of the treatment group in this study were students who participated in the WEA National Standard Programs. One hundred and eighteen students from nine programs were asked to voluntarily participate in this study. A total of 83 matched and complete sets of questionnaires were collected after the programs, and 72 of them were used for this study after removing invalid and/or inconsistent cases. All 72 participants were college students ranging in age from 19 to 26 (mean 21.2 years old) including 41 males and 31 females.

Seven of the 72 students were also asked to participate in semi-structured interviews with the researcher. As the use of multiple cases is often suggested in qualitative inquiry for generalization purposes (e.g., Yin, 1994; Denzin & Yvonna, 2000), interview subjects were selected from two different courses including four different expedition groups resulting in a convenient and purposeful sample. The criteria used for sampling included the following: (a) the participants had completed an NSP; (b) participants were willing to participate in the study; (c) the researcher had access to subjects to set up in-person interviews; and (d) participants were able to articulate their experiences well; and (e) participants represented a variety of perspectives, including an equal gender split, and maximum diversity of backgrounds. The subjects included 4 females and 3 males ranging in age from 20 to 23 (mean 21.9). Six of the seven subjects were certified as Outdoor Leader upon completion of their NSP program.

Comparison Group

In order to examine the effects of program participation, a comparison group was asked to participate in this study. Subjects comprising the comparison group were students who enrolled in classroom-based undergraduate classes offered by the Department of Recreation and Park Administration, Indiana University in Spring (R441: Legal Aspects of Recreation, Park, Tourism and Sport Management), Summer I (R441: Legal Aspects of Recreation, Park, Tourism and Sport Management), and Fall 2005 (R272: Recreation Activities and Leadership Methods). Forty-one matched and complete sets of questionnaires from three different classes were collected and 38 were used as comparison group data after removing invalid and/or inconsistent cases. All subjects in the comparison group were college students raging in age from 19 to 29 (mean 21.0) including 11 males and 27 females (Table 2).

Table 2
Comparison Group Information

Group	Course	Semester	Returned sets of questionnaires	Usable sets
1	Legal Aspects of Recreation	Spring 05	5	5
2	Legal Aspects of Recreation	Summer I 05	11	10
3	Recreation Activcities	Fall 05	24	23
		Total	40	38

Measures

The measures, used for all subjects in this study included: the BarOn Emotional Quotient Inventory: Short (EQi:S) (Bar-On, 2002), the Multifactor Leadership Questionnaire (MLQ 5X short) (Bass & Avolio, 1997), and the New Social Desirability Scale (NSDS) (Strahan & Gerbasi, 1972) at both pre-test and post-tests. Subjects of the treatment group were also asked to fill out the Outdoor Leader Experience Use History (OLEUH) (Galloway, 2003) at the pre-test, and the Emotional Intelligence Experience Questionnaires at the post-test. The WEA Final Assessment Summaries completed by course instructors for the purpose of student evaluation were collected as additional sources of information regarding the leadership of students in the treatment group.

Emotional Quotient Inventory: Short (EQi:S)

The Emotional Quotient Inventory: Short (EQi:S) is the short version of the BarOn Emotional Quotient Inventory (Bar-On, 1997) , which is a widely used measurement for emotional intelligence. The instrument consists of 51 items rated on a five-point Likert scale from 1 (*very seldom, or not true of me*) to 5 (*very often true of me, or true of me*), with items distributed across the five components of emotional intelligence, the Total Emotional Quotient (EQ), and two validity scales, which are Positive Impression and Inconsistency Index (Bar-On, 2002). The Positive Impression Scale indicates if the respondent is attempting to give an

exaggerated impression of him or herself, and the Inconsistency Index identifies random or careless responding. Both are used to screen out the invalid or inconsistent responses.

As measured through the EQi:S, five components of emotional intelligence are identified as follows:

1. *intrapersonal*: self-regard, emotional self-awareness, assertiveness, independence, and self-actualization;
2. *interpersonal*: empathy, social responsibility, and interpersonal relationship;
3. *stress management*: stress tolerance and impulse control;
4. *adaptability*: reality-testing, flexibility and problem-solving; and
5. *general mood*: optimism and happiness (Bar-On, 2002).

As emotionally intelligent behavior and general mood are strongly related (Bar-On, 2002), mood is another factor that needs to be taken into account when assessing an individual's true level of emotionally intelligent behavior. The manual suggests that the result for individuals with standard scores below 80 on the General Mood measure should be interpreted with caution. Internal consistency coefficients for the all subscales of the EQi:S ranged from .76 to .93, with the exception of the Positive Impression Scale (.51-.76). Test-retest reliabilities for the EQi:S ranged from .46 to .80 (Bar-On, 2002). Since age and gender differences have been reported in the measurement of emotional intelligence, the EQi:S provides both raw scores and standard scores to adjust for differences of age and gender based on norm referencing consists of 3174 adults (1543 males and 1631 females) aged from 16 to 93 (mean 35.53 for males and 34.41 for females). The standard scores have a mean of 100 and a standard deviation of 15 in each component of emotional intelligence across four age groups (1:16-29, 2: 30-39, 3: 40-49; and 4: 50+ years of age).

The EQi:S is a licensed measurement and permission was obtained by the measurement company upon documenting graduate level course work regarding psychological measurement and assessment, research experience, the study outline, and agreement of supervision from a professor with expertise in psychometric research and an academic adviser.

Multifactor Leadership Questionnaire (MLQ 5X)

The Multifactor Leadership Questionnaire (MLQ 5X) was developed based on the theory of transformational leadership and transactional leadership. It consists of 45 items measured on a five-point Likert scale from 0 (*not at all*) to 4 (*frequently, if not always*) to assess five components of *transformational leadership*, three components of *transactional leadership*, one component of *nontransactional leadership*, and three *outcome components* (Bass & Avolio, 1997). The transformational leadership scale includes: idealized influence (attributes), idealized influence (behavior), inspirational motivation, intellectual stimulation, and individualized consideration. Idealized behavior represents behaviors exhibited by leaders that serve to encourage their students to share common goals and visions, identify with their leaders, and develop higher levels of trust. In a similar vein, idealized attributes imply that students are willing to trust their leaders, emulate their behaviors, and embrace the values held by their leaders.

Transactional leadership is divided into two categories, which are constructive transactions and corrective transactions. The first category, constructive transactions, is based on contingent reward. The second category, corrective transactions, is based on management-by-exception (*active*), and management-by-exception (*passive*) (Bass & Avolio, 1997). In management-by-exception (active), the leader monitors the group to make sure mistakes are not made and allows the status quo to exist without interfering. In the case of

management-by-exception (passive), the leader intervenes only when things go wrong or a correction is needed. The nontransactional leadership component represents a laissez-faire style of leadership. The three outcome components are: (a) satisfaction with the leader; (b) individual, group, and organizational effectiveness; and (c) extra effort by associates (Bass & Avolio, 1997). Reliability for all components and for each leadership scale ranged from .73 to .93, according to the MLQ Technical Report (Bass & Avolio, 1997).

New Social Desirability Scale (NSDS)

An individual's self-report of his/her own traits, attitudes, and behaviors may involve systematic biases that obscure accurate measurement of content variables (Paulhus, 1991). One of the most common biases is referred to as a socially desirable response (SDR). Although the EQi:S includes the Positive Impression Scale to validate self-rated answers, some research findings suggest that the self-rating answers of emotional intelligence and leadership can be influenced by SDR (e.g., Hartsfield, 2003). Accordingly, the M-C 1 version of the New Social Desirability Scale (NSDS) (Strahan & Gerbasi, 1972) was included in this study in order to identify if the SDR phenomenon was occurring (Appendix I-A). The NSDS is a short version of the Marlow-Crowne Social Desirability Scale (M-CSDS) (Crowne & Marlowe, 1960), which measures social desirability, especially the need for approval. It consists of 10 true-false items that describe desirable but improbable behaviors, and those deemed undesirable but probable. Strahan and Gerbasi tested the MC-1 NSDS and found K-R 20 coefficients of between .59 and .70.

Outdoor Leader Experience Use History (OLEUH)

The Outdoor Leader Experience Use History (OLEUH) was used to measure the level of outdoor experience of students in the treatment group at the pre-test. The OLEUH is

an empirically-based, norm-referenced measure of an outdoor leader's experience assessed on the basis of both personal and professional factors (Galloway, 2003) (Appendix I-B). The *personal* outdoor experience scale includes four subscales: (a) personal experience, (b) personal environment, (c) personal activity, and (d) demographic information. The *professional* outdoor experience scale also includes four subscales: (a) professional activity, (b) professional environment, (c) professional population, and (d) professional leadership. Cronbach's Alpha for internal consistency reliability for the eight subscales was .71 (Galloway, 2003). The total scores of all eight subscales were used to divide the treatment group into a more experienced group and a less experienced group.

Emotional Intelligence Experience Questionnaire

In order to examine the kinds of experiences that contribute to the development of emotional intelligence during outdoor leadership programs, the Emotional Intelligence Experience Questionnaires were administered to the treatment group at the post-test (Appendix I-C). The questionnaire includes five open-ended questions and an importance scale regarding certain types of experiences. The open-ended questions asked subjects to write about those experiences during their course that they perceived as having helped develop their abilities regarding the five components of emotional intelligence. For example, as for adaptability skills, subjects were asked to write down their "experiences during the course that helped you develop your ability to understand current situations, be flexible, and/or solve problems." The questions were formed based on the definitions of the components of emotional intelligence given in the manual (Bar-On, 2002).

The type of experiences for the importance scale were applied from the scale used by Sibthorp (2000), which was developed to measure the importance of certain types of

experience for outdoor leadership development in a wilderness expedition setting. Examples include feedback from peers, watching instructors, making decisions, and succeeding goals. In this study, subjects were asked to rate (from 1 = *not at all important* to 5 = *essential*) how important those experiences were regarding the five components of emotional intelligence, which were rephrased as self-awareness, social skills, stress management, problem-solving and positiveness.

WEA Final Assessment Summary

One of the evaluation forms, the WEA Final Assessment Summary, completed for each student by the instructors at the end of the course to assess students' performance was collected in order to measure the level of leadership from the instructor perspective in addition to the self-rating measurements (Appendix I-D). Instructors evaluate students' leadership skills regarding the WEA 18 point curriculum to determine if their skills are (a) exemplary, (b) certifiable, or (c) noncertifiable. Based on the evaluations of the 18 points, final decisions for Outdoor Leadership Certification are made by instructors and the decisions are also documented on the same form. In addition to the certification decision, evaluations of four of the 18 points which relate to the concept of emotional intelligence, including decision making and problem solving, leadership, expedition behavior and group dynamics, and communication skills, were used for this study. The evaluations were converted into scores of one for non-certifiable, two for certifiable, and three for exemplary. The total scores were taken as practical assessments of students' leadership skills observed by instructors.

Pilot Studies

Two pilot studies to determine the research design were conducted in order to (1) test measurements and understand the psychometric properties of measurements, (2) understand

relationships between variables, and (3) obtain information about the effect size of each variable. The first pilot study was a survey of 46 outdoor leaders conducted at the 2004 National Conference on Outdoor Leadership. Validity and reliability of the scores estimated in the measurements showed acceptable range suggested by the measurement companies. The measurements used for the initial pilot study included EQi:S, MLQ, OLEUH, MCSD, which is the original long version of social desirability, and Expedition Leadership Style Analysis Inventory (ELSA) (Phipps, 1996). While various significant relationships of emotional intelligence with transformational leadership and outdoor leadership were found (Hayashi & Ewert, 2006), the score from ELSA was not significantly correlated with emotional intelligence. The ELSA was developed to assess leadership style based on the situational leadership theory, and the result suggested little relationship with emotional intelligence. Considering the potential overload on subjects due to use of too many instruments, the ELSA was not included in the dissertation study.

The second pilot test was conducted as a pre-experimental design without a comparison/control group in June 2004 at the WEA Wilderness Steward Program offered by Western Carolina University in Wyoming. The WEA Wilderness Steward Program (WSP) is a program designed for students at the entry level to the outdoor leadership field. The WSP also aims to teach all or parts of the WEA 18 point curriculum, but the certification process is not included as part of the program. Seven students who participated in the 16-day WSP were asked to fill out EQi:S, MLQ, OLEUH, ELSA, and NSDS. Large individual differences were found and differences in mean scores were not statistically significant except on two outcome factors of MLQ. Effect sizes obtained from the study were used to find an appropriate sample size for a certain power. At least two variables in each EQi:S and MLQ showed between small

and medium effect sizes. According to the table of sample size and power (Keppel & Wickens, 2004) using the effect size from the pilot test—between .60 and .80 power—was suggested as an appropriate power for an exploratory study (Keppel & Wickens, 2004), can be expected with 60-70 subjects. Since significant relationships between emotional intelligence and outdoor experience were found similarly to the first pilot test, it was assumed that the longer program would have a bigger effect size in terms of the change of emotional intelligence and transformational leadership through program participation.

Based on the results from the pilot studies with the consideration of overload on subjects, measurements selected for this study were EQi:S, MLQ, OLEUH and NSDS. Effort was made to collect data from over 60 subjects from longer programs (3-4 weeks in length).

Procedure for Data Collection

Treatment Group

The data collection for the treatment group was conducted from March 2005 to January 2006. At two of nine courses, the researcher was able to directly administer the questionnaires to subjects. Before students left for the expedition, the researcher explained the study to the subjects using the study information sheet (Appendix II-B-1), asked for their voluntary participation, handed out and collected all questionnaires. Questionnaires were again handed out and collected after students came back from the expeditions. Since the researcher was also one of instructors at the two courses, the researcher explained that the answers in the questionnaires would not be seen by anyone until the expedition and all evaluations were over, therefore answers would not affect any decisions or evaluations of students. The researcher maintained her role as an instructor during the programs by following the curriculum and program contents, and did not make any intentional manipulations for

research purposes. However, the possibility of her having contaminated the responses in subtle and unforeseen ways is acknowledged, although there were no significant deviations in the results of the data of the groups she instructed.

As for the other seven programs, the study purpose and methods were explained to all lead instructors by phone or email, and the research questionnaires, the letter explaining detailed guideline for administration (Appendix II-A) and study information sheets for students (Appendix II-B-2) and instructors (Appendix II-B-3) were mailed to the course instructors. The instructors explained the study to students, handed out the questionnaires, and collected them at the beginning and end of the programs. Although every effort was made to make the process of data collection as consistent as possible, the researcher did not have much control during the process. The questionnaires were mailed back to the WEA National Office with other course paperwork after the programs. The questionnaires from the last course and course paperwork were received by the researcher in January 2006.

While the WEA Final Assessment Summary was not a research instrument prepared for this study, it was used as additional source for research information. The permissions for the research use were obtained from both students and instructors. The forms were mailed with other post-course paperwork to the WEA National Office, then, the photo copies of the forms were made by the researcher.

In order to obtain detailed and deeper information of the development of emotional intelligence and leadership, semi-structured interviews were conducted with seven students within a month after they came back from their expeditions. The interviews took place on campus for 20 to 40 minutes between the researcher and students individually. Students were shown the study information sheet (Appendix II-B-4), and their answers of open-ended

questions about their experiences regarding five components of emotional intelligence, and were asked to describe the experiences more details or other experiences if they have. Although the interview questions were prepared in advance (Appendix I-E), efforts were made to make the interviewees feel free to explore any topic which they perceived to be related to their leadership development in order to obtain deeper information from their perspectives. The interview data was tape recorded and typed from the tapes after the interviews.

Comparison Group

The data collections for the comparison group were conducted in the three different classes of Spring, Summer I, and Fall 2005 at Indiana University. In order to discover possible changes during three to four weeks, data collection was conducted twice in each class. The researcher explained the study information sheet to the subjects (Appendix II-B-5), asked for their voluntary participation, handed out and collected all questionnaires. Then, again the questionnaires were distributed, filled out and collected three to four weeks later.

In order to conduct the data collection for this study, five approvals were obtained from the Human Subject Committee at Indiana University including approvals for: (1) the treatment group data collection at two programs that the researcher instructed (Appendix II-B-1); (2) the treatment group data collection for seven programs that the researcher did not instruct (Appendix II-B-2); (3) the treatment group data collection for the research use of the evaluation form (Appendix II-B-3); (4) the treatment group data collection for interviews (Appendix II-B-4); and (5) the comparison group data collection (Appendix II-B-5). Since one of the universities that cooperated for this study required the approval from their university in addition to the approval from Indiana University, additional approval was also obtained for one of the treatment group data collection.

Treatment of Data

Data Screening

After collecting all the questionnaires from subjects, they were matched between pre-test and post-tests. After matching questionnaires from both tests, all names and associated numbers were removed and subject numbers were assigned. Subjects who had unmatched questionnaires were removed. Eighty three sets of questionnaires from the treatment group and 41 sets from the comparison group were obtained.

Subjects with a consistent pattern of missing scores in any measurements were removed (N = 5 for the treatment group and 0 for the comparison group). If the missing scores were fewer than five in each questionnaire (less than 10 %), the middle scores of the scale (3) were assigned (N = 5 for the treatment group and 2 for the comparison group). The EQi:S includes the Inconsistency Index and Positive Impression Index to validate scores obtained from the EQi:S (N = 4 for the treatment group and 2 for the comparison group). Extreme high or low scores of general mood also need to be taken into account for the validity issue (N = 2 for the treatment group and 1 for the comparison group). Based on these indices, subjects with validity and consistency issues in any scores were removed. Frequencies of responses were examined using SPSS and subjects with outliers in EQi:S and/or MLQ were also removed in order to meet the assumption of normal distribution. Finally, 72 complete sets from the treatment group and 38 complete sets from the comparison group were retained for statistical analyses.

Evaluation of Statistical Assumptions

Since various statistical analyses including multivariate analyses needed to be performed in this study, statistical assumptions were evaluated including estimated reliability,

normality, outliers, linearity, homoscedasticity, missing data, and multicollinearity.

Estimated reliability. Internal consistency reliability was estimated by computing Cronbach's Alpha for each instrument. The reliability coefficients were obtained using SPSS, and the results of each instrument are presented in Table 3.

Table 3
Estimated Reliability (Cronbach's Alpha)

Instrument	Pre-test		Post-test	
	Treatment Group	Comparison Group	Treatment Group	Comparison Group
Emotional Intelligence (EQi:S)	.87	.88	.87	.89
Multifactor Leadership Questionnaire (MLQ)	.78	.88	.81	.91
Social Desirability (NSDS)	.66	.57	.73	.76
Outdoor Leader Experience Use History (OLEUH)	.79	N/A	N/A	N/A

As seen in Table 1, the coefficients obtained from instruments used in this study met accepted standard reliability criteria of .70, except the NSDS. The reliability of the NSDS has been tested in various studies (e.g., Strahan & Gerbasi, 1972) and also in the pilot study, however the scores from this study appeared inconsistent at the pretest. The NSDS was originally added into this study in order to determine possible response bias and use the score as a covariate to control the bias, since significant positive correlations with emotional intelligence and transformational leadership were assumed based on the results of the pilot study and literature. However, since high reliability of a covariate is necessary especially for the attitude scale (Tabachnick & Fidell, 2001), and adding NSDS scores created issues in equality for multivariate analysis, a decision was made that the scores of NSDS were not appropriate to use for statistical analysis in this study.

Other statistical assumptions. Multivariate assumptions were tested by following the

procedures suggested by Tabachnick and Fidell (2001). Using the descriptive statistics in SPSS, outliers and missing data were found. After removing cases, normality was tested using skewness and kurtosis and normal distributions of scores were shown within the acceptable ranges. Linearity and homoscedasticity were assessed by scatterplots and obvious problems were not found. In order to assess possible problems in multicollinearity and singularity, correlations among variables were examined. Among all variables including components of emotional intelligence and transformational leadership, Spearman's rho ranged from -.560 to .706. According to Tabachnick and Fidell (2001), high correlation (.90 and higher) indicates problems in multicollinearity and singularity. Therefore, data for this study met all assumptions for multivariate analysis.

Procedure for Data Analysis

In order to answer the first three research questions, quantitative data were analyzed using SPSS. Correlation, MANOVA and ANOVA were performed using data from both the treatment group and the comparison group. An alpha level of $p < .05$ was used for decisions on correlation analyses. As for multivariate analysis, adjustments of an alpha level were made as needed in order to control type I error and still maintain reasonable power, based on the suggestions by Stevens (2002). Concretely, an alpha level of $p < .05$ was used for multivariate and univariate tests, then adjustments were made for pairwise comparisons. In order to determine which of the individual variables contribute to the significant multivariate pairwise differences, univariate analysis and pairwise comparisons were used as post hoc procedures of MANOVAs because of the ease and meaningfulness in the interpretation of results as well as the conservativeness in terms of protecting against type I error (Stevens, 2002). While decisions for significant results were made based on statistical rules, attention was paid to the

consideration of whether results would yield meaningful interpretations.

As for the fourth research question, the data from the importance scale were presented using descriptive statistics, and the qualitative data from the open-ended questionnaires were coded into types of experiences that helped subjects' development of emotional intelligence and leadership. The interview data were analyzed and used to add deeper interpretation for the fourth question. A critical colleague was employed for peer debriefing to enhance accuracy and validity of qualitative data analysis (Creswell, 2003).

Furthermore, the qualitative data from the open-ended questions and interviews were also used to validate the findings obtained from quantitative analysis (Cresswell, 2003). The qualitative data was also used to add a deeper perspective on interpretation and discussion of the results.

4. DATA ANALYSIS

This study examined the impacts of an outdoor leadership program on the development of emotional intelligence and leadership. In this chapter, the results of analysis are presented under the following sections: (a) descriptions of sample for both the treatment group and the comparison groups; and (b) findings regarding the research questions.

Descriptions of Sample

The total number of the subjects used in this study is 110 including 72 in the treatment group and 38 in the comparison group. The descriptions of the sample are presented in the Table 4.

Table 4
Descriptions of Sample

		Treatment Group	Comparison Group
N		72 (M:41; F:31)	38 (M:11; F:27)
Age	*M*	21.2	21
	SD	1.59	2.29
	Range	19-26	19-29

Treatment Group

After screening for outliers and invalid and/or inconsistent cases, 72 complete sets of data were analyzed for this study. The sample included 41 males and 31 females with a mean age of 21.2 years-of-age. The sample consisted of participants from nine outdoor leadership programs. The number of participants in each program ranged from 9 to 18, and the usable number of subjects in each program ranged from 4 to 14. No statistically significant differences among programs were found in terms of emotional intelligence (p = .48) at the

pretest. While a mean score of transformational leadership from one of the programs was significantly lower than two other programs (p = .02 and p = .005), all other scores of transformational leadership were not significantly different. No statistically significant differences were found between the two programs for which the researcher was an instructor for and other programs across all components of emotional intelligence (.06 < p < .86) and the total score of transformational leadership (p = .99). Similarly, no gender differences were found in terms of emotional intelligence (Pretest: p = .69; Posttest: p = .97) and transformational leadership (Pretest: p = .98; Posttest: p = .41).

Participants in the sample included 88% Caucasian/white, 1% Black/African, 1% Hispanic, 1% others, and 9% no answers. Regarding academic major of students, 47 % of subjects majored in either outdoor leadership or outdoor/experiential education (Figure 1). Including recreation majors and environmental education majors, 61.1% of subjects were students majoring in a field related to outdoor recreation/education.

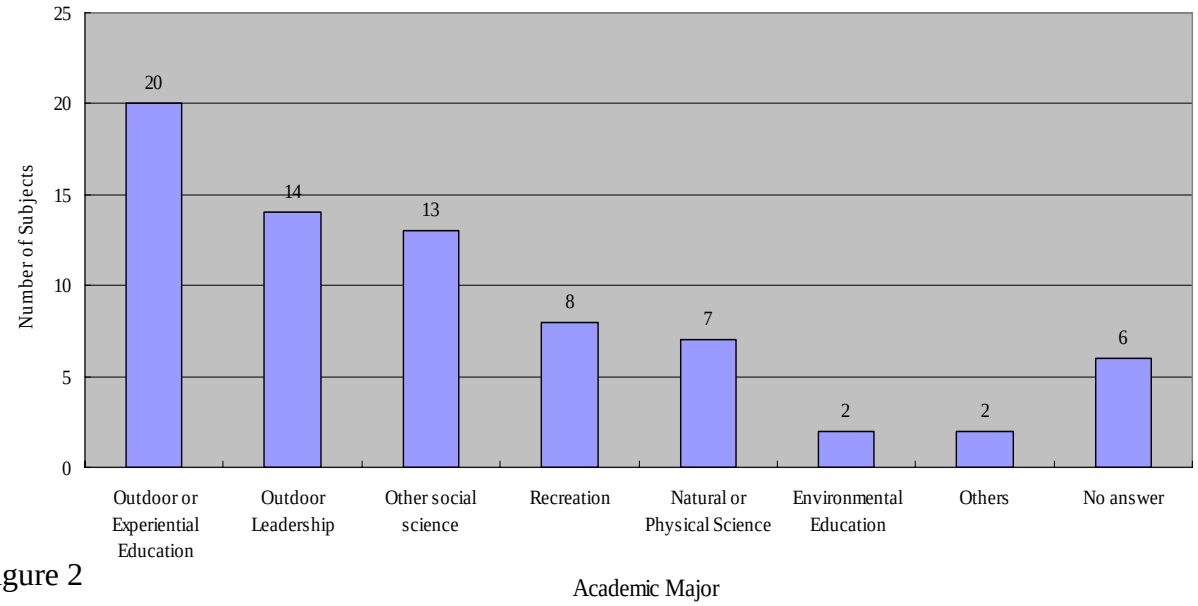


Figure 2
Frequency of Academic Major

The past outdoor experiences of subjects, including personal and professional outdoor experiences, were measured using the Outdoor Leader Experience Use History (OLEUH). Scores were standardized based on a mean score for amount of total outdoor experience. Since all subjects were college students, their outdoor experiences were limited. The average amount of experience (around 400 standardized score) that subjects in this study had included 40-50 days working experience as an outdoor leader (for example, one summer internship experience or 2 year trip leader experience) including a few outdoor activities over 2-3 seasons an year and 2- weeks personal outdoor experiences including a few outdoor activities year around. The range of outdoor experience level is presented in the Figure 2. In this study, subjects who scored higher than the mean score were categorized as the more experienced group (N = 22), and subjects who scored lower than the mean score were categorized as the less experienced group (N = 50).

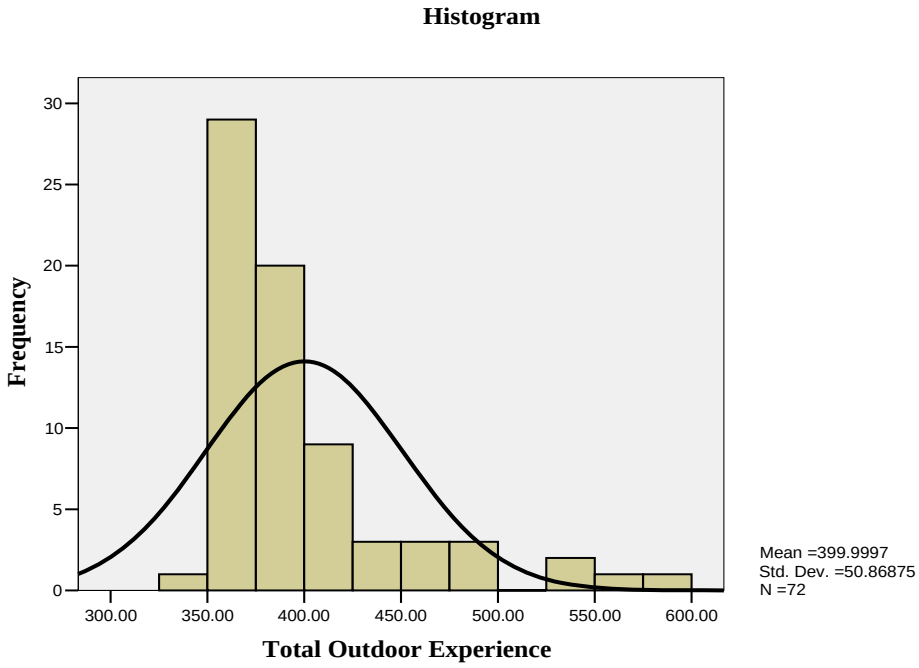


Figure 3
Distribution of Outdoor Experience

Comparison Group

After screening for outliers and invalid and/or inconsistent case, 38 sets of data were analyzed for this study. The sample included 11 males and 27 females with a mean age of 21.0 years-of-age. The sample consisted of participants from three classroom-based undergraduate classes offered at Indiana University. The number of subjects in each class ranged from 5 to 23. No statistically significant differences among classes were found at the pretest in terms of emotional intelligence (p = .11) and transformational leadership (p = .83). Similarly, no gender differences were found in terms of emotional intelligence (Pretest: p = .11; Posttest: p = .36) and transformational leadership (Pretest: p = .89; Posttest: p = .40). The sample included 95% Caucasian/white, 2.5% Black/African, and 2.5% Asian subjects. Regarding academic major, 85% of subjects majored in recreation, 13% majored in other social science, and 3% majored in "others".

Findings

Research Question 1: What is the Relationship between Emotional Intelligence and Transformational Leadership in Individuals Who Participated in an Outdoor Leadership Program?

In order to answer the research question 1, correlations were examined using SPSS. Since both emotional intelligence and transformational leadership were assessed using ordinal scales, Spearman's rho was calculated to examine the correlations between the two. The results are presented in Table 5 and Table 6. Although correlations became weaker at the post test, total EQ and transformational leadership were significantly positively correlated with each other at both the pre-test and post-test ($p < .01$). While total EQ was not significantly correlated with transactional leadership, it was significantly negatively correlated with

non-transactional leadership, and significantly positively correlated with outcome factors.

Table 5

Spearman's rho among the Total EQ and Multifactor Leadership (pre-test)

Variables	Total EQ	TFL	TAL	NTL	OF
Total EQ	----				
Transformational Leadership (TFL)	.690**	----			
Transactional Leadership (TAL)	.061	.351**	----		
Non-transactional Leadership (NTL)	-.530**	-.338**	.238*	----	
Outcome Factors (OF)	.638**	.688**	.200	-.387**	----

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

group = treatment group (N = 72)

Table 6

Spearman's rho among the Total EQ and Multifactor Leadership (post-test)

Variables	Total EQ	TFL	TAL	NTL	OF
Total EQ	----				
Transformational Leadership (TFL)	.510**	----			
Transactional Leadership (TAL)	-.016	.086	----		
Non-transactional Leadership (NTL)	-.362**	-.342**	.233*	----	
Outcome Factors (OF)	.482**	.601**	-.039	-.560**	----

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

group = treatment group (N = 72)

Correlations among components of emotional intelligence and transformational leadership are presented in Table 7 and Table 8. Again, Spearman's rho was used to assess correlations among them. Similar to the results of total scores, correlations were weaker at the post-test than the pre-test. However, interpersonal skills and positiveness of emotional intelligence were significantly positively correlated with all components of transformational at both tests. Idealized influence (behavior) in transformational leadership was also significantly positively correlated with four components of emotional intelligence at the pre and post-tests.

Table 7

Spearman's rho among Components of Emotional Intelligence and Transformational Leadership (Pre-test)

Variables	Intra	Inter	Stress	Adapt	Positive	IIA	IIB	IM	IS	IC
Intra	----									
Inter	.376**	----								
Stress	.220	.253*	----							
Adapt	.220	.400**	.290*	----						
Mood	.461**	.460**	.366**	.294**	----					
IIA	.426**	.479**	.204	.265**	.550**	----				
IIB	.279*	.421**	.146	.390**	.314**	.324**	----			
IM	.493**	.501**	.233	.304**	.706**	.573**	.448**	----		
IS	.295**	.355**	.173	.491**	.260*	.532**	.339**	.358**	----	
IC	.200	.301*	.164	.219	.368**	.450**	.254*	.553**	.238*	----

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

group = treatment group (N = 72)

Emotional Intelligence Variables

Intra: Intrapersonal Aspects
Inter: Interpersonal Aspects
Stress: Stress Management
Adapt: Adaptability
Positive: Positiveness (General Mood)

Transformational Leadership Variables

IIA: Idealized Influence (Attributed)
IIB: Idealized Influence (Behavior)
IM: Inspirational Motivation
IS: Intellectual Stimulation
IC: Individual Consideration

Table 8

Spearman's rho among Components of Emotional Intelligence and Transformational Leadership (Post-test)

Variables	Intra	Inter	Stress	Adapt	Positive	IIA	IIB	IM	IS	IC
Intra	----									
Inter	.354**	----								
Stress	.116	.264*	----							
Adapt	.116	.311**	.308**	----						
Mood	.384**	.497**	.412**	.257*	----					
IIA	.329**	.323**	.087	.217	.342**	----				
IIB	.249*	.399**	.258*	.223	.322**	.471**	----			
IM	.177	.336**	.247*	.145	.575**	.534**	.414**	----		
IS	.155	.272*	.046	.359**	.273*	.472**	.451**	.386**	----	
IC	.208	.410**	.087	.135	.463**	.533**	.436**	.607**	.510**	----

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

group = treatment group (N = 72)

Research Question 2: What Relationships can be Found Between Level of Outdoor Experience and Emotional Intelligence and Between Level of Outdoor Experience and Transformation Leadership?

Emotional intelligence and outdoor experience. In order to examine relationships between outdoor experience and emotional intelligence, correlations (Spearman's rho) were examined using SPSS. The results are shown in Table 9 and Table 10. While no significant correlations between outdoor experience and emotional intelligence were found at the pre-test, at the post-test outdoor experience was significantly positively correlated with Intrapersonal skills (r = .332, p = 004) and total EQ (r = .290, p = 013).

Table 9

Correlations between Outdoor Experience and Emotional Intelligence (Pre-test)

	O.Exp.	Intra	Inter	Stress	Adapt	Positive	EQ total
O.Exp.	---						
Intra	.177	---					
Inter	.154	.376**	---				
Stress	.046	.220	.253*	---			
Adapt	.108	.220	.400**	.290*	---		
Positive	.060	.461**	.460**	.366**	.294*	---	
EQ total	.161	.706**	.702**	.580**	.588**	.777**	---

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Table 10

Correlations between Outdoor Experience and Emotional Intelligence (Post-test)

	O.Exp.	Intra	Inter	Stress	Adapt	Positive	EQ total
O.Exp.	---						
Intra	.332**	---					
Inter	.209	.354**	---				
Stress	.039	.116	.267*	---			
Adapt	.102	.116	.311**	.308**	---		
Positive	.187	.384**	.497**	.412**	.257*	---	
EQ total	.291*	.657**	.733**	.561**	.536**	.747**	---

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Multifactor leadership and outdoor experience. Similarly, correlations between outdoor experiences and multifactor leadership were examined using SPSS. The results are shown in the Table 11 and Table 12. Multifactor Leadership includes transformational leadership (TF), transactional leadership (TA), non-transactional leadership (Laissez-faire) (NT), and outcome factors (OF).

Although strengths of the correlation changed, results revealed positive correlations of outdoor experience with transformational leadership (pre-test: $r = .272$, $p = .021$; post-test: $r = .229$, $p = .054$), and with outcome factors (pre-test: $r = .291$, $p = .013$; post-test: $r = .465$, $p < .000$). Also, negative correlations between outdoor experience and non-transactional leadership were found (pre-test: r = -.227, p = .055; post-test: r = -.281, p = .017).

Table 11
Correlations between Outdoor Experience and Multifactor Leadership (Pre-test)

	O.Exp.	TF	TA	NT	OF
O.Exp.	---				
TF	.272*	---			
TA	.135	.351**	---		
NT	-.227	-.338**	.238*	---	
OF	.291*	.688**	.200	-.387**	---

* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

Table 12
Correlations between Outdoor Experience and Multifactor Leadership (post-test)

	O.Exp.	TF2	TA2	NT2	OF2
O.Exp.	---				
TF2	.229	---			
TA2	-.021	.086	---		
NT2	-.281*	-.342**	.233*	---	
OF2	.465*	.601**	-.039	-.560**	---

* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

Research Question 3: Are There Significant Changes in Emotional Intelligence and Transformational Leadership of Individuals Associated with Participation in an Outdoor Leadership Program?

Group comparison. In order to examine the impact of participation in an outdoor leadership program in relation with multiple variables, a series of analyses were performed. First, a multivatiate analysis of covariance (MANCOVA) was performed on two dependent variables: total EQ and transformational leadership. Independent variables included group (treatment and comparison groups), gender (male and female), and time (pre and post tests). Since the scores of total EQ between groups at pre-test were significantly different each other, the difference was controlled using a covariate (the score of total EQ at pretest).

SPSS syntax for the General Linear Model was used for MANCOVA. In addition to the evaluation of assumptions for multivariate analysis (Chapter 3), a Box's test of equality of covariance was also performed to test the equality, and the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups was retained (Box's M = 48.14, F (30, 6258.40) = 1.453, p = .052).

Table 13
MANCOVA Tests (DVs: Total EQ and Transformational Leadership)

Effect		Pillai's Trace	F	df	Error df	Sig.	Partial Eta Squared
Between Subjects	Intercept	.191	12.281	2	104	.000	.191
	totalEQcov	.797	204.325	2	104	.000	.797
	group	.049	2.699	2	104	.072	.049
	gender	.018	0.969	2	104	.383	.018
	group*gender	.031	1.648	2	104	.197	.031
Within Subjects	time	.203	13.273	2	104	.000	.203
	time*totalEQ	.206	13.474	2	104	.000	.206
	time*group	.067	3.752	2	104	.027	.067
	time*gender	.000	0.019	2	104	.981	.000
	time*group * gender	.009	0.454	2	104	.636	.009

With the use of Pillai's Trace, suggested by Olson (1976) as the most robust test, in the within subject design, an interaction effect between time and group (F (2, 104) = 3.752, p = .027, η_p^2 = .067) appeared to be statistically significant (Table 13). Cohen (1988), characterized η^2 = .01 as small, η^2 = .06 as medium, and η^2 = .14 as large effect size. According to Steven (2002), partial eta squared and eta squared differ by very little when total sample size is about 50 or more. Since small to medium effect size is common for statistically significant results in studies of social psychology, the partial eta squared of .067 in this result can be interpreted as a powerful impact of the treatment.

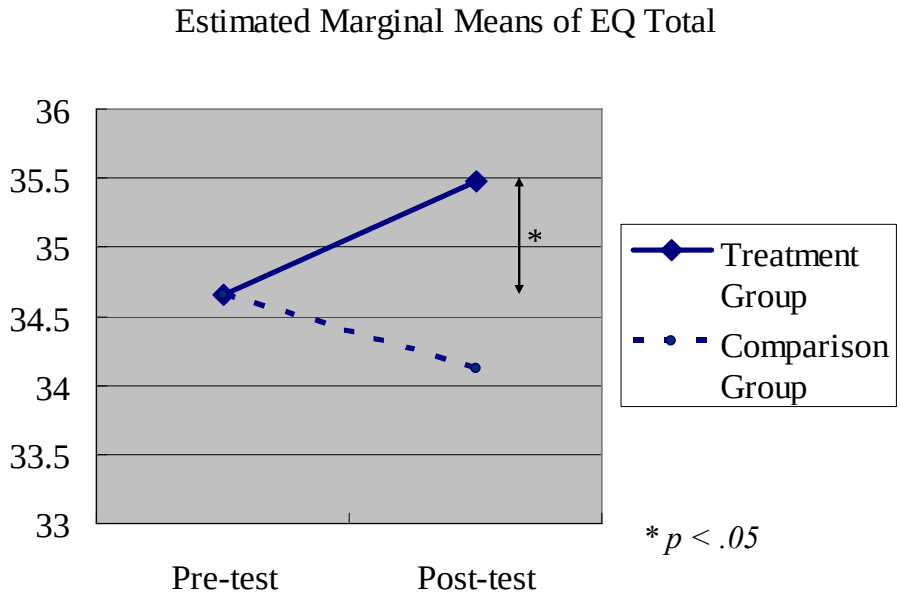


Figure 4
MANCOVA Results between the Treatment Group and the Comparison Group

Following the multivariate tests, univariate tests were performed to find significant differences in the interaction effect between time and groups. The results showed that the score of emotional intelligence in the treatment group significantly increased after the program (F (1, 105) = 5.45, p = .021, η_p^2 = .049) (Figure 4). No significant differences were found between

times in the comparison group. Differences between genders and scores of transformational leadership were not found in the both groups.

In order to determine which components of emotional intelligence significantly changed by the effect of the participation in an outdoor leadership program, another MANCOVA was performed on the five components of emotional intelligence. Since interpersonal skills of emotional intelligence was found as the factor that made the group differences significant at the pretest (Interpersonal: t = -4.68, p < .000, others: -.33 < t < -1.99, .05 < p < .77), the score of interpersonal skill at the pretest was used as a covariate to control the initial differences.

Table 14
MANCOVA Tests (DVs: Five Components of Emotional Intelligence)

Effect		Pillai's Trace	F	df	Error df	Sig.	Partial Eta Squared
Between Subjects	Intercept	.362	11.694	5	103	.000	.362
	EQinter cov	.744	59.729	5	103	.000	.744
	group	.064	1.409	5	103	.227	.064
Within Subjects	time	.113	2.614	5	103	.029	.113
	time *EQinter cov	.122	2.857	5	103	.019	.122
	time * group	.139	3.313	5	103	.008	.139

Again, SPSS syntax for the General Linear Model was used for MANCOVA. A Box's test of equality of covariance was performed to test the equality, and the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups was retained (Box's M = 52.644, F (55, 19246.207) = .849, p = .780). With the use of Pillai's Trace, in the within subject design, an interaction effect between time and group (F (5, 103) = 3.313, p = .008, η_p^2 = .139) was found to be statistically significant (Table 14).

Univariate tests were performed to find significant differences in the interaction effect between time and groups. The results are shown in the Table 15. Although stress management

was the only component of EQ found to be statistically significant by the ANOVA ($p < .05$), the pairwise comparisons as follow-up analysis revealed that scores on Intrapersonal ($p = .036$), stress management ($p = .005$), and adaptability ($p = .038$) of treatment group increased significantly after the program. Therefore, the three components of emotional intelligence: intrapersonal; stress management; and adaptability, were inferred as components positively affected by the outdoor leadership program, and the three components were chosen for further analyses in the relationship with levels of outdoor experience in the treatment group.

Table 15
Univariate Analysis (Interaction Effect from MANCOVA)

Effect		F	df	Error df	Sig.	Partial Eta Squared
time*group	Intrapersonal	3.785	1	107	.054	.034
	Interpersonal	1.019	1	64	.209	.015
	Stress Management	0.806	1	64	.000	.115
	Adaptability	2.491	1	64	.532	.004
	Positiveness	1.118	1	64	.506	.004

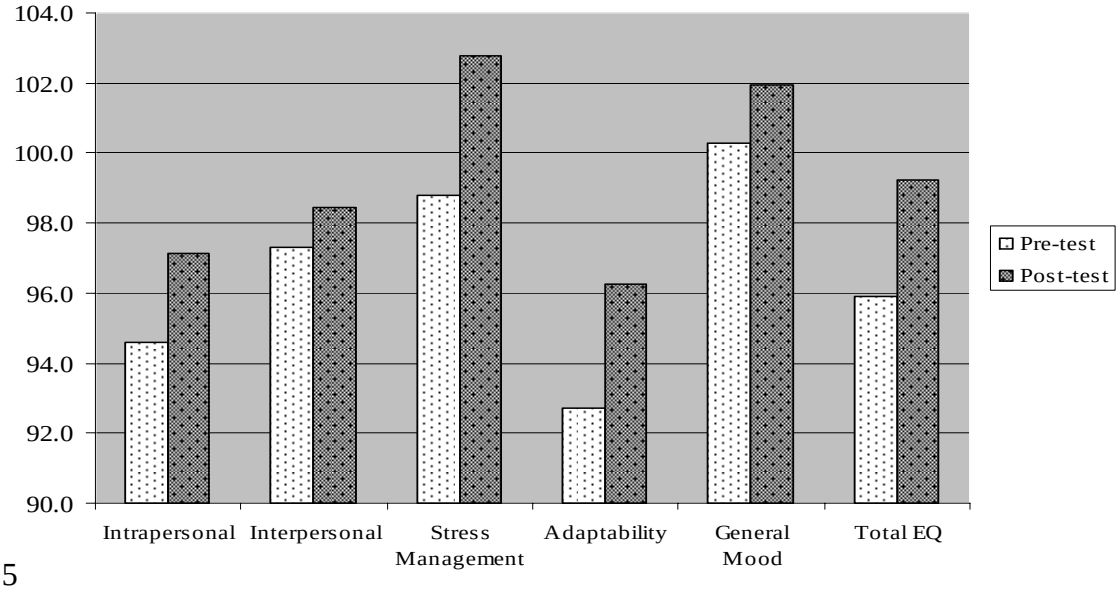


Figure 5
Mean Scores of Components of Emotional Intelligence and Total EQ (Standardized)

Treatment group. The standardized mean scores of components of emotional intelligence and the total EQ in the treatment group are presented in the figure 5. For the purpose of examining the relationship of outdoor experience with development of emotional intelligence, a MANOVA was performed using level of outdoor experience as the independent variable in the treatment group. The three components, intrapersonal, stress management and adaptability, were analyzed as dependent variables based on the results of group comparison. The SPSS syntax across outdoor experience level (more experienced and less experienced), and time (pre- and post-tests) was used (Table 16). A Box's test of equality of covariance was performed to test the equality, and the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups was retained (Box's M = 35.866, F (21, 6452.699) = 1.508, p = .064).

With the use of Pillai's Trace, in the within subject design, time as a main effect (F (3, 68) = 4.355, p = .007, η_p^2 = .161) and an interaction effect between time and outdoor experience level (F (3, 68) = 3.443, p = .021, η_p^2 = .132) was found to be statistically significant.

Table 16
MANOVA Tests (DVs: Three Components of Emotional Intelligence)

Effect		Pillai's Trace	*F*	*df*	Error *df*	*Sig.*	Partial Eta Squared
Between Subjects	intercept	.992	2644.6	3	68	.000	.992
	Outdoor Experience	.058	1.395	3	68	.252	.058
Within Subjects	time	.161	4.355	3	68	.007	.161
	time * O. Experience	.132	3.443	3	68	.021	.132

Univariate tests were performed to find significant differences in the three components of emotional intelligence. The results revealed that intrapersonal skills of emotional intelligence (F (1, 70) = 8.382, p = .005, η_p^2 = .107) and stress management of emotional intelligence (F (1,

70) = 7.967, p = .006, η_p^2 = .102) significantly increased after the program. The effect sizes of both appeared large suggesting the strong impact of the treatment.

Table 17

Univariate Analysis (Three Components of Emotional Intelligence from MANOVA)

Effect		*F*	*df*	Error *df*	*Sig.*	Partial Eta Squared
time	Intrapersonal	8.382	1	70	.005	.107
	Stress Management	7.967	1	70	.006	.102
	Adaptability	2.226	1	70	.140	.031
time*O.Experience	Intrapersonal	2.166	1	70	.146	.030
	Stress Management	.758	1	70	.387	.011
	Adaptability	4.22	1	70	.044	.057

In terms of the interaction effect between time and outdoor experience levels, the experience difference was found between times in adaptability (F (1,70) = 4.220, p = .044, η_p^2 = .057). Pairwise comparisons to examine the interaction effect revealed that students who had a lower level of outdoor experience significantly increased their adaptability through an outdoor leadership program (p = .002) (Figure 6).

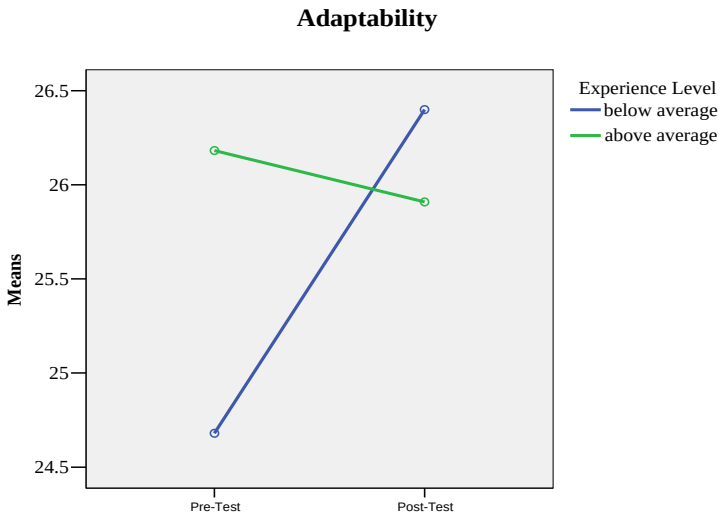


Figure 6

Mean Scores of Adaptability of Emotional Intelligence

While adaptability of emotional intelligence was the only statistically significant variable found using ANOVA regarding the interaction effect between time and outdoor experience, pairwise comparisons as post hoc tests of ANOVA revealed increases in intrapersonal aspects and stress management skills were greatly affected by levels of outdoor experience. Thus, students who had a higher level of outdoor experience significantly increased their intrapersonal aspects of emotional intelligence (p = .01) (Figure 7), and students who had a lower level of outdoor experience significantly increased their stress management skills (p = .001) (Figure 8).

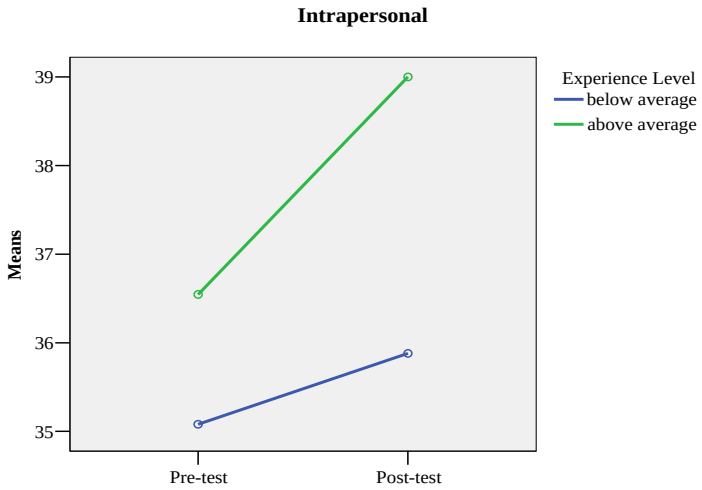


Figure 7
Mean Scores of Intrapersonal Aspects of Emotional Intelligence

Figure 8
Mean Scores of Stress Management of Emotional Intelligence

Strictly following the rules of statistics, those differences are not appropriate to interpret, because the significance ($p < .05$) was not shown in the initial ANOVA results. However since both intrapersonal and stress management were the components found to change significantly over the program, it can be inferred that the level of experience greatly affected the increases of two of components of emotional intelligence.

Instructor observation. In addition to the results from self-report measurements, ANOVAs were performed to determine any significant differences in emotional intelligence and transformational leadership between students who received the Outdoor Leadership Certification and students who did not receive the certification (Table 18 & Table 19). The results revealed that students who received the Outdoor Leadership Certification had significantly higher level of emotional intelligence and transformational leadership at the post-test, although transformational leadership did not significantly increase through their program participation.

Table 18

Comparisons of Means between Certified and Non-certified Students (Pre-test)

	Mean Certified (N = 57)	Mean Non-certified (N = 13)	*F*	*Sig.*	*Partial Eta Squared*
Total EQ (Pre-test)	34.44	33.15	1.86	.18	.027
Transformational Leadership (Pre-test)	14.60	14.27	.207	.65	.003

Table 19

Comparisons of Means between Certified and Non-certified Students (Post-test)

	Mean Certified (N = 57)	Mean Non-certified (N = 13)	*F*	*Sig.*	*Partial Eta Squared*
Total EQ (Post-test)	35.46	33.62	4.33	.04	.06
Transformational Leadership (Post-test)	14.48	13.1	4.75	.03	.07

Since decisions for the Outdoor Leadership Certifications were made based on the 18-points curriculum including technical skills and leadership skills, four of the 18 points, leadership, decision-making, expedition behavior, and communication skills, which seem to be relevant to emotional intelligence and leadership were specifically analyzed using correlations to understand the relationship among them (Table 20 & Table 21). Similarly to the results of the certification, the scores of four points in the WEA final evaluation were significantly positively correlated with the scores of total EQ and transformational leadership at the post-test. At the pretest, only emotional intelligence was significantly correlated with the WEA final evaluation.

Table 20
Correlations of WEA Final Evaluation with Total EQ and TFL (pre-test)

	WEA Evals.	Total EQ	TFL
WEA Final Evals.	---		
Total EQ (Pre-test)	.320**	---	
Transformational Leadership (Pre-test)	.124	.690**	---

* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

Table 21
Correlations of WEA Final Evaluation with Total EQ and TFL (post-test)

	WEA Evals.	Total EQ	TFL
WEA Final Evals.	---		
Total EQ (Post-test)	.294**	---	
Transformational Leadership (Post-test)	.270*	.510**	---

* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

Research Question 4: What Kinds of Experiences are Perceived by Participants to be Associated with their Development of Emotional Intelligence and Leadership?

Scores from the Importance Scale regarding the five components of emotional intelligence were summarized using mean scores. The left tables in following components were the results from the importance scales listed in the order of types of experiences with higher mean scores. The answers for open-ended questions were coded into kinds of experiences that students perceived helped their development regarding components of emotional intelligence. The right tables in each component were the coded experiences with frequency repeated by students. The results revealed certain characteristics of experiences that helped students' development of leadership regarding five components of emotional intelligence with much overlap existing among them. The data from interviews appeared to support the results obtained from the Importance Scale and the open-ended questions as well as provide information to understand how those experiences helped students' learning.

Intrapersonal aspects of emotional intelligence. The intrapersonal aspects of emotional intelligence is the ability of accurate self-awareness, being able to be in touch with own emotions, expressing own feelings, and communicating own needs to others (Bar-On, 2002). The score from the Importance scale was second highest in the five components. The characteristics of experience relating to the development of the intrapersonal aspects seemed to include two major components: exposure to new situations/experiences (leadership experience, challenging experiences, novel environments, etc.) and processing of the experiences.

Table 22

Experiences Regarding Intrapersonal Aspects of Emotional Intelligence

Self-awareness <EQ-intrapersonal>	Mean
Practicing leading	4.38
Making mistakes	4.24
Making decisions	4.13
Feedback from instructors	4.11
Succeeding goals	4.10
Being responsible for roles	4.08
Feedback from peers	3.90
Practicing outdoor activities	3.83
Watching instructors	3.69
Support from instructors	3.65
Help from instructors	3.52
Support from peers	3.36
Watching peers	3.36
Help from peers	3.25
Total	**3.83**

Self-awareness <EQ-intrapersonal>	Frequency
Debrief and Feedback from a group	37
Group Dynamics	13
Leadership Experience	13
Reflection/Introspection	10
Entire Expedition Experience	8
Challenging Experience	7
Evaluation and Assessment	5
Communication	5
Decision-making	3
Being outdoors	3
Learning academic components	2
Achieving goals	2

"Knowing what you know and what you don't know" (Petzoldt, 1984) is one concept that WEA programs emphasize for leadership development. Students had various opportunities for direct experimentation through direct experiences during an expedition. Especially, leadership experience as leader-of-a day (LOD) and teaching experiences provided various learning opportunities for making mistakes, making decisions and challenging themselves. Many comments regarding LOD experiences were found, for example, "LOD experience made me realize my strengths and weaknesses" (Participant 70). Various outdoor activities and novel environments (physically, socially and mentally) were also perceived as important experiences, for example, "new experiences helped me realize how I perceive myself in various situations" (Participant 15), and "the expedition definitely put me in a situation that I was scared. For example, rock climbing and self-arrest on the snow were situations that I became more

self-aware and thought how to deal with myself" (Participant 17).

In addition to exposing themselves to new experiences and experimenting in the situations, programs provided students opportunities to process their experiences through reflection in the form of debriefing and group feedback, journaling, solo and evaluation/assessments from peers and instructors. The purpose of debriefing was to reflect on experiences, provide or receive critical feedback, understand group dynamics, and process experiences. During the programs, students had opportunities to debrief each other concerning their experiences nearly every day. Many comments reflected on how the debriefing experience contributed to self-awareness. For example, "In the way the program was designed, you can't avoid becoming self-aware, because we had to debrief everything. Even though you weren't aware of it, you did wrong or you could have done better, someone would tell you" (Participant 17), "A lot of humanity came out during debriefs" (Participant 3), and "Being told what I need to work on consistently has helped me understand myself in ways I didn't know. I have a new outlook on myself and am working to fix my flaws" (Participant 60).

Feedback from instructors, evaluations and assessments were also opportunities for students to process their experiences. One of students shared her episode,

> When I was leader-of-a day (LOD), I got gut reaction what to do as a leader, but did not follow that. Then my instructor told me later, 'I knew that you knew what you needed to do then, you just needed to go for it.' My gut was telling me to act, which was right. I just needed to listen to myself. The feedback from the instructor was critical to me (Participant 61).

Group dynamics contributed to effective debriefs and feedback in their groups. Many students mentioned a "strong sense of openness among the group" (Participant 17), "niche in our

community" (Participant 35), and "knowing all feedback was for our growth" (Participant 35) helped "open myself" (Participant 32) and "push myself to take feedback in order to change my actions" (Participant 75).

Debriefing is a form of processing of the experiences, as is the solo experience. Many programs included a solo experience as the opportunity for introspection. Since expedition is a very intense learning environment, opportunities for reflection to process experiences are often emphasized (Ballard, Shellman, & Hayashi, in press; Sharpe, 2000). One of the students explained,

> I really learned about myself by having conversations with people around, because they helped me think through steps, I processed things by talking, but can't do just like that all the time. I've got to have my time. I had so much of the interactions with people in debrief, I love that, but I have to unpack it for myself. I learned that from having intense debrief time and having intense alone time. Then, I was able to really focus things, which was neat to have the separations (Participant 9).

Interpersonal aspects of emotional intelligence. Individuals who possess interpersonal aspects of emotional intelligence are able to establish cooperative, constructive, and satisfying interpersonal relationships. They are good listeners and are able to understand and appreciate the feelings of others (Bar-On, 2002). Although quantitative data did not statistically support the development of the interpersonal aspects of emotional intelligence, students perceived they developed their social skills through the programs. Types of experiences rated for importance are similar to the intrapersonal aspects; however, responses to the open-ended questions and interview data indicated intense social contents in the similar types of experiences. The characteristics of experiences regarding interpersonal aspects can be explained by the intense

social living/learning environment.

Table 23
Experiences Regarding Interpersonal Aspects of Emotional Intelligence

Social Skills <EQ-interpersonal>	Mean
Practicing leading	4.07
Support from peers	3.78
Making decisions	3.63
Feedback from peers	3.59
Being responsible for roles	3.52
Watching peers	3.43
Feedback from instructors	3.40
Help from peers	3.39
Support from instructors	3.33
Practicing outdoor activities	3.32
Succeeding goals	3.32
Watching instructors	3.31
Making mistakes	3.31
Help from instructors	3.29
Total	**3.48**

Social Skills <EQ-interpersonal>	Frequency
Group Dynamics	47
Debrief and Feedback	15
Outdoor Activities	5
Entire Expedition Experience	4
Challenging Experience	4
Leadership Experience	4
Evaluations and Assessment	2

Not surprisingly, group dynamics, group interaction, debriefing and feedback, and the entire expedition experiences were mentioned as important experiences for development of social skills. The 24 hour-a-day, seven-day-a-week living experience with group members in the wilderness for three to four weeks brought students various opportunities to learn about interpersonal relationships. Some comments describing the environment included: “We all had to depend on one another to survive” (Participant 19), and “I was forced to interact with people for the entire time, then I practiced, improved and fine-tuned my cooperative and constructive relationships with others” (Participant 53). In the social environment, they “understood people’s needs, then really started to care about their learning that became the common ground” (Participant 16). “What we valued was achieving our common goals. It’s like fighting the same

battle" (Participant 21). The social environment they developed for their learning was "being open with others" (Participant 17), "group expectations of honesty" (Participant 25), and "matured group" (Participant 3).

Debriefs in the socially tight group provided opportunities to learn "by looking at things from other points of view" (Participant 33), "different types of leadership" (Participant 9) and "effective conflict management" (Participant 43). Especially, experiencing different forms of groups including the entire expedition group, tent groups, cook groups, single-gender groups, interest groups, and solo, and seeing how differently those forms functioned seemed to be valuable learning opportunities for them.

In addition to just spending long periods of time in the social living environment, specific adventure experiences requiring students to work together at activities such as climbing, canoeing, bush whacking, and mountaineering were also often mentioned as important experiences for social skills. For example, "relying on others to save your life during snow school, you were forced to trust and be trusted when you climb up a snow field on a rope team" (Participant 56). It was not just a technical need for safety, but simple and obvious goals shared among group members under certain stress which were also shared among group members helped build group relationships. Many comments reflected similar situations, for example, "being put in stressful situations like difficulties in the mountain components made me and others come together to accomplish tasks. Without the stress, people would not have opened up to others accepting personal dislikes" (Participant 65).

Stress management of emotional intelligence. Individuals who possess this ability are generally calm and work well under pressure. They are rarely impulsive or lose control (Bar-On, 2002). The types of experiences regarding development of stress management skills can be

characterized as real experiences dealing with stress and processing of the experiences. Students felt various types of stress during the expeditions, such as stress about being always around people, feeling of uncertainty and unsafe, unfamiliar and inconvenient environments, responsible roles as a leader, and adventure activities. Students often found themselves in the stressful situations and had to deal with the situations, which were often required to control their emotions.

Table 24
Experiences Regarding Stress Management of Emotional Intelligence

Stress Management <EQ-stress>	**Mean**
Practicing leading	3.80
Support from peers	3.64
Making decisions	3.59
Support from instructors	3.55
Succeeding goals	3.54
Help from peers	3.50
Practicing outdoor activities	3.48
Making mistakes	3.45
Help from instructors	3.41
Feedback from instructors	3.32
Being responsible for roles	3.27
Watching instructors	3.17
Feedback from peers	3.04
Watching peers	2.92
Total	**3.41**

Stress Management <EQ-stress>	**Frequency**
Debrief and Feedback from a group	15
Group Dynamics	15
Challenging Experience	10
Conflict	6
Leadership Experience	6
Entire Expedition Experience	4
Reflection/Introspection	4
Theoretical Understanding	2
Watching peers and instructors	2
Outdoor Activities	2
Evaluations and Assessment	2

The solutions for stressful situations varied depending on students and situations, for example having their own time to calm down and think, talking with peers or instructors, seeking help, taking a breath and stopping before exploding with emotion, keeping their sense of humor, and setting up a leader mentality. Especially, they found that debriefs and feedback were important for their development of stress management skills because they offered opportunities

to understand or analyze issues causing their stress or emotional problems. Some examples of comments include “being able to debrief and talk over the occurrence of the day, and giving and receiving input from the whole group” (Participant 56), and “having instructors and peers point out ‘flaws’ in personality or emotional outbursts gave me a better understanding of when and where to pay attention to my emotions” (Participant 65). Since emotion is very personal, observing how others deal with emotions and seeing the consequences seemed to be educational for students. “It was so interesting to see how everyone dealt with things differently. Also, some things were so stressful for certain people, but not for others” (Participant 65). “Learning that each emotion will not only be left by the individuals, but also by the group as a whole. Each emotion has positive or negative consequences on the group” (Participant 77).

Adaptability of emotional intelligence. Individuals who possess this ability are flexible, realistic, and successful in managing change. They are adept at finding effective ways of dealing with everyday problems (Bar-On, 2002). The mean scores from the importance scale for adaptability was the highest in five components of emotional intelligence. Similar to stress management, the types of experiences regarding development of adaptability skills can be characterized as real experiences of problem-solving and the nature of the wilderness expedition.

The leadership role provided students opportunities to assess current situations, be flexible and explore for solutions. Various comments regarding leadership role were found, “Being able to put the new ideas into play helps me solidify my new thoughts about managing situations” (Participant 38), “[The LOD experience made me] remove my perspective from situation” (Participant 41), and “some accomplishments weren’t achieved and I had to adapt a dynamic leadership style. I learned that my way isn’t always the best way” (Participant 33).

I developed a greater awareness of social/emotional circumstances within the group.

> Scheduling for a group allowed me to practice flexibility within a productive structure that developed travel and lessons. I saw same thing in other situation, flexibility is greatly needed and that of a leader it's important to be able to recognize when it is appropriate to be flexible and when it is not (Participant 73).

Table 25

Experiences Regarding Adaptability of Emotional Intelligence

Problem-solving <EQ-adaptability>	**Mean**
Making decisions	4.37
Practicing leading	4.35
Practicing outdoor activities	4.11
Making mistakes	4.03
Feedback from instructors	3.94
Support from instructors	3.94
Help from instructors	3.91
Watching instructors	3.73
Succeeding goals	3.69
Support from peers	3.66
Being responsible for roles	3.66
Help from peers	3.63
Feedback from peers	3.52
Watching peers	3.44
Total	**3.86**

Problem-solving <EQ-adaptability>	**Frequency**
Leadership Experience	21
Debrief and Feedback	12
Challenging Experience	12
Group Dynamics and Interaction	11
Decision-Making Experience	7
Entire Expedition Experience	7
Problem-solving Experience	6
Reflection/Introspection	5
Environments	5
Communication	4
Instructors	3
Curriculum	2
Learning technical skills	2

Through experimentation of problem-solving and observing others, students found various tips for success, for example, communication, watching selves, learning from others' experiences, adaptation of learning theories, relying on self, not getting panic, and asking for help.

The nature of the wilderness environment and the expedition format included abundant opportunities to do with adaptability. Students experienced a need to be flexible and be able to solve problems under various situations. "There are always a lot of decision-making within the group. That helped me learn how to solve problems and be flexible depending on the situations.

My ability to understand current situations goes with experiences and the understanding of personalities and possible conflicts" (Participant 27). Specifically, "the wilderness is a dynamic environment, flexibility is the key" (Participant 16), and "the wilderness can throw a number of things your way, being flexible and opening to change is what made our trip successful" (Participant 25).

General mood of emotional intelligence. Individuals who possess this ability are generally optimistic, energetic, and self-motivated. They also have a positive outlook and are typically pleasant to be with (Bar-On, 2002). While similar to interpersonal skills, the quantitative data did not statistically support the development of general mood, students perceived their development through their experiences. The characteristics of experience for becoming more positive can be categorized into achievement experience, reflection, and positive experiences in general.

Table 26

Experiences Regarding Positiveness of Emotional Intelligence

Positiveness <EQ-general mood>	**Mean**
Succeeding goals	4.02
Support from peers	3.94
Practicing outdoor activities	3.86
Practicing leading	3.79
Making decisions	3.68
Support from instructors	3.66
Help from instructors	3.66
Help from peers	3.59
Feedback from peers	3.56
Making mistakes	3.55
Feedback from instructors	3.47
Being responsible for roles	3.44
Watching instructors	3.35
Watching peers	3.25
Total	**3.63**

Positiveness <EQ-general mood>	**Frequency**
Achievement Experiences	18
Entire Expedition Experience	16
Group Dynamics and Interaction	10
Reflection/Introspection	9
Evaluation and Assessments	6
Leadership Experiences	5
Debrief and Feedback	5
Role model/Instructors	4
Outdoor Environments	2

Many students commented about their successful achievement experiences, for example summit experiences, completing leadership roles, and completing the expedition. Especially, achievement with high expectation on selves seemed to make their experiences more significant.

> There were definitely times that I had horrible attitudes in my mind and I was so frustrated about that. But the high expectation I set for myself helped me to stop with that. Having my attitudes be a choice, that's something come that I feel, but it is a choice how I am going to think about something, so that was really helpful to be positive (Participant 9).

The sense of achievement based on their efforts made them more self-motivated and enthusiastic. The mountain provided a metaphor for many students, "the moment on the top of the mountain, looking over what all I had just done, up the mountain, across the desert and into the canyon was amazing" (Participant 3). For most students, completing their expedition was a big achievement, and many comments reflected that. For example, "Completing the expedition made me felt more optimistic and positive about my goal achievement" (Participant 15). "Not big on goal setting, just like to live life and enjoy. What happens can be changed by me, but I enjoy my current motivation/outlook on things, and the way I live" (Participant 16). And,

> This whole trip made me realized how lucky I am. It made me realize what is truly important in life and I put my life into perspective. I am happier now and realize what I need to do make myself happy in life (Participant 32).

Reflection through debriefs and feedback or self-inspection appeared to be important for this learning as well. Continuous support and encouragement from peers and instructors helped them "stay focused on goal achievement and be positive" (Participant 27). It

also helped “switch perspective to do something for the good of the group” (Participant 56). “Watching own improvement and others’ success were encouraging” (Participant 25). Looking back on experiences, one of students explained his learning:

> I learned the way to look at situations to be handled. If you see problems as a problem, it’s not gonna get fixed, at least in the right way or best way to be solved. It’s like just an obstacle, see it more optimistic, worth dealing with it, don’t look at the negative side, which is tough to do. If you don’t deal with it, it comes back, like a storm comes after storms (Participant 3).

Not surprisingly, fun and positive experience in general during expeditions were also helpful for them to become more positive and self-motivated. They enjoyed “friendship” (Participant 78), “just being outdoors” (Participant 34) and “just being excited about doing what I am doing” (Participant 48).

Overall emotional intelligence and leadership. Table 24 showed the total scores of each experience across five components. Students indicated that they received the most help in their development of overall emotional intelligence by (a) practicing leading, (b) making decisions, (c) succeeding goals, and (e) practicing outdoor activities. These results seem to imply the importance of individual direct experiences followed by support from peers and instructors. Even the experience which scored lowest, ‘watching peers’, was rated an average 3.28 (3 = somewhat important, 4 = very important, 5 = essential). Students perceived many of the experiences were very important to develop their emotional intelligence and leadership. Likewise, the answers from the open-ended questions also included many common experiences across the five components of emotional intelligence, for example, leadership experience, debrief and feedback, group dynamics, reflection, challenging experiences, entire expedition experience, achievement,

and evaluation and assessment.

Table 27
Experiences Regarding Overall Emotional Intelligence

Total	**Mean**
Practicing leading	4.08
Making decisions	3.88
Succeeding goals	3.73
Practicing outdoor activities	3.72
Making mistakes	3.71
Support from peers	3.68
Feedback from instructors	3.65
Support from instructors	3.63
Being responsible for roles	3.59
Help from instructors	3.56
Feedback from peers	3.52
Help from peers	3.47
Watching instructors	3.44
Watching peers	3.28
Total	**3.64**

Additionally, the interview data also supported the importance of leadership role, debrief and feedback, challenging and interactions with peers and instructors for the development of emotional intelligence. The five components were introduced as components of leadership, and the term and/or concept of emotional intelligence was not directly explained during the interviews. While interview contents were analyzed following the components of emotional intelligence, not surprisingly, contents implying leadership in general were often found. Many of the participants reflected on their experiences and concluded that leadership experience as a LOD was one of the most important experiences they had during the program that contributed to their development of leadership. Specifically, negative LOD experiences that they reflected on as unsuccessful experiences seemed to be valuable learning experiences for

them, for example conflict with other group members, bad decisions they made as a LOD and the consequences due to the decisions, and efforts they made as a LOD and the consequences along with the efforts.

Another important experience revealed from the interview and open-ended questions is the entire expedition experience. Many of them valued the entire experience including various situations and learning opportunities as a sequential and progressive learning process. One of the students commented, “The whole program was a kind of process, not just one experience, how the program was designed. It was the combination of all” (Participant 17). A similar finding was discussed in a recent study by Ballard, Shellman and Hayashi (in press). It seems that students experienced many learning opportunities to develop their skills relating to emotional intelligence and leadership, and also obtained opportunities to practice their new skills in various situations. The entire experience including opportunities to learn skills and practice their skills seemed to be one of most important contributors to their leadership development.

Furthermore, the interview data revealed that the students changed or expanded their understanding of leadership, and developed their own meanings or definitions of leadership as the result of participation in an outdoor leadership program. The following comments are examples explaining how they expanded their concept of leadership:

> I realized there is so much more to do for leadership. There are a lot more specifics and tendencies that leadership lean towards. I am still working for that. Leadership became much more complicated to me, because I did not know much (Participant 18);

and,

> I feel my sense of leadership just opened me up to see all different types of models and styles of leadership, then found that they all work well in certain situations, just being

adaptable for the needs and others and acting accordingly (Participant 61).

Then, many of them developed their own definitions of leadership, for example, “Leadership became a more concrete definition, more aware of what leadership is, as well as the awareness how I fit into that” (Participant 17);

> It is about more of bettering people around you. Not getting people to do things, or getting people put in certain spots or certain time. Vicariously through you, you lift up people. Doesn’t have to be the general path to be a leader (Participant 3);

and,

> Leadership is having the ability to have different leadership styles, being directive to the others to step up if needed, facilitating the group to let them go, being able to do all kinds of approaches and knowing when to use a different approach, not only can you do it, but also when? Flexibility and understanding of situations (Participant 17).

Through their leadership development, they found what they could carry over to their daily lives. Connections with the components of emotional intelligence were found.

> I learned to deal with what comes to you, what life throws you in, there is nothing you can do to make it happen, you just have to deal with things with a clear head in the positive way. If you really like to fix the problem, you have to stick with that, that is one thing you got do. You just deal with that, confronting the problem whatever it is (Participant 3).

The connection with stress management, adaptability and positiveness can be seen in this comment. Another student also emphasized the importance of adaptability, “Flexibility is huge one, I can use it everywhere. Especially, thinking before doing something, because I saw lots of consequences during the expedition. People may take differently than you think, or things may

be different than you think" (Participant 18). Additionally, self-awareness is also explained, "Leadership skills definitely will be carried over any situations, being self-motivated will probably, too. Also, something definitely makes you be more aware of things, how you lead, how other people handle things" (Participant 17).

Seven students who participated in the interviews were asked which component they thought improved most through their participation in an outdoor leadership program and the answers were also consistent with the findings obtained from qualitative analyses, stress management, adaptability (rephrased as problem solving and flexibility), and intrapersonal (self-awareness). Interestingly, while they perceived they developed interpersonal aspects and positiveness, they did not perceive them as the one they developed most.

5. DISCUSSION AND IMPLICATIONS

The purpose of this study was to identify the impact of an outdoor leadership program on the development of emotional intelligence and transformational leadership. Furthermore, an effort was made to understand the relationships among emotional intelligence, leadership, and outdoor experience as well as kinds of experiences during the programs that contributed to the development of emotional intelligence and leadership. This chapter provides (a) a summary of the study, (b) summary of findings and discussions, (c) discussion of limitations, (d) implications and recommendations, and (e) conclusion.

Summary of the Study

This study was designed to examine the effects of an outdoor leadership program on the development of emotional intelligence and leadership. Specifically, the following questions were posed:

1. What is the relationship between emotional intelligence and transformational leadership in individuals who participated in an outdoor leadership program?

2. What relationships can be found between emotional intelligence and level of past outdoor experience and between transformation leadership and level of past outdoor experience?

3. Are there significant changes in emotional intelligence and transformational leadership of individuals associated with participation in an outdoor leadership program?

4. What kinds of experiences are perceived by participants to be associated with their development of emotional intelligence and leadership?

During the spring, summer and fall 2005, data were collected from nine outdoor leadership programs and three classroom-based college courses for this study. The outdoor leadership programs (21-35 days) were the National Standard Programs sanctioned by

Wilderness Education Association which were designed to train future outdoor leaders using the organization's certification process. After screening out invalid and inconsistent subjects, 72 complete sets of questionnaires for the treatment group and 38 complete sets of questionnaires for the comparison group were retained and analyzed for this study. The sample in the treatment group included 41 males and 31 females with a mean age of 21.2 years of age. The sample in the comparison group included 11 males and 27 females with a mean age of 21.0 years of age.

The research instruments used for both groups at pre-test and post-test included (a) the Bar-On Emotional Quotient Inventory: Short (EQi:S) (Bar-On, 2002), (b) the Multifactor Leadership Questionnaire (MLQ 5X short) (Bass & Avolio, 1997), and the New Social Desirability Scale (NSDS) (Strahan & Gerbasi, 1972). Additionally, the Outdoor Leader Experience Use History (OLEUH) (Galloway, 2003) for the pre-test and the Emotional Intelligence Experience Questionnaire for the post-test were administered to the treatment group. The WEA Final Assessment Summary forms completed by the course instructors as part of the student evaluation were collected to provide additional information about the leadership of students in the treatment group. In order to understand the kinds of experiences and how the experiences in an outdoor leadership program contributed to the development of emotional intelligence and leadership, semi-structured interviews were also conducted with seven students from the two programs.

Quantitative data from measurements were analyzed using SPSS. A series of analyses including correlations, multivariate analyses of covariance, multivariate analyses of variance, and analyses of variance, were performed in order to answer the research questions. The qualitative data were analyzed and interpreted to provide a deeper level of understanding of the results obtained from quantitative data analyses as well as to support the findings from

quantitative analyses.

Summary of Findings and Discussions

Research Question 1: What is the Relationship between Emotional Intelligence and Transformational Leadership in Individuals Who Participated in an Outdoor Leadership Program?

The results of correlations between the total EQ and the four types of leadership revealed a significant positive relationship of emotional intelligence with transformational leadership and outcome factors, and a significant negative relationship of emotional intelligence with non-transactional leadership. Although a significant positive relationship of emotional intelligence with transformational leadership in employees at organizations and institutes has been reported (e.g., Mandell & Pherwani, 2003; Sivanathan & Fekken, 2002), a negative relationship with non-transactional leadership has not been reported except in a previous study conducted on outdoor leaders (Hayashi & Ewert, 2006). This suggests that more involved forms of outdoor leadership are more positively associated with a higher level of emotional intelligence.

According to the theory of transformational leadership (Bass & Avolio, 1997), transformational leadership augments the effect of transactional leadership in predicting the effect on followers' satisfaction and other outcomes. While a significantly positive relationship between transformational leadership and transactional leadership was found, a relationship between emotional intelligence and transactional leadership was not statistically significant. This is also consistent with the results of the previous study by Hayashi and Ewert (2006). This finding may imply that in order to effectively deal with task-oriented situations as a leader, a different approach, for example, the situational leadership approach, might be needed. Emotional

intelligence alone might not be enough to be effective in task-oriented situations of outdoor leadership settings.

The results of the intercorrelations among components of emotional intelligence and transformational leadership showed that the importance of interpersonal aspects and positiveness of emotional intelligence on effective transformational leadership. The moderate to high positive correlations between them were consistent at the pre-test and the post-test which is also consistent with the previous findings (Hayashi & Ewert, 2006). This result may imply the importance of developing interpersonal aspects and positiveness of emotional intelligence for becoming an effective transformational leader.

Research Question 2: What Relationships can be Found Between Level of Outdoor Experience and Emotional Intelligence and Between Level of Outdoor Experience and Transformation Leadership?

While some changes in the strengths of the correlations between the pre-test and the post-test were found, the findings indicated that outdoor experience positively correlated to both emotional intelligence and transformational leadership. This is also consistent with the results of a previous study (Hayashi & Ewert, 2006), suggesting the possible contribution of outdoor programs to the development of emotional intelligence and transformational leadership. Specifically, the nonsignificant correlations of outdoor experience with emotional intelligence at the pretest turned into significantly positive correlations with the Total EQ and the intrapersonal aspects of emotional intelligence at the post test. This result may imply that participation in an outdoor leadership program might help developing emotional intelligence, especially an intrapersonal aspects.

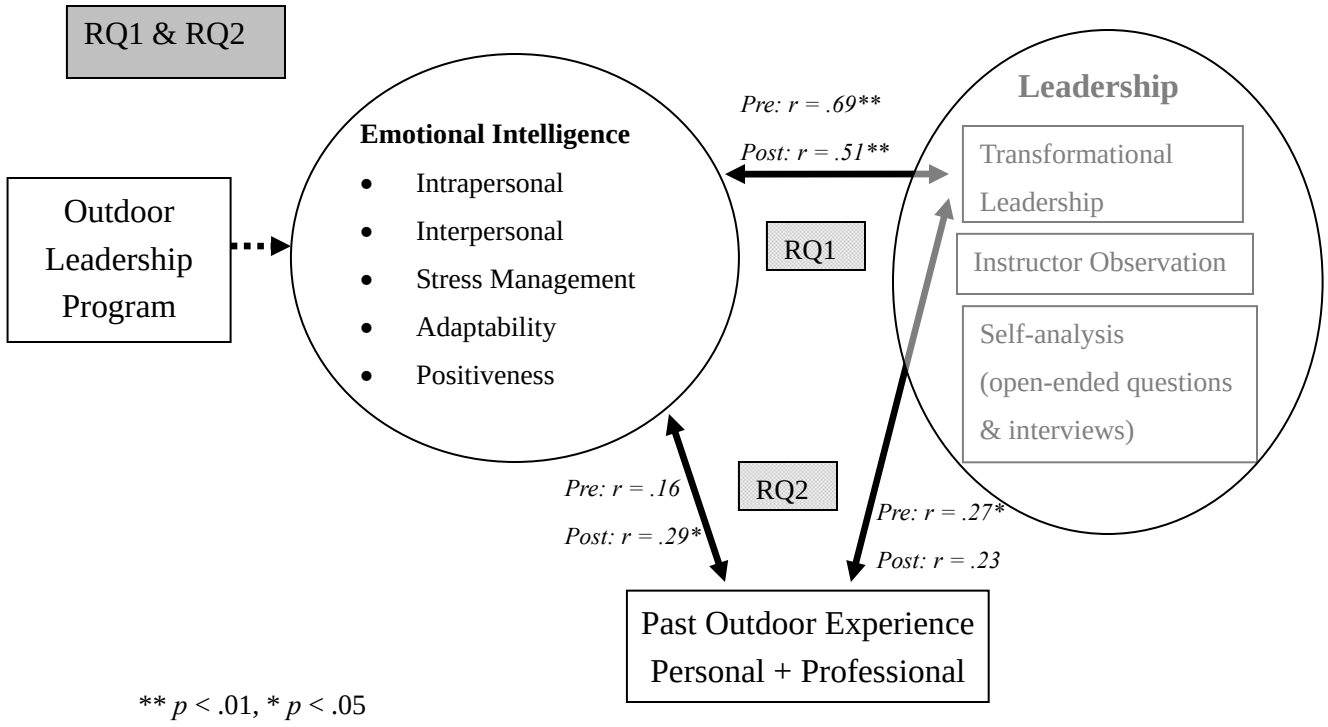


Figure 9
Result Summaries of RQ1 & RQ2

Research Question 3: Are There Significant Changes in Emotional Intelligence and Transformational Leadership of Individuals Associated with Participation in an Outdoor Leadership Program?

A multivariate analysis of covariance was performed to examine the effect of participation in an outdoor leadership program on total EQ and transformational leadership across the treatment group and the comparison group. Results revealed a significant positive change in the total EQ of the treatment group after the program, but no significant change in transformational leadership was found in either group. Regarding the five components of emotional intelligence, stress management was found to be positively affected by program participation.

Changes in three components of emotional intelligence—intrapersonal, stress management and adaptability—were examined using a multivariate analysis of variance across levels of outdoor experience in the treatment group. Positive changes in the intrapersonal and stress management components of emotional intelligence were found after the program. While stress management was the only component shown to be statistically significant by the interaction effect between levels of outdoor experience and participation in an outdoor leadership program, it was found that changes in intrapersonal and stress management were also greatly affected by the level of outdoor experience. Thus, students who had a lower level of outdoor experience greatly developed their stress management and adaptability, and students who had a higher level of outdoor experience greatly developed the intrapersonal aspects of emotional intelligence.

This result indicated that participation in an outdoor leadership program had a positive impact on emotional intelligence, specifically on the intrapersonal aspects, stress management and adaptability. However, a positive effect on transformational leadership was not found. Based on results from the literature and the previous study by Hayashi and Ewert (2006), it was originally assumed that if students developed their emotional intelligence, the development of transformational leadership would follow, because of the positive relationship between them. However, the assumption was not supported in this study. While transformational leadership did not significantly increase through participation in an outdoor leadership program, the result showed that students who had a higher level of outdoor experience possessed a significantly higher level of transformational leadership than students who had a lower level of outdoor experience (F (4, 65) = 3.321, p = .015, η_p^2 = .170). Developing transformational leadership might require more experience or training than merely participating in an outdoor leadership

program.

Moreover, a closer looking at the components of emotional intelligence revealed that two of them, interpersonal aspects and positiveness, were not significantly developed. This implies that the outdoor leadership programs investigated in this study did not contribute to the development of these two components, at least not at a statistically significant level, although many students perceived that they developed both abilities during the programs. Based on the result of the first research question, interpersonal aspects and positiveness were moderately or strongly correlated with transformational leadership. Therefore the lack of significant finding for transformational leadership might be due to non-significant development of interpersonal aspects and positiveness.

Sivanathan and Fekken (2002) argued the possible conceptual overlap between emotional intelligence and transformational leadership may be due to the strong correlations between them. According to the results of this study, both seem to be separate concepts or at least the measurements used for this study measured something different. Emotional intelligence might be a facet of effective leadership, and transformational leadership might be a more practical ability relating to leadership performance. Considering the discussion of the relationship between outdoor experience and transformational leadership, in order to develop effective leadership skills, one path might be to develop emotional intelligence first, as it seems to be an important facet of leadership, and then to practice using it in various situations for effective leadership. The key components that connect both concepts together might be interpersonal aspects and positiveness; however, the argument of the possible conceptual overlap between emotional intelligence and transformational leadership still remains regarding interpersonal aspects and positiveness.

As for the relationship between emotional intelligence and outdoor experience, a kind of developmental stage of emotional intelligence can be proposed. Students who had a lower level of outdoor experience greatly developed their stress management and adaptability. Similarly, students who had a higher level of outdoor experience greatly developed their intrapersonal aspects of emotional intelligence. This result suggests that students might need to develop their abilities to deal with the stress in certain situations and adapt themselves to the environment, especially if an environment is physically, socially and mentally new to them, before developing their relationships with themselves—intrapersonal. Students in this study might not be able to develop interpersonal aspects and positiveness until they have established sound self-systems such as self-awareness and self-concept. It might come after developing the other three components of emotional intelligence. As one of the students' commented in the open-ended questions, "You can't be cooperative or constructive (referring to the interpersonal aspects) if you can't be yourself." While the results of Jacobs's studies (2004) were not statistically significant, staff who worked at a summer camp for the first time developed their stress management skill (mean change 5.0) more than returning staff members (mean change 3.7). Returning staff members developed the other four components (adaptability, intrapersonal, interpersonal and general mood in the order of larger mean difference between returning and first-year staff members) more than the first-year staff members. The results also implied the development of emotional intelligence in relation to experience levels.

A significant difference in the scores of emotional intelligence between groups was found at the pre-test. The score of the treatment group was significantly lower than that of the comparison group, especially on the interpersonal aspects of emotional intelligence. The difference was controlled for using a covariate in the analysis. It could be assumed that the

students in the treatment group were very nervous about their upcoming expedition and/or new social and physical environments, which might have affected their perception of interpersonal aspects. Moreover, the score of the comparison group greatly decreased after three to four weeks. Since no manipulation was conducted with the comparison group, it remains unknown what caused the change. However, the components that greatly decreased were stress management and interpersonal aspects of emotional intelligence. Many might have been feeling stressed or having difficulties in their interpersonal relationships at the post-test time, which was closer to finals week. Emotional intelligence is not supposed to be affected by situations or psychological states, since it is called intelligence, but the results posed a question about the stability of the instrument. Furthermore, since the score difference between groups at the pre-test became closer toward the mean at the post-test, the possible regression effect cannot be denied.

The result from the instructor observation about students' leadership added on external perspective on the relationship of outdoor leadership with emotional intelligence and transformational leadership. The scores given by the course instructors for four of the 18 points in the WEA curriculum (leadership, decision-making, expedition behavior and communication skills), were significantly correlated with the self-reported scores of emotional intelligence and transformational leadership at the post-test. This indicates that students who perceived a higher level of emotional intelligence and transformational leadership were also evaluated by instructors as students who had a higher level of these four points.

Moreover, students who were granted their Outdoor Leadership Certification demonstrated a higher level of emotional intelligence and transformational leadership at the post-test, although the decisions for certification were made relevant to the 18 point curriculum, including technical skills and knowledge, and not levels of emotional intelligence or

transformational leadership. This may imply that emotional intelligence and transformational leadership are important components of outdoor leadership. However, the researcher was not able to control the situation for the post-test, and it is assumed that some students completed the questionnaires after knowing the result of their certifications, and others completed them before knowing their certification status. Whether they knew or not, many of them should have some idea about their final evaluations, which might have affected their responses in some ways.

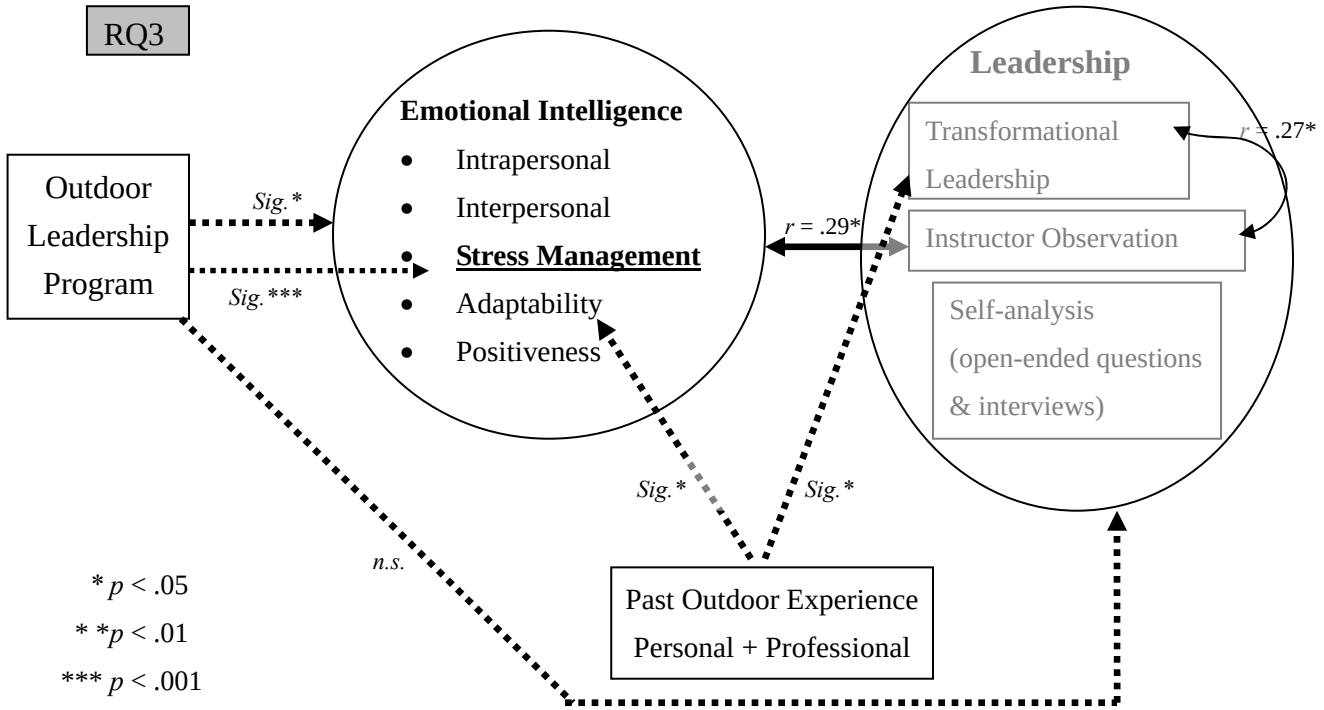


Figure 10
Result Summaries of RQ3

Research Question 4: What Kinds of Experiences are Perceived by Participants to be Associated with their Development of Emotional Intelligence and Leadership?

The Importance Scale, the open-ended questions regarding the five components of emotional intelligence, and interview data were analyzed to answer the forth research question. Certain characteristics of the experience were associated with the five components of emotional intelligence as well as leadership.

Intrapersonal aspects of emotional intelligence. The characteristics of the experience associated with the development of the intrapersonal aspects seemed to include two major components: exposure to new situations/experiences and processing of the experience. Leadership experience, challenging experiences, and novel environments were often described as opportunities to expose oneself to new situations/experiences, and those experiences were processed through debriefs and group feedback, and reflection/introspection. Improvement of self-systems such as self-confidence, self-awareness and self-efficacy is one of the well-known benefits of participation in outdoor programs (Borrie & Birzell, 2000; Ewert & McAvoy, 2000). This study supported these findings by both quantitative data and qualitative data analyses. The characteristics of the experience found to be important are consistent with a recent study by Ballard, Shellman and Hayashi (in press).

Interpersonal aspects of emotional intelligence. Although the quantitative data did not support the significant development of interpersonal aspects of emotional intelligence, students indicated various experiences that they perceived contributed to the development of their interpersonal aspects of emotional intelligence. The characteristics of the experience described as significant by participants in this study included the intense social living/learning environment. Specific kinds of experiences mentioned by students included group dynamics, debriefs and

feedback, and outdoor activities. It seems the intense social living/learning environment and program components such as debriefs and outdoor activities provided students opportunities to develop their social skills. However, many of the experiences students described related to social skills, for example, working together effectively, solving problems for living together, recognizing others' needs and adjusting them, and depending on each other for the wilderness life and personal/group goals might be more related to stress management, problem-solving, and flexibility rather than interpersonal skills. Such skills are required for better interpersonal relationships, but their development of social skill might not extend beyond that.

Stress management of emotional intelligence. The characteristics of experiences regarding the development of stress management related to real experiences dealing with stress and processing stressful experiences. Students experienced various situations that they felt stressful under and learned how to deal with the situations. Actual methods to deal with the stressful situations were often mentioned, indicating they obtained the skills to deal with the situations. Various stressful situations they needed to deal with and support from peers and instructors while dealing with the situations seemed to contribute to develop stress management skills.

Adaptability of emotional intelligence. The score from the Importance Scale for adaptability was the highest in the five components. The characteristics of experiences related to adaptability can be explained as real experience of problem-solving and the nature of the wilderness expedition. Wilderness expedition included various uncertainties and unexpected events. Students learned the importance of being flexible and solving problems depending on situations. Similar to stress management, actual tips for problem-solving and flexibility were often mentioned by students, indicating they obtained the skills to deal with them.

Positiveness of emotional intelligence. Achievement experience, reflection and positive experiences in general were identified as characteristics of experiences that contributed to students becoming more positive. When students reflected on their experiences, most of them felt good about themselves and what they had done, and they found their own meaning in the experiences. Many of them said the expedition was a life changing experience and found personal goals for their lives. These experiences seemed to be helpful for developing their positive and optimistic attitudes, which is the basic concept of general mood. However, the quantitative data did not show a significant change in positiveness. Since positiveness and optimistism are more age-related attitudes, it can be assumed that it would take time to actually develop them as abilities.

Overall emotional experience and leadership. Some common characteristics of experiences perceived as important for the development of emotional intelligence and leadership were found: leadership experience, debriefs and feedback, achievement experience, and entire expedition experience. These are consistent with the components of learning found by Ballard, Shellman and Hayashi (in press).

Reflecting upon their experiences, some students were able to articulate what they could carry over to their daily lives from their experiences. Skills they perceived as transferable to their lives related to stress management, adaptability and intrapersonal aspects of emotional intelligence, which were also the three components found to be significant in the quantitative data analyses. Thus, the qualitative results support the quantitative results. This consistency may reflect the level of learning. Skills might be finally “gained” when they turn into concrete tools or methods to carry over to one’s real life.

Students who participated in the interviews were asked which components they thought

they improved most upon through participation in the program and the answers were also consistent with the qualitative results, stress management, adaptability (rephrased as problem solving and flexibility), and intrapersonal (self-awareness). Interestingly, while they perceived that they developed interpersonal aspects and positiveness, they did not choose them as the ones they developed most.

Another interesting finding from the interview data is that as students developed components of emotional intelligence and leadership, they expanded their understanding of leadership and found their own definitions or meanings. The new understanding of leadership seemed to become their next goals. Perhaps, indicating that they became ready to practice and develop their self-defined leadership skills after developing some components of leadership. This reflects the importance of experiential learning, which is the major component of outdoor education. Experiential education is defined by the Association for Experiential Education (AEE) as "a philosophy and methodology in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills, and clarify values" (Gilbertson, Bates, WcLaughlin, & Ewert, 2006). Also, 12 principles that AEE further supports for the practice of experiential education include: "opportunities are nurtured for learners and educators to explore and examine their own values," and "the results of learning are personal and form the basis for future experience and learning" (Gilbertson et al., 2006). It is hoped that students will continue their learning using the new knowledge, skills and values developed through their experience in the outdoor leadership programs.

Limitations

Some methodological issues that limited the interpretation of findings in this study were observed through data collection and analysis. Although the research instruments used for this

study had been tested for validity and reliability, one of instruments, the social desirability scale appeared to be inconsistent and unreliable. The instrument was added to control for the possible effect of social desirability on self-reported emotional intelligence and transformational leadership discussed in the literature (e.g., Hartsfield, 2003). However, the score was not usable due to inconsistent responses based on the Cronbach's alpha for reliability testing. Although several cases were removed due to the high score of the Positive Impression Scale, a validity instrument included in the EQi:S, the remaining effect of social desirability and possibly other response bias using self-report measurement was not determined.

After the pilot test, one instrument was removed and another was replaced with the short version of the instrument in order to reduce overload on subjects. However, it still took about 15 to 20 minutes to answer all questions and test fatigue was observed from responses. The questionnaires were administered at the beginning and end of the program, which are typically very busy times during outdoor leadership programs. Although efforts were made to secure an appropriate time for data collection by the researcher and instructors, it was difficult for some programs to administer the instruments due to the program logistics. As a result, some missing data and incomplete questionnaires were found. Inconsistent responses identified during analysis were removed, however, the degree of test fatigue and inconsistent test situations were not controlled.

In order to identify the effect of participation in an outdoor leadership program, a quasi-experimental design was applied in this study. As such, the sampling was not random and there were many variables, such as weather, activities, venues, individual experiences, and group dynamics, which were not controlled. The significant lower scores of emotional intelligence in the treatment group at the pre-test might reflect nervousness before starting the expedition, and

the significant decrease of emotional intelligence score in the comparison group might reflect the stress for the upcoming final week or other personal issues. These uncontrollable variables might limit the interpretation of the data.

This study is also limited in applicability due to the characteristics of the subjects. They were all college students (average age 21 years); many were recreation majors; and they had a limited range of outdoor experience levels. The generalizability to other groups with different aged and more experienced people is unknown.

Implications and Recommendations

Figure 11 represents major findings, discussions and implications for future study. The area within the dashed line was primarily examined in this study. Based on the literature and findings from this study, overall, outdoor experience seems to be able to contribute to leadership development. Leadership development can be considered as having a component development stage and an adaptation/practice stage. Since the outdoor experience levels that participants in this study had were low, with small variance, and since all participants were young, many participants in this study did not reach the stage of adaptation/practice. Transformational leadership can be thought as a fundamental shift in orientation with implications for development and performance (Bass & Avolio, 1997). Therefore, it is assumed to function well in the adaptation/practice stage. Although subjects in this study did not statistically increase their transformational leadership through participation in an outdoor leadership program, subjects who had a higher level of outdoor experience possessed a significantly higher level of transformational leadership than subjects who had a lower level of outdoor experience. Participants who had a lower level of experience within the treatment group developed their stress management and adaptability of emotional intelligence. And participants who had a higher

level of experience developed their intrapersonal aspects of emotional intelligence. Consistent with other studies and literature, the intrapersonal aspects plays an important role in outdoor leadership development.

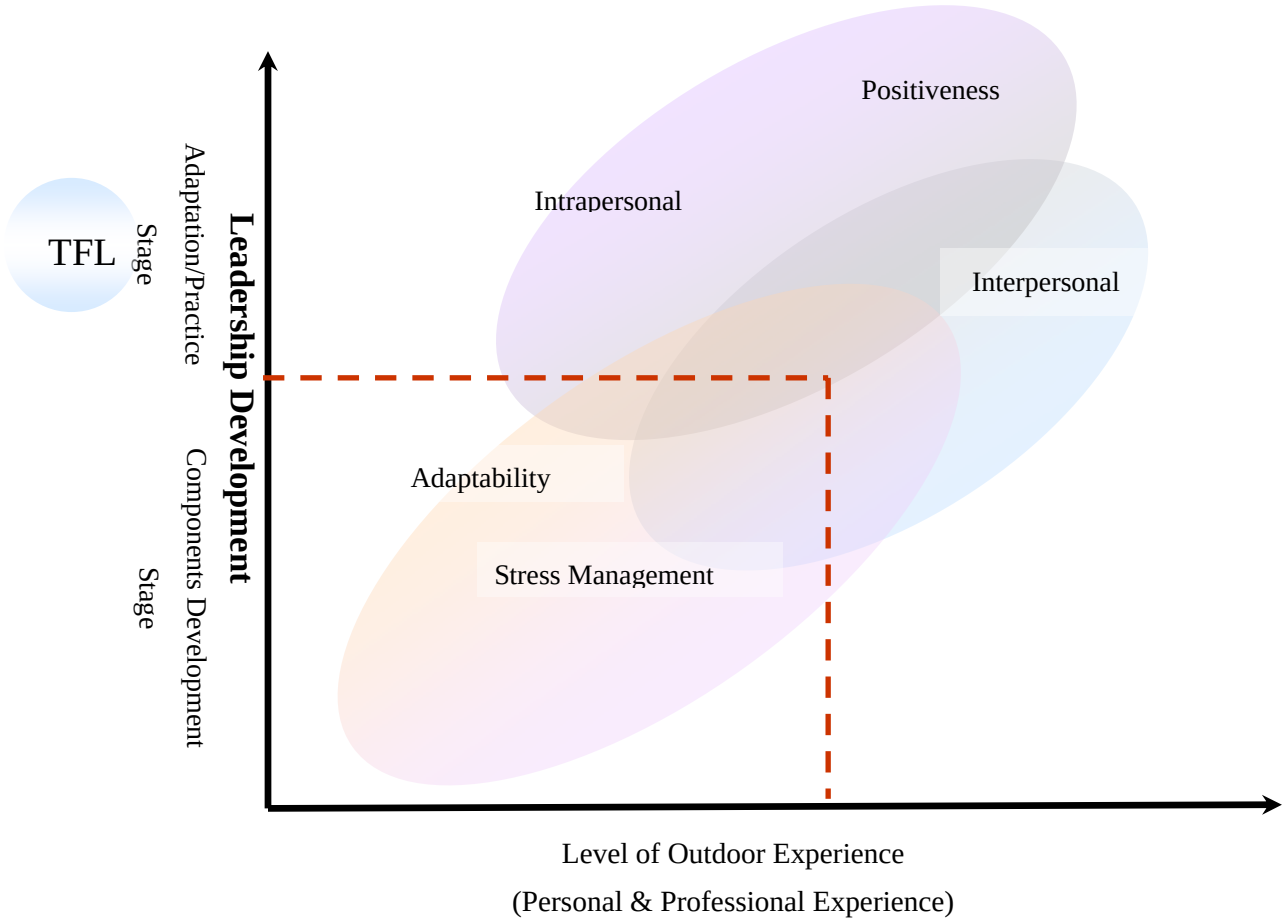


Figure 11
Cognate Area Examined Primarily in This Study

Areas outside of the cognate area need to be examined in future studies. Since interpersonal aspects and positiveness of emotional intelligence were positively correlated with transformational leadership and outdoor experience, both components are assumed to be

developed after the development of the other three components and after obtaining a certain amount of outdoor experience. However, due to the limited range of experience and age levels in the treatment group, this study was not able to provide information outside of the cognate area.

Practical Implications

The results of this study support findings of a strong relationship between interpersonal aspects and positiveness of emotional intelligence and transformational leadership, although this study did not show significant development of transformational leadership. In the field, it might be important to provide experiences that contribute to the development of both components for enhanced leadership development during outdoor leadership programs. The qualitative data revealed that the characteristics of experiences relating to the development of interpersonal aspects included intense social living/learning environments and achievement experiences as important for the development of positiveness. Also, providing students with opportunities to reflect on and process their experience is an important aid to learning from experience.

More importantly, this study suggested that there might be stages of learning for leadership development. The first stage might be developing skills to manage stress, solve problems and adjust situation flexibly, then developing intrapersonal aspects, including self-awareness, self-expression and goal setting as the next stage. Developing interpersonal aspects and positiveness might come after developing other skills. If this is true, depending on the level of the students, instructors can design their program to ensure that they provide appropriate experiences in the appropriate stages. Knowing students' levels of past outdoor experiences might help in designing effective programs. Since emotional intelligence is a composite concept, it is assumed that leadership effectiveness would follow as more skills

relating to the components of emotional intelligence are gained.

Furthermore, while emotional intelligence was found to be an important facet of outdoor leadership, in order to become an effective leader, opportunities to practice utilizing it seem to be necessary to develop leadership effectiveness. Opportunities to develop skills relating to leadership components and opportunities to practice utilizing the skills might be two important phases of outdoor leadership program. Applying the information of characteristics of experiences that contributed to the development of emotional intelligence and considering the two phases for program design might help make more effective outdoor leadership programs.

Research Implications

In order to generalize the results, future research needs to examine different populations, including different age groups, experience levels, skill levels, course length and types of programs. In particular, the assumption developed from the results of this study: there might be a certain developmental process involved in acquiring emotional intelligence, which process should be examined using various populations. If the population consists of more experienced outdoor leaders, for example instructor courses, they might already have certain levels of stress management, adaptability and intrapersonal aspects, and might develop interpersonal aspects and positiveness. Older populations might appear differently. It would also be beneficial to test the relationship between interpersonal aspects and positiveness of emotional intelligence and transformational leadership, with a more experienced population or one with higher levels of emotional intelligence and leadership.

In this study, experience in outdoor programs was investigated by applying a quasi-experimental research design to explore the outcomes of the program. overall outdoor

leadership program experience was the treatment examined. However, detailed relationships among components of the programs and development of emotional intelligence and leadership were not captured under this approach and also need to be examined. For example, levels of emotional intelligence in instructors, instructors' leadership style, group dynamics, activities, and program environments might affect students' learning outcomes. The results would be valuable for future programming.

The theories of emotional intelligence and transformational leadership were tested in the outdoor leadership setting. The results spawned discussion of issues that have been argued in the field of psychology and business. For example, possible conceptual overlaps between emotional intelligence and transformational leadership, relationships between emotional intelligence and transactional leadership, and utility of emotional intelligence in a practical field, specifically leadership training. Further discussions along with empirical studies are necessary for theory enhancement.

The listed priorities for research in the area of emotional intelligence proposed by Mayer, Salovey, and Caruso (2004) include: (a) learning more about what emotional intelligence predicts, (b) understanding how emotional intelligence relates to other intelligence, (c) understanding the processes underlying emotional intelligence, (d) determining whether teaching emotional knowledge has a desirable effect on behavioral outcomes and might change emotional intelligence itself, and (e) expanding emotional intelligence measurement to a wider range of age groups to better understand its developmental courses. Further studies following the line of this study would provide information relating to the priorities proposed by Mayer et al.

Methodologically, further effort is needed to improve research in this area. This study

raised questions about whether it is appropriate to administer a psychological measurement at the beginning of a program, since many students can be very nervous about their new physical and social environment. The inconsistent scores of social desirability at the pretest might reflect anxiety students had before the program began. The order of questionnaires might need to be considered as well. The scale of social desirability was stapled at the end of four questionnaires. Test fatigue might be one of the factors influencing the inconsistent responses.

Also, time pressure during a busy program might affect quality of response on both pre and post tests. It might be more appropriate to collect data before students leave their daily life environments and after they return to their usual life. Similarly in terms of the comparison group, it is very difficult to control factors that may affect variables. However, if a college setting is used for data collection, some school schedule such as breaks, a finals week, and assignment dues that might affect students' psychological states should be considered in the data collection. In order to consider various antecedents, such as motivation, level of outdoor experience, and other individual characteristics, it would be more appropriate to collect data as comparison group data from students who enrolled in an outdoor program or showed interest in participating but could not actually participate in a program.

In terms of the use of psychological measurements, while the short version of the social desirability scale (NSDS) (Strahan & Gerbasi, 1972) was chosen for this study due to the possible overload on subjects, one of the reasons for the inconsistent response might be due to the paucity of items (10 items) compared with the original version (34 items) (M-CSDS) (Crowne & Marlowe, 1960). Although both scales have been widely used and the validity and reliability have been shown, newer and different scales might be more appropriate to use. Issues

regarding self-report and social desirability should continue to be foregrounded. Use of a multi-rating measurement might be one approach to this issue. Both instrument companies of emotional intelligence and transformational leadership are moving toward the use of multi-rating measurement due to the higher validity, however, inconsistency and difficulty in administration are issues.

As for the qualitative data collection from interviews and open-ended questions, questions directly regarding emotional intelligence were asked to collect information directly relating to research questions of this study. However, the structured questions and the order of questions might have restricted participants' response. Future studies should make an effort to have participants talk about their experiences in unstructured ways so that broader and richer qualitative data might be collected.

This study was conducted based on a quasi-experimental mixed method design using qualitative and quantitative approaches, multiple theories, and additional third-persons' perspectives over the self-report. While difficulty in analyzing and interpreting data from different approaches was experienced due to this complex approach, the results reflect multidimensional aspects of a complicated phenomenon, outdoor leadership experience. Future studies are suggested to continue applying purposeful mixed designs to explain multidimensional aspects of outdoor leadership experience.

Conclusion

This study examined impacts of outdoor leadership programs on the development of emotional intelligence and leadership. Furthermore, this study was designed to reveal critical information regarding the development of emotional intelligence and leadership, such as the

relationship between different levels of outdoor experience and the development of emotional intelligence, and kinds of experiences that contributes to development of emotional intelligence and leadership.

The findings offer outdoor leaders and researchers greater insight into the process of leadership development in the area of outdoor leadership with specific focus on the components of emotional intelligence and levels of outdoor experiences. The theoretical understanding obtained from this study may be applicable in the practical field. Future programs are expected to take into consideration students' experience level and the developmental stage of their emotional intelligence and leadership.

The findings also provide a foundation for further investigation regarding practical implications and theory development. Since this is an exploratory study in the area of outdoor leadership, efforts to improve methodological problems, increase generalizability, and design research for providing information needed for practical implications and theory development should be continued. Research in this line of study has the potential to contribute to the advance of more effective outdoor leadership programs as well as enhancing theories of emotional intelligence and leadership.

REFERENCES

Aguiar, J. D. (1986). *Analysis of successful adventure leaders.* Unpublished doctoral dissertation, Boston University, Boston.

Apfel, R. J., & Sifneos, P. E. (1979). Alexithymia: Concept and measurement *Psychotherapy and Psychosomatics, 32*, 180-190.

Ballard, A., Shellman, A., & Hayashi, A. (in press). Collective meanings of an outdoor leadership program experience: Relationships that matter. Research in Outdoor Education.

Bar-On, R. (1997). *BarOn Emotional Quotient Inventory (EQ-i): Technical Manual*. Toronto, Canada: Multi-Health Systems.

Bar-On, R. (2002). *BarOn Emotional Quotient Inventory: Short (BarOn EQ-i:S^{TM}) Technical manual*. New York, NY: Multi-Health Systems Inc.

Bar-On, R., & Parker, J. D. A. (2000). *The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace* (1st ed.). San Francisco, CA: Jossey-Bass.

Barling , J., Slater, F., & Kelloway, E. K. (2000). Transformational leadership and emotional intelligence: An exploratory study. *Leadership & Organization Development Journal, 21*(3), 157-161.

Bartley, N. L. (1988). *Relationship of leadership style, gender, personality, and training of outward bound instructors and their course outcomes.* Unpublished doctoral dissertation, University of Utah, Salt Lake City.

Bass, B., & Avolio, B. (1997). *Full range leadership development: Manual for the Multifactor Leadership Questionnaire*. Redwood City, CA: Mind Garden.

Bass, B., & Avolio, B. (2000). *Multifactor Leadership Questionnaire: Technical Report, Leader Form, Rater Form, and Scoring Key for MLQ Form 5x-Short*. Redwood City, CA: Mind Garden.

Bass, B. M. (1990). From transactional to transformational leadership: Learning to share the vision. *Organizational Dynamics 18*(3), 19-31.

Berman, D., & Teeters, C. (Eds.). (2003). *Wilderness Education Association Affiliate Handbook* (7th ed.). Bloomington, IN: WEA National Office.

Bonney, B. F., & Drury, J. K. (1992). *The backcountry classroom : Lesson plans for teaching in the wilderness*. Merrillville, IN: ICS Books.

Borrie, W. T., & Birzell, R. (2000, 2000 June 1). *Approaches to Measuring Quality of the Wilderness Experience.* Paper presented at the Visitor use density and wilderness experience, Ogden, UT.

Boyatzis, R., Goleman, D., & Rhee, K. S. (2000). Clustering competence in emotional intelligence. In R. Bar-On & J. D. A. Parker (Eds.), *The handbook of emotional lntelligence: Theory, development, assessment, and application at home, school and in the workplace* (pp. 343-362). San Francisco: Jossey-Bass.

Boyatzis, R. E., Goleman, D., & Hay/McBer. (1999). *Emotional competence inventory*. Boston, MA: HayGroup.

Buell, L. (1983). *Outdoor leadership competency*. Greenfield, MA: Environmental Awareness Publications.

Burns, J. M. (1978). *Leadership*. New York: Harper and Row.

Cain, K. (1988). *A Delphi study of the development, evaluation and documentation of judgment*

and decision-making ability in outdoor leadership of adventure education programs. Unpublished doctoral dissertation, University of Michigan, Ann Arbor.

Chase, R., & Priest, S. (1990). Effective communication for the reflective outdoor leader. *Journal of Adventure Education and Outdoor Leadership, 7*(1), 7-12.

Chemers, M. (2000). Leadership Research and Theory: A Functional Integration. *Group Dynamics, 4*(1), 27-43.

Chemers, M., & Ayman, R. (1993). *Leadership theory and research*. San Diego, CA: Academic Press.

Ciarrochi, J. V., Chan, A. Y. C., & Caputi, P. (2000). A critical evaluation of the emotional intelligence construct. *Personality and Individual Differences, 28*(3), 539-561.

Clement, K. (1996). The psychology of judgment for outdoor leaders. . In S. Guthrie, J. Macke & R. Watters (Eds.), *Back to Basics: Proceedings of the International Conference on Outdoor Recreation and Education (ICORE) (10th, Salt Lake City, UT, November 7-9, 1996)* (pp. 45-51). Boulder, CO: Association of Outdoor Recreation and Education.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: L. Erlbaum Associates.

Creswell, J. W. (2003). *Reserach design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*, 349-354.

Davies, M., Stankov, L., & Roberts, R. D. (1998). Emotional Intelligence: In search of an elusive construct. *Journal of Personality and Social Psychology, 75*(4), 989-1015.

Denzin, N. K., & Lincoln, Y. S. (2000). *Handbook of qualitative research* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Easley, A. T. (1985). *The personality traits of wilderness leadership instructors at NOLS: The relationship to perceived instructor effectiveness and the development of self-concept in students.* Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg.

Ewert, A., & McAvoy, L. (2000). The effect of wilderness settings on organized groups: A state-of-knowledge paper. In S. F. McCool, D. N. Cole, W. T. Borrie & J. O'Loughlin (Eds.), *USDA Forest Service Proceedings RMRS-P-15* (Vol. 3, pp. 13-26). Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

Ewert, A. W. (1983). *Outdoor adventure and self-concept : a research analysis*. Eugene, OR: Center of Leisure Studies, University of Oregon.

Ewert, A. W. (1989). *Outdoor adventure pursuits: Foundations, models, and theories*. Columbus, OH: Publishing Horizons.

Feldman, D. A. (1999). *The handbook of emotionally intelligent leadership: Inspiring others to achieve results*. Falls Church, VA: Leadership Performance Solutions Press.

Fiedler, F. E., & Chemers, M. M. (1974). *Leadership and effective management*. Glenview, IL: Scott, Foresman.

Fox, K., McAvoy, L. H., Mullins, P., Robinson, Z., & Ryan, S. (2004). Ethical outdoor leadership. *Journal of Experiential Education, 26*(3), 192-193.

Fox, K., & Reed, M. (1994). Learning about ethical outdoor leadership. *Coalition for Education in the Outdoors Research Symposium Proceedings*, 53-65.

Galloway, S. P. (2003). *The effect of experience on decision-making in outdoor leaders from the perspective of social judgment theory.* Unpublished doctoral dissertation, Indiana University, Bloomington.

Gardner, H. (1993). *Multiple intelligences: The theory in practice*. New York, NY: Basic Books.

Gardner, L., & Stough, C. (2002). Examining the relationship between leadership and emotional intelligence in senior level managers. *Leadership & Organization Development Journal, 23*(1/2), 68-78.

George, J. M. (2000). Emotions and leadership: The role of emotional intelligence. *Human Relations, 53*(8), 1027-1055.

Gilbertson, K., Bates, T., WcLaughlin, T., & Ewert, A. (2006). *Outdoor education: Methods and strategies*. Champaign, IL: Human Kinetics.

Gohm, C. L. (2003). Mood regulation and emotional intelligence: Individual differences. *Journal of Personality and Social Psychology, 84*(3), 594-607.

Goleman, D. (1995). *Emotional intelligence*. New York: Bantam Books.

Goleman, D. (1998). What makes a leader? *Harvard Business Review, 76*, 93-104.

Goleman, D., Boyatzis, R. E., & McKee, A. (2002). *Primal leadership : realizing the power of emotional intelligence*. Boston, MT: Harvard Business School Press.

Grandey, A. A. (2000). Emotion regulation in the workplace: a new way to conceptualize emotional labor. *Journal of occupational health psychology, 5*(1), 95-110.

Grube, D. P., Phipps, M. L., & Grube, A. J. (2002). Practicing leader decision-making through a systematic journal technique: A single case analysis. *Journal of Experiential Education, 25*(1), 220-230.

Hartsfield, M. K. (2003). *The internal dynamics of transformational leadership: Effects of spirituality, emotional intelligence, and self-efficacy.* Unpublished doctoral dissertation, Regent University, Virginia Beach.

Haskett, R. A. (2002). *Emotional intelligence and teaching success in higher education.* Unpublished doctoral dissertation, Indiana University, Bloomington.

Hattie, J. A., Marsh, H. W., Neill, J. T., & Richards, G. E. (1997). Adventure education and Outward Bound: Out-of-class experiences that make a lasting difference. *Review of Educational Research, 67*, 43-87.

Hayashi, A., & Ewert, A. W. (2006). Outdoor leaders' emotional intelligence and transformational leadership. *Journal of Experiential Education, 28*(3), 222-242.

Hedlund, J., & Sternberg, R. J. (2000). Too many intelligence?: Integrating social, emotional, and practical intelligence. In R. Bar-On & J. D. A. Parker (Eds.), *The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace* (pp. 136-167). San Francisco, CA: Jossey-Bass.

Hemphill, J. K. (1950). *Leader behavior description*. Columbus, OH: Ohio State University Personnel Research Board.

Henderson, K., & Roberts, N. S. (1998). An integrative review of the literature on women in the outdoors. *Coalition for Education in the Outdoors Research Symposium Proceedings, 4th*, 9-21.

Hersey, P. (1992). *The situational leader*. Escondido, CA: The Center for Leadership Studies.

Hersey, P., & Blanchard, K. (1982). *Management of organizational behavior: utilizing human resources* (4th ed.). Englewood Cliffs, NJ: Prentice Hall.

Holyfield, L., & Fine, G. A. (1997). Adventure as character work: The collective aming of fear. *Symbolic Interaction, 20*(4), 343-363.

House, R. J. (1971). A path-goal theory of leader effectiveness. *Administrative Science Quarterly, 16*, 321-339.

House, R. J., & Mitchell, T. R. (1973). Path-goal theory of leadership. *Contemporary Business, 3*, 81-98.

Jacobs, J. (2004). *The effects of summer camp employment on emotional intelligence.* Unpublished doctoral dissertation, University of Minnesota, Minneapolis.

Jacques, F. J. (2002). *An examination of the relationship between self-differentiation and transformational leadership, through the lens of emotional intelligence.* Unpublished doctoral dissertation, University of Calgary, Calgary, Canada.

Johnson-Laird, P. N., & Oatley, K. (2000). Cognitive and social construction in emotions. In M. Lewis & J. M. Haviland-Jones (Eds.), *Handbook of emotions* (2nd ed., pp. 458-475). New York: The guiford Press.

Jones, K., & Day, J. D. (1997). Distinction of two aspects of cognitive-social intelligence from academic intelligence. *Journal of Education Psychology, 89*, 486-497.

Jordan, D. J. (1992). Effective leadership for girls and women in outdoor recreation. *Journal of Physical Education, Recreation and Dance, 63*(2), 61-64.

Jordan, D. J. (2001). *Leadership in leisure services: Making a difference* (2nd ed.). State College, PA: Venture Publishing.

Kemp, A. H., Cooper, N. J., Hermens, G., Gordon, E., Bryant, R., & Williams, L. M. (2005). Toward an integrated profile of emotional intelligence: Introducing a brief measure.

Journal of Integrative Neuroscience, 4(1), 41-61.

Keppel, G., & Wickens, T. D. (2004). *Design and analysis: A researcher's handbook* (4th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

King, D. H. (1999). *Measurement of differences in emotional intelligence of preservice educational leadership students and practicing administrators as measured by the Multifactor Emotional Intelligence Scale.* Unpublished doctoral dissertation, East Carolina University, Greenville.

Kobe, L. M., Reiter-Palmon, R., & Rickers, J. D. (2001). Self-Reported Leadership Experiences in Relation to Inventoried Social and Emotional Intelligence. *Current Psychology: Developmental, Leaning, Personality, Social, 20*(2), 154-163.

Lewin, K., Lippitt, R., & White, R. K. (1939). Patterns of aggressive behavior in experimentally created social climates. *Journal of Social Psychology, 10*, 271-301.

Lopes, P. N., Salovey, P., & Straus, R. (2003). Emotional intelligence, personality, and the perceived quality of social relationships. *Personality and Individual Differences, 35*(3), 641-658.

Mandell, B., & Pherwani, S. (2003). Relationship between emotional intelligence and transformational leadership style: A gender comparison. *Journal of Business & Psychology, 17*(3), 387.

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

Mayer, J. D., Carlsmith, K. M., & Chabot, H. F. (1998). Describing the person's external environment: conceptualizing and measuring the life space. *Journal of Research in*

Personality, 32(3), 253-296.

Mayer, J. D., & Caruso, D. (2002). The effective leader: Understanding and applying emotional intelligence. *Ivey Business Journal, 67*(2), 1-5.

Mayer, J. D., Caruso, D. R., & Salovey, P. (2000). Selecting a measure of emotional intelligence: The case for ability scales. In R. Bar-On & J. D. A. Parker (Eds.), *The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace* (pp. 320-342). San Francisco, CA: Jossey-Bass.

Mayer, J. D., & Salovey, P. (1993). The intelligence of emotional intelligence. *Intelligence, 17*, 433-442.

Mayer, J. D., Salovey, P., & Caruso, D. R. (2004). A further consideration of the issues of emotional intelligence. *Psychological Inquiry, 15*(3), 249-255.

Olson, C. L. (1976). On choosing a test statistic in multivariate analysis of variance. *Psychological bulletin, 83*, 579-586.

Palmer, B., Walls, M., Burgess, Z., & Stough, C. (2001). Emotional intelligence and effective leadership. *Leadership & Organization Development Journal, 22*(1), 5-10.

Parker, J. D. A., Creque Sr, R. E., Barnhart, D. L., Harris, J. I., Majeski, S. A., Wood, L. M., et al. (2004). Academic achievement in high school: does emotional intelligence matter? *Personality & Individual Differences, 37*(7), 1321-1330.

Paulhus, D. L. (1991). Measurement and control of response bias. In J. Robinson, P. Shaver & L. Wrigntsman (Eds.), *Measures of personality and social psychological attitudes* (pp. 17-59). New York: Academic Press.

Petzoldt, P. (1984). *The new wilderness handbook*. New York: W. W. Norton and Company.

Phipps, M., & Hayashi, A. (2005). Application of leadership theories in the field: Examples from the Western Carolina University 2004 Teton Course. In M. Phipps & A. Hayashi (Eds.), *Proceedings of the 2005 National Conference on Outdoor Leadership (February 18-20, 2005, YMCA of the Rockies, Estes Park, CO)* (pp. 103-112). Bloomington, IN: Wilderness Education Association.

Phipps, M., Hayashi, A., Lewandoski, A., & Padgett, A. H. (2005). Teaching and evaluating instructor effectiveness using the instructor effectiveness questionnaire and the instructor effectiveness check sheet combination. *Journal of Adventure Education and Outdoor Learning, 5*(1), 51-66.

Phipps, M. L. (1986). *An assessment of a systematic approach to teaching outdoor leadership in expedition settings.* Unpublished doctoral dissertation, University of Minnesota, Minneapolis.

Phipps, M. L. (1991). The group dynamics teaching model. In D. Cockrell (Ed.), *The Wilderness Educaton Association curriculum guide.* (pp. 35-64). Merrillville, IN: ICS Books.

Phipps, M. L. (1996). *A systematic approach to learning leadership.*Unpublished manuscript, Western Carolina University, Cullowhee.

Phipps, M. L., & Claxton, D. B. (1997). An investigation into instructor effectiveness. *Journal of Experiential Education, 20*(1), 40-46, 50.

Prati, L. M., Douglas, C., Ferris, G. R., Ammeter, A. P., & Buckley, M. R. (2003). Emotional intelligence, leadership effectiveness, and team outcomes. *International Journal of Organizational Analysis, 11*(1), 21.

Price, L. L., Arnould, E. J., & Tierney, P. (1995). Going to extremes: Managing service

encounters and assessing provider performance. *Journal of Marketing, 59*(2), 83-97.

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

Priest, S. (1989). The Influence of National Characteristics on Attitudes and Approaches to Outdoor Leadership Preparation. *Journal of Environmental Education, 20*(3), 34-41.

Priest, S. (1999). Outdoor leadership competencies. In J. C. Miles & S. Priest (Eds.), *Adventure Programming* (pp. 237-239). State College, PA: Venture Publishing.

Priest, S., & Gass, M. (1999). Future trends and issues in adventure programming. In J. C. Miles & S. Priest (Eds.), *Adventure programming* (pp. 473-478). State College, PA: Venture Publishing.

Priest, S., & Gass, M. A. (1997). *Effective leadership in adventure programming*. Champaign, IL: Human Kinetics.

Propst, D. B., & Koesler, R. A. (1998). Bandura goes outdoors: Role of self-efficacy in the outdoor leadership development process. *Leisure Sciences, 20*(4), 319-344.

Purkable, T. L. (2003). *Emotional intelligence, leadership style and coping mechanisms of executives.* Unpublished Doctoral dissertation, The Catholic University of America, Washington, DC.

Raiola, E. O. (1986). *Outdoor wilderness education: A leadership curriculum.* Unpublished doctoral dissertation, The Union For Experimenting Colleges and Universities, Cincinnati.

Raiola, E. O. (1995). Building relationship communication skills for transformational leadership. *Journal of Adventure Education and Outdoor Leadership, 12*(3), 13-15.

Roberts, R. D., Zeidner, M., & Matthews, G. (2001). Does emotional intelligence meet traditional standards for an intelligence? Some new data and conclusions. *Emotion, 1*(3), 196-231.

Rubin, M. M. (1999). *Emotional intelligence and its role in mitigating aggression: A correlational study of the relationship between emotional intelligence and aggression in urban adolescents.* Immaculata College, Immaculata.

Russell, R. V. (2005). *Leadership in recreation* (Third ed.). New York, NY: McGraw-Hill Companies.

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality, 9*, 185-211.

Salovey, P., & Sluyter, D. J. (1997). *Emotional development and emotional intelligence : educational implications* (1st ed.). New York: Basic Books.

Schulte, M. J. (2003). *Emotional intelligence: A predictive or descriptive construct in ascertaining leadership style or a new name for old knowledge?* Unpublished doctoral dissertation, Our Lady of the Lake University, San Antonio.

Sharpe, E. (2000). Components of an outdoor trip: What really happens, Study 2. In L. A. Stringer, L. H. McAvoy & A. Young (Eds.), *Coalition for Education in the Outdoors Fifth Biennial Research Symposium (January 14-16, 2000, Bradford Woods, Indiana)* (pp. 7-10). Cortland, NY: Coalition for Education in the Outdoors.

Sharpe, E. K. (2005). "Going above and beyond:" The emotional labor of adventure guides. *Journal of Leisure Research, 37*(1), 29-41.

Sifneos, P. E. (1973). The prevalence of "alexithymic" characteristics in psychosomatic patients. *Psychotherapy and Psychosomatics, 22*, 255-262.

Sivanathan, N., & Fekken, G. C. (2002). Emotional intelligence, moral reasoning and transformational leadership. *Leadership & Organization Development Journal, 23*(3/4), 198-204.

Sosik, J., & Megerian, L. (1999). Understanding leader emotional intelligence and performance. *Group & Organization Management, 24*(3), 367-390.

Sternberg, R. J. (1997). *Successful intelligence*. New York, NY: Plume.

Stevens, J. P. (2002). *Applied multivariate statistics for the social sciences* (4th ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Stogdill, R. M. (1948). Personal factors associated with leadership: A survey of the literature. *Journal of Psychology, 25*, 35-71.

Strahan, R., & Gerbasi, K. C. (1972). Short, homogeneous versions of the Marlowe-Crowne Social Desirability Scale. *Journal of Clinical Psychology, 28*(2), 191-193.

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

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (Fourth ed.). Needham Heights, MA: Allyn & Bacon.

Taylor, G. J., Bagby, R. M., & Luminet, O. (2000). Assessment of alexithymia: Self-report and observer-rated measures. In R. Bar-On & J. D. A. Parker (Eds.), *The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace* (pp. 301-319). San Francisco, CA: Jossey-Bass.

Teeters, C. E. (1994). *Judgment analysis of outdoor leadership certification decisions: An assessment of WEA certifying instructors.* Unpublished doctoral dissertation, Oklahoma

State University, Stillwater.

Thompson, R. B. (2004). *Emotional intelligence and outdoor leadership: EQ and outdoor program leaders.* Unpublished master's thesis, Bowling Green State University, Bowling Green.

Thorndike, R. L. (1920). Intelligence and its use. *Harper's Magazine, 140,* 227-235.

Thorndike, R. M. (1997). *Measurement and evaluation in psychology and education* (6th ed.). Upper Saddle River, NJ: Prentice-Hall.

Vroom, V. H., & Yetton, P. W. (1973). *Leadership and decision-making*. Pittsburg, PA: University of Pittsburg Press.

Watson, C. B., Chemers, M. M., & Preiser, B. (1996, June). *Collective efficacy: A multi-level analysis.* Paper presented at the Annual Meeting of the American Psychological Society, San Francisco, CA.

Weese, W. J. (1995). A synthesis of leadership theory and a prelude to the five "C" model. *European Journal of Sport Management, 2*(1), 59-71.

Yin, R. K. (1994). *Case study research: Design and methods* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Zirkel, S. (2000). Social intelligence: The development and maintenance of purposive behavior. In R. Bar-On & J. D. A. Parker (Eds.), *The handbook of emotional intelligence: Theory, development, assessment, and application at home, school and in the workplace* (pp. 3-27). San Francisco, CA: Jossey-Bass.

Appendix I

Research Instruments

A. New Social Desirability Scale (NSDS)

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you.

T F 1. I never resent being asked to return a favor.

T F 2. At times I have really insisted on having things my own way.

T F 3. There have been occasions when I felt like smashing things.

T F 4. I have never been irked when people expressed ideas very different from my own.

T F 5. I have never deliberately said something that hurt someone's feelings.

T F 6. I like to gossip at times.

T F 7. There have been occasions when I took advantage of someone.

T F 8. I'm always willing to admit it when I make a mistake.

T F 9. I always try to practice what I preach.

T F 10. I sometimes try to get even, rather than forgive and forget.

Appendix I

Research Instruments

B. Outdoor Leader Experience Use History

Outdoor Leader Experience Use History

This instrument measures the extent of personal experience in outdoor pursuits and professional experience as an outdoor leader. Please answer each question as completely and as accurately as possible. All information will be held strictly confidential.

Name:	**Age:**	**Gender:**	**Ethnicity: Caucasian/White, Black/African, Asian, Hispanic, other _____**

What is the highest level of education you have achieved? (Check the most appropriate response):

____ High school ____ Some college ____ Bachelors Degree ____ Masters degree ____ Doctorate

What was your major area of study? (Check the most appropriate response):

_____ Outdoor leadership _____ Outdoor or Experiential Education _____ Recreation

_____ Environmental Education _____ Other Social Science _____ Natural or Physical Science

Professional Experience:

Check the response that most accurately reflects your *professional experience* in outdoor leadership.

Please list all programs/employers you have worked for as an outdoor leader (Ex: NOLS, Outward Bound) and indicate the average length of the trips, and the total number of trips you have led.

	Program/employer:	Average trip length:	Number of Trips:
	Ex: VOBS	**14 days**	**12**
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____
f.	_____	_____	_____
g.	_____	_____	_____

What was the length of your longest professional trip/expedition? (in days): _____

Please indicate the activity environments in which you have worked as an instructor. (Check all that apply):

_____ Whitewater paddling _____ Flatwater paddling _____ Alpine trekking _____ Alpine climbing

_____ Rock climbing _____ Ice climbing _____ Backpacking _____ Caving

_____ Other (please list): _____ _____ Other (please list): _____

Identify the seasons that you have worked as an outdoor instructor. (Check all that apply):

_____ Spring _____ Summer _____ Winter _____ Fall

Please identify the populations with which you have worked and the number of weeks worked with each. (Check all that apply and indicate weeks of experience)

_____ **Children (pre-teen)**	_____ *Weeks*	_____ **Youth-at-Risk (Adjudicated)**	_____ *Weeks*
_____ **Adolescents**	_____ *Weeks*	_____ **Adults**	_____ *Weeks*
_____ **Elder (Senior Citizens)**	_____ *Weeks*	_____ **Emotionally Disturbed**	_____ *Weeks*
_____ **Physical Disabilities**	_____ *Weeks*	_____ **Other**	_____ *Weeks*

Thank You Very Much for your Help!!

Outdoor Leader Experience Use History

How many weeks of experience do you have in the following positions? (List a number of weeks for each):
Course Director: ____ Lead Instructor: ____ Asst Instructor: ____ Intern ____ Logistics/Support: ____

Please list any certifications (WFR, CPR, etc.) that you currently maintain: _____

Please list any courses or training that you have completed not listed under certifications: _____

Personal Experience in Outdoor Pursuits:

Check the response that most accurately reflects your *personal experience* in outdoor pursuits.

Estimate your <u>total weeks</u> of personal outdoor experience:

____ 1-5 ____ 6-10 ____ 11-15 ____ 16-20 ____ 20-30 ____ 31-40

____ 41-50 ____ 51-60 ____ 61-70 ____ 71-80 ____ 81-90 ____ 91-100

____ 100-150 ____ 151-200 ____ 201-250 ____ 251-300 ____ 301-350 ____ more than 350

What is the <u>average length</u> of your personal trips? (in days):

____ 1-2 ____ 3-4 ____ 5-6 ____ 7-8 ____ 9-10 ____ 11-12

____ 13-15 ____ 16-17 ____ 18-20 ____ 21-23 ____ 24-26 ____ 27-28

____ 29-31 ____ 32-34 ____ 35-37 ____ 38-40 ____ More than 40 days

What was the length of your <u>longest</u> personal trip/expedition? (in days):

____ 1-2 ____ 3-4 ____ 5-6 ____ 7-8 ____ 9-10 ____ 11-12

____ 13-15 ____ 16-17 ____ 18-20 ____ 21-23 ____ 24-26 ____ 27-28

____ 29-31 ____ 32-34 ____ 35-37 ____ 38-40 ____ 41-43 ____ 44-46

____ 47-49 ____ 50-52 ____ 53-55 ____ 57-59 ____ 60 or more days

Please indicate the <u>activity environments</u> in which you have personal outdoor experience (Check all that apply):

_____ Whitewater paddling _____ Flatwater paddling _____ Alpine trekking _____ Alpine climbing

_____ Rock climbing _____ Ice climbing _____ Hiking/backpacking _____ Caving

Other (please list): _____ Other (please list): _____

Please indicate the <u>seasons</u> during which you gained personal outdoor experience (<u>Check all that apply</u>):

_____ Spring _____ Summer _____ Winter _____ Fall

How <u>frequently</u> do you participate in these activities personally - not as an instructor? (Times per year):

_____ Whitewater paddling _____ Flatwater paddling _____ Alpine trekking _____ Alpine climbing

_____ Rock climbing _____ Ice climbing _____ Backpacking _____ Caving

_____ Other (please list): _____ _____ Other (please list): _____

Thank You Very Much for your Help!!

Appendix I

Research Instruments

C. Emotional Intelligence Experience Questionnaire

I would like to hear about your experience during the course that:

1. Helped you know yourself better, express yourself better, and/or become able to set and achieve goals.

2. Helped you develop cooperative and/or constructive relationships with others.

3. Helped you develop your ability to manage and control your emotions more effectively.

4. Helped you develop your ability to understand current situations, be flexible, and/or solve problems.

5. Made you more self-motivated, optimistic and/or positive for your goal achievement.

Please rate the importance of the following experience for your development of the five components

1= not at all important 2=not very important 3=somewhat important 4=very important 5=essential

	self-awareness	social skills	stress management	problem-solving	positiveness
(Ex.) Help from Peers	*3*	*4*	*5*	*5*	*4*
Feedback from peers					
Feedback from instructors					
Support from peers					
Support from instructors					
Watching peers					
Watching instructors					
Help from peers					
Help from instructors					
Practicing outdoor activities					
Practicing leading					
Making decisions					
Being responsible for roles					
Making mistakes					
Succeeding goals					

Appendix I

Research Instruments

D. WEA Final Assessment Summary

WEA Final Assessment Summary (page 1 of 2)

Completed by: Peers ❑ Instructor ❑

Name: _____ Date: _____

Affiliate: _____ Instructors: _____

Curriculum	Exemplary	Certifiable	Noncertifiable
Decision Making and Problem Solving			
Leadership			
Expedition Behavior and Group Dynamics			
Environmental Ethics			
Basic Camping Skills			
Nutrition and Rations Planning			
Equipment, Clothing Selection, and Use			
Weather			
Health and Sanitation			
Travel Techniques			
Navigation			
Safety and Risk Management			
Wilderness Emergency Procedures and Treatment			
Natural and Cultural History			
Specialized Travel and Adventure Activities			
Communication Skills			
Trip Planning			
Teaching, Processing, and Transference			

WEA Final Assessment Summary (page 2 of 2)

Final Assessment Summary Comments:

Things going well:

Things to work on:

Other:

Additional comments or observations:

Instructor's Judgment:
Please rate the following comments (1 = noncertifiable; 5 = exemplary).

_____ Individual's potential for an outdoor career.

_____ Individual's potential for an outdoor Leadership career.
Comments:

Please check the appropriate box for the following comments.

Yes ❑ No ❑ Recommended for WEA Outdoor Leadership Certification at this time.

Yes ❑ No ❑ I would recommend this student continue and become an Instructor with WEA.
Comments:

Signatures acknowledge review of this form by both parties and does not necessarily imply agreement with assessment statements.

Instructor: _____ Date: _____
Student: _____ Date: _____

Revised March 2003

Appendix I

Research Instruments

E. Interview Questions

First of all, I would like you to talk about the details of your experiences that you wrote in the questionnaire.

1. Could you explain more about your experience during the course that helped you know yourself better, express yourself better, and/or become able to set and achieve own goal?

2. Could you explain more about your experience during the course that helped you develop cooperative and/or constructive relationships with others?

3. Could you explain more about your experience during the course that helped you develop your ability to manage and control your emotions more effectively?

4. Could you explain more about your experience during the course that helped you develop your ability to understand current situations, be flexible, and/or solve problems?

5. Could you explain more about your experience during the course that made you more self-motivated, optimistic and/or positive for your goal achievement?

Next, I would like to hear how your experiences during the course helped your leadership development from your own observation.

6. Do you think the experience you had in the course helped your leadership development? If so, from those experiences you just talked about, which experiences do you think helped your overall leadership development? Or if there are any other experiences that helped your leadership development, please explain it. How did the experiences help your leadership development?

7. What does the overall your experience from the course mean to you at this point? How did the experience affect you from your own observation?

8. How do you think you can utilize the experiences in future?

Appendix II

Recruitment Materials

A. Research Guideline for Instructors

March 20, 2005

Dear Instructors,

I would like to thank you for agreeing to help my study. This is my dissertation research and the purpose is to identify how participation in an outdoor leadership program impacts students' development of emotional intelligence and leadership. It is expected that the results of this study would provide valuable information for effective outdoor leadership programming. I really appreciate your help for this study.

This study includes two data collections. The study information sheets about both data collections are attached. First, I would like to ask students to fill out a set of questionnaires at the beginning of the course and again at the end of the course. It will take approximately 20 minutes to complete all questions. Please make time for the survey before and after your course. The participation in this study is voluntary, students may refuse to participate any time, but their cooperation would be really appreciated. Please let students know that the data will be reviewed by only the researcher for only research purposes and will not affect any of their evaluations for the course. Their honest answers will be very valuable for this study. If you could briefly check the questionnaires when you collect them if they answer all questions, it would be really helpful.

Second, I would like to obtain additional information about students' leadership from the Final Assessment Summary Form that instructors fill out at the end of the course. The form is one of requirements for certifying outdoor leaders at a WEA NSP course and I would like to have permissions from instructors and students that I will review the evaluations.

As explained in the Study Information Sheet, any names or information that might identify individuals will not be presented in any documents. The names will be used only for matching answers and forms, then, all names will be removed. Reports of the study will be made using aggregated information.

Please mail all questionnaires, the Final Assessment Summary Forms, and other course paperwork to the WEA National Office using the enclosed envelope within a month after your course.

Again, thank you for your help for my study. If you have any questions about this study, please contact me at 812.327.7318 (mobile) or ahayashi@indiana.edu. I hope you and students have a wonderful course. I look forward to hearing from you after your course.

Sincerely,

Aya Hayashi
Doctoral Candidate
Department of Recreation and Park Administration
Indiana University

National Office Manager
Wilderness Education Association

Appendix II

Recruitment Materials

B-1. Study Information Sheets

Treatment Group I Survey

Study #04- 8769

INDIANA UNIVERSITY - BLOOMINGTON
STUDY INFORMATION SHEET
Outdoor leaders' emotional intelligence and leadership

You are invited to participate in a research study. The purpose of this study is to identify the effect of outdoor leadership program experience on the development of emotional intelligence and leadership.

INFORMATION
In this study, approximately 80 people will be asked to complete a set of questionnaires that asks questions about your emotional intelligence, leadership, and your experience. It should take about 20 to 30 minutes to complete the survey. The final assessment summary that instructors will fill out about your achievement at the end of your course will be also collected as additional information. Your answers and the final assessment summary will not be reviewed by anyone until the course is end. Your answers will not affect any evaluations about your performance during the course.

BENEFITS
There will likely be no direct benefits to individual participants, but it is hoped that the results of the study will provide useful information for effective outdoor leadership and further research. Your cooperation would be really appreciated.

CONFIDENTIALITY
Your name or any information that might identify you will not be presented in any documents. Your name will be used only for matching your answers of questionnaires and documents from instructors. Once matched, your name on all documents will be removed and only coded number will be used. No one except the researcher will have access to the completed surveys. Reports of the study will be made using aggregated information.

CONTACT
If you have any questions about the study or the procedures, you may contact the researcher Aya Hayashi, at 712 E. Cottage Grove Ave Bloomington, IN 47408, phone (812)-327-7318 or email at ahayashi@indiana.edu.

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have not been honored during the course of the project, you may contact the office for the Human Subjects Committee, Carmichael Center, L03, 530 E. Kirkwood Avenue, Bloomington, IN 47408, 812/855-3067, iub_hsc@indiana.edu

PARTICIPATION
Your participation in this study is voluntary; you may refuse to participate without penalty. If you decide to participate you may change your mind and hand in a blank or partially completed survey.

Information Sheet date: 3-15-05

IRB Approved
Approval Date: April 27, 2005
Expires: April 22, 2006

Appendix II

Recruitment Materials

B-2. Study Information Sheets

Treatment Group II Survey

Study #04- 8769

INDIANA UNIVERSITY - BLOOMINGTON
STUDY INFORMATION SHEET
Outdoor leaders' emotional intelligence and leadership

You are invited to participate in a research study. The purpose of this study is to identify the effect of outdoor leadership program experience on the development of emotional intelligence and leadership.

INFORMATION
In this study, approximately 80 people will be asked to complete a set of questionnaires that asks questions about your emotional intelligence, leadership, and your experience. It should take about 20 to 30 minutes to complete the survey. The final assessment summary that instructors will fill out about your achievement at the end of your course will be also collected as additional information.

BENEFITS
There will likely be no direct benefits to individual participants, but it is hoped that the results of the study will provide useful information for effective outdoor leadership and further research. Your cooperation would be really appreciated.

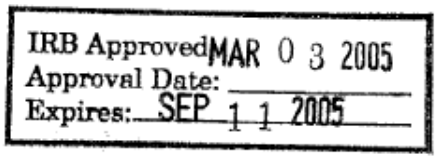
CONFIDENTIALITY
Your name or any information that might identify you will not be presented in any documents. Your name will be used only for matching your answers of questionnaires and documents from instructors. Once matched, your name on all documents will be removed and only coded number will be used. No one except the researcher will have access to the completed surveys. Reports of the study will be made using aggregated information.

CONTACT
If you have any questions about the study or the procedures, you may contact the researcher Aya Hayashi, at 712 E. Cottage Grove Ave Bloomington, IN 47408, phone (812)-327-7318 or email at ahayashi@indiana.edu.

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have not been honored during the course of the project, you may contact the office for the Human Subjects Committee, Carmichael Center, L03, 530 E. Kirkwood Avenue, Bloomington, IN 47408, 812/855-3067, iub_hsc@indiana.edu

PARTICIPATION
Your participation in this study is voluntary; you may refuse to participate without penalty. If you decide to participate you may change your mind and hand in a blank or partially completed survey.

Information Sheet date: 2-24-05



Appendix II

Recruitment Materials

B-3. Study Information Sheets

Instructor Permission

INDIANA UNIVERSITY - BLOOMINGTON
STUDY INFORMATION SHEET
Outdoor leaders' emotional intelligence and leadership

You are invited to participate in a research study. The purpose of this study is to identify the effect of outdoor leadership program experience on the development of emotional intelligence and leadership.

INFORMATION
In this study, approximately 15 instructors will be asked to provide the researcher the WEA final assessment summary that the instructors will fill out for students at the end of the course as additional research information about students.

BENEFITS
There will likely be no direct benefits to individual participants, but it is hoped that the results of the study will provide useful information for effective outdoor leadership and further research. Your cooperation would be really appreciated.

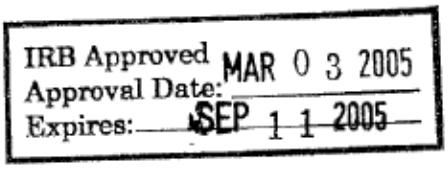
CONFIDENTIALITY
Your name and/or your students names or any identifying information will not be presented in any documents. Students' name will be used only for matching their answers of questionnaires and the final assessment summary from instructors. Once matched, all names on all documents will be removed and only coded number will be used. No one except the researcher will have access to the completed surveys. Reports of the study will be made using aggregated information.

CONTACT
If you have any questions about the study or the procedures, you may contact the researcher Aya Hayashi, at 712 E. Cottage Grove Ave Bloomington, IN 47408, phone (812)-327-7318 or email at ahayashi@indiana.edu.

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have not been honored during the course of the project, you may contact the office for the Human Subjects Committee, Carmichael Center, L03, 530 E. Kirkwood Avenue, Bloomington, IN 47408, 812/855-3067, iub_hsc@indiana.edu

PARTICIPATION
Your participation in this study is voluntary; you may refuse to participate without penalty. If you decide to participate you may change your mind and hand in a blank or partially completed survey. Once the survey is turned in it will remain part of the research data because it is not identifiable.

Information Sheet date: 2-24-05



Appendix II

Recruitment Materials

B-4. Study Information Sheets

Interview Study

Study #04- 8769

INDIANA UNIVERSITY - BLOOMINGTON
STUDY INFORMATION SHEET
Outdoor leaders' emotional intelligence and leadership

You are invited to participate in a research study. The purpose of this study is to identify the effect of outdoor leadership program experience on the development of emotional intelligence and leadership.

INFORMATION
In this study, approximately 6 to 8 people will be asked to participate in the interview with the researcher about your experiences during the program. It will take about 30 minutes for the interview. The interview conversation will be tape recorded during the interview and typed by the researcher after the interview.

BENEFITS
There will likely be no direct benefits to individual participants, but it is hoped that the results of the study will provide useful information for effective outdoor leadership and further research. Your cooperation would be really appreciated.

CONFIDENTIALITY
Your privacy will be protected. Your name or any information that might identify you will not be presented in any documents. The disguised name might be used on the finding report. No one except the researcher will have access to the taped conversation and typed documentation about the interview. Reports of the study will be made using aggregated information.

CONTACT
If you have any questions about the study or the procedures, you may contact the researcher Aya Hayashi, at 712 E. Cottage Grove Ave Bloomington, IN 47408, phone (812)-327-7318 or email at ahayashi@indiana.edu.

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have not been honored during the course of the project, you may contact the office for the Human Subjects Committee, Carmichael Center, L03, 530 E. Kirkwood Avenue, Bloomington, IN 47408, 812/855-3067, iub_hsc@indiana.edu

PARTICIPATION
Your participation in this study is voluntary; you may refuse to participate without penalty. If you decide to participate you may change your mind and hand in a blank or partially completed survey.

Information Sheet date: 2-10-05

IRB Approved
Approval Date: April 27, 2005
Expires: April 22, 2006

Appendix II

Recruitment Materials

B-5. Study Information Sheets

Comparison Group Survey

Study #04- 8769

INDIANA UNIVERSITY - BLOOMINGTON
STUDY INFORMATION SHEET
Outdoor leaders' emotional intelligence and leadership

You are invited to participate in a research study. The purpose of this study is to identify the effect of outdoor leadership program experience on the development of emotional intelligence and leadership.

INFORMATION
In this study, approximately 40 people will be asked twice to complete a set of questionnaires that asks questions about your emotional intelligence and leadership. It should take about 15 to 20 minutes to complete the survey.

BENEFITS
There will likely be no direct benefits to individual participants, but it is hoped that the results of the study will provide useful information for effective outdoor leadership and further research. Your cooperation would be really appreciated.

CONFIDENTIALITY
The survey is to be completed anonymously. Do not write your name or any other identifier on the survey. No one except the researcher will have access to the completed surveys. Reports of the study will be made using aggregated information.

CONTACT
If you have any questions about the study or the procedures, you may contact the researcher Aya Hayashi, at 712 E. Cottage Grove Ave Bloomington, IN 47408, phone (812)-327-7318 or email at ahayashi@indiana.edu.

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have not been honored during the course of the project, you may contact the office for the Human Subjects Committee, Carmichael Center, L03, 530 E. Kirkwood Avenue, Bloomington, IN 47408, 812/855-3067, iub_hsc@indiana.edu

PARTICIPATION
Your participation in this study is voluntary; you may refuse to participate without penalty. If you decide to participate you may change your mind and hand in a blank or partially completed survey.

Information Sheet date: 4-13-05

IRB Approved
Approval Date: APR 2 2 2005
Expires: APR 2 2 2006

Appendix III

Curriculum Vitae

Aya Hayashi
712 E. Cottage Grove Ave. Bloomington, IN 47408
Tel: (812)-327-7318
Email: ahayashi@indiana.edu

EDUCATION

2006 Ph.D. Indiana University, Bloomington, Indiana
Completed: May 2006
Major: Leisure Behavior, Minor: Educational Psychology

Dissertation Title: Leadership development though an outdoor leadership program focusing on emotional intelligence.
Dr. Alan Ewert, chair

2000 M.S. University of Tsukuba, Ibaraki, Japan
(Physical Education: Outdoor Education)

Thesis Title: Instruction methods of outdoor education regarding to experiential learning in the United States.
Dr. Minoru Iida, chair.

1997 B.S. Hiroshima University, Hiroshima, Japan
(Pedagogy: Lifelong Education and Community Education)

Thesis Title: Lloyd B. Sharp's philosophy of outdoor education.
Professor Gengo Koike, chair.

PROFESSIONAL APPOINTMENT

Jan 06-May 05 **Assistant Instructor** at Department of Recreation and Park Administration, Indiana University, Bloomington, Indiana.
Responsibility includes: Assisting R340 Leisure in Modern Society.

Aug 05-Dec05 **Teaching / Research Assistant** at Department of Recreation and Park Administration, Indiana University, Bloomington, Indiana.
Responsibility includes: assisting R515 (graduate class) Theoretical Foundation of Adventure/Experiential Education, and assisting research projects for data collection and analyses.

Aug 05-Nov 05	**Editorial Assistant** of Journal of Experiential Education, Indiana University, Bloomington, Indiana. Responsibility includes: assisting reviewing process of the journal by formatting and editing manuscripts for publication, communicating with reviewers and authors, manuscript tracking, and organizing files of manuscripts and documentations for reviewing process.
Sep 04-Aug 05	**Office Manager** at National Office of Wilderness Education Association, Bloomington, Indiana. Responsibility includes: supporting WEA courses, WEA affiliates, instructors and WEA Standard Committee; delivering membership service; supporting administration of the National Conference on Outdoor Leadership; maintaining database, documentations, information; taking responsibility for merchandise sales and shipping; supporting the administration work of the Board of Trustees; hiring and supervising National Office staff; taking responsibility for fiscal resources; updating current information on the WEA website; and other daily office operations.
Jan-May 2005	**Assistant Instructor,** Conservation and Outdoor Recreation/Education (CORE) Program, Department of Recreation and Park Administration, Indiana University, January-May, 2005, Bloomington, Indiana. Responsibility includes: assisting experiential learning components of the CORE Program (3-week expedition in CO & UT, 3-day winter camping, rock climbing training and final skill evaluations).
2002-2004	**Administrative staff** at the National Office of Wilderness Education Association, Bloomington, Indiana.

PROFESSIONAL EXPERIENCES

Jan 2006	**Guest Lecture** at Department of Recreation and Park Administration, Indiana University, Bloomington, Indiana. International Perspective of Wilderness (CORE Program)
2003-Present	**National Standard Program Instructor,** Wilderness Education Association (granted September, 2003), Bloomington, Indiana Instructed at: National Standard Programs in March, 2005 and July 2005. Professional-Short Course, July 2003. Wilderness Steward Programs, May 2003, June 2004, June 2004, and May 2005.

2003	**Guest Lecture** at Department of Recreation and Park Administration, Indiana University, Bloomington, Indiana. History and Philosophy of Wilderness (CORE Program)
2001	**Instructor** for Outdoor Activity (2-day Navigation and Orienteering) of International Studies Summer Institutes 2001 (July 2001) Indiana University, Bloomington, Indiana
1997-2000	**Adjunct Instructor/Teaching Assistant** at Department of Physical Education and Sport Science, University of Tsukuba, Ibaraki, Japan. Theory and Practice Classes (Outdoor Skills, Camping/Mountaineering, and Winter Sports), and Introduction of Physical Education and Sport Science Study.
1998, 1999	**Instructor** at Outdoor Leadership Training Seminar sponsored by the Japanese Ministry of Education (5 days x 2), Minami Zao National Outdoor Education Center, Miyagi, Japan.
1997-2001	**Program Director, Counselor, & Management Staff** for the outdoor education programs offered by University of Tsukuba at the Camp Hanayama (summer) and Tsumagoi programs (winter).
1997, 1998	**Instructor/Counselor** at the Summer outdoor classes of Fujimura Women's High School (5 days x 2), Yatsugatake, Gunma, Japan.
1997	**Instructor** at Winkel Pro Ski School Hokkaido, Japan.
1993-1997	**Counselor/Management Staff** at Hiroshima YMCA, Hiroshima, Japan Summer camp programs, winter programs, and year-round outdoor education programs.

PUBLICATIONS

Refereed Publications:

Ballard, A. Shellman, A. & Hayashi, A. (in press). Collective Meanings of an Outdoor Leadership Program Experience as Lived by Participants. Research in Outdoor Education.

Hayashi, A. & Ewert, A. (2006). Outdoor leaders' emotional intelligence and transformational leadership. *Journal of Experiential Education, 28*(3): 222-242.

Ewert, A. & Hayashi, A. (2005). The relationship of emotional intelligence and outdoor leadership training. *Abstracts of 2005 Leisure Research Symposium, National Recreation and Park Association Congress (San Antonio, TX, October 17-21, 2005),* 26.

Phipps, M. L., Hayashi, A., Lewandowski, A., Padgett, A. (2005). Teaching and evaluating instructor effectiveness using the Instructor Effectiveness Questionnaire and the Instructor Effectiveness Check Sheet. *Journal of Adventure Education and Outdoor Learning, 5*(1): 51-65.

Hayashi, A. (2005). Emotional intelligence and outdoor leadership. SEER 2005 Abstract. *Journal of Experiential Education, 27*(3): 333-335.

Hayashi, A. (2002). Find the Voice from Japanese Wilderness. *International Journal of Wilderness, 8*(2): 34-37.

Hayashi, A. & Iida, M. (2001). Instruction methods of outdoor education regarding experiential learning in the United States. *Japan Outdoor Education Journal, 5*(2): 11-21.

Non-refereed Publications:

Ewert, A., Voight, A., Calvin, D., & Hayashi, A. (2005). Outdoor programs and environmental belief: Investigating the stability of outcomes and levels of salience. Submitted for *the Proceeding of the Eighth World Wilderness Congress Symposium*, September 30-October 6, 2005.

Hayashi, A. (2005). Emotional intelligence and transformational leadership: Components of effective outdoor leadership. *Journal of the Wilderness Education Association, 17*(2): 7-8.

Phipps, M. & Hayashi, A. (Ed.) (2005). *Proceedings of the 2005 National Conference on Outdoor Leadership*. Bloomington, IN: Wilderness Education Association.

Cashel, C., Yoshino, A. & Hayashi, A. (2005). Cross-cultural wilderness education experience – Collaborative programs between US and Japanese universities-. *The Proceedings of the 2005 National Conference on Outdoor Education,* 39-42, Wilderness Education Association.

Phipps, M. & Hayashi, A. (2005). Application of leadership theories in the field: Examples from the Western Carolina University 2004 Teton Course. *The Proceedings of the 2005 National Conference on Outdoor Education,* 103-112, Wilderness Education Association.

Cashel, C., Yoshino, A. & Hayashi, A. (2005). Cross-cultural wilderness education experience – Collaborative programs between US and Japanese universities-. *The Proceedings of the 2005 National Conference on Outdoor Education,* 39-42, Wilderness Education Association.

Ewert, A. & Hayashi, A. (2004). Trends and issues in outdoor adventure education in the United States. *Japan Outdoor Education Journal, 8*(1): 37-48. (Invited Paper)

Cashel, C., Montgomery, D., Hayashi, A., & Yoshino, A. (2004). "Wisdom leadership as perceived by expedition leaders." *The proceedings of the 7th Annual Conference of Japan Outdoor Education Society,* 24-25.

Nakagawa, M., Hayashi, A., & Cashel, C. (2004). First WEA Program in Japan. *WEA Legend (Winter, 2004): Newsletter of the Wilderness Education Association,* 12.

Nakagawa, M., Hayashi, A., & Yoshino, A. (2004). Cross-cultural wilderness experience in the Tetons. *WEA Legend (Spring, 2004): Newsletter of the Wilderness Education Association,* 12-14.

Hayashi, A. (2000). Adventure education and experiential learning. In The Research Committee for Experiential Learning in the Outdoors (Ed.), *The research report of experiential learning in the outdoors* (pp.87-90). Tokyo: The Research Committee for Experiential Learning Methods.

Hayashi, A. & Iida, M. (1999). The concept of outdoor education. *The Proceedings of the 2nd Annual Conference of Japan Outdoor Education Society*, 54-55.

PRESENTATIONS AT PROFESSIONAL MEETINGS (R = Refereed)

Hayashi, A. (2006). "Emotional intelligence and outdoor leadership" 2006 Leisure Research Symposium, Department of Recreation and Park Administration, Indiana University, IN, March 31, 2006.

Wilson, J. & Hayashi, A. (2006). "Diversity: an obstacle or an opportunity?" The 2006 National Conference on Outdoor Leadership, Bradford Woods, IN, February 16-18, 2006.

Hayashi, A. (2006). "Leadership development through an outdoor leadership program focusing on emotional intelligence." The 8th Biennial Research Symposium of Coalition for Education in the Outdoors, Bradford Woods, IN, January 13-15, 2006. **(R)**

Ballard, A., Shellman, A. & Hayashi, A. (2006). "Collective meanings of an outdoor leadership program experience: Relationships that matter." The 8th Biennial Research Symposium of Coalition for Education in the Outdoors, Bradford Woods, IN, January 13-15, 2006. **(R)**

Hayashi, A. (2005). "Examination of outdoor leaders' emotional intelligence and leadership." The 56th Annual Conference of Japan Society of Physical Education, Health and Sports Science, University of Tsukuba, Ibaraki, Japan, November 23-26, 2005.

Ewert, A. & Hayashi, A. (2005). "The relationship of emotional intelligence and outdoor leadership training." 2005 NRPA Congress & Exposition, San Antonio, TX, October 18-22, 2005. **(R)**

Calvin, D., Ewert, A., & Hayashi, A. (2005). "Outdoor programs and environmental beliefs: Singing to the choir or impactful experiences?" The Eighth World Wilderness Congress Symposium. Anchorage, AK, September 30-October 6, 2005.

Hayashi, A. (2005). “Finding the voice from Japanese wilderness.” The Eighth World Wilderness Congress Symposium. Anchorage, AK, September 30-October 6, 2005.

Hayashi, A. (2005). “Outdoor leaders’ emotional intelligence and transformational leadership.” Adventure Research Symposium. Indiana University, IN, April 21, 2005.

Hayashi, A. & Phipps, M. (2005). “Application of leadership theories in the field: Examples from 2004 WCU Teton course.” National Conference on Outdoor Leadership. YMCA of the Rockies, Estes Park, CO, February 18-20, 2005.

Cashel, C., Yoshino, A., & Hayashi, A. (2005). What is so unique about instructing cross-cultural wilderness programs? National Conference on Outdoor Leadership. YMCA of the Rockies, Estes Park, CO, February 18-20, 2005.

Hayashi, A. (2004). “Emotional Intelligence and Outdoor Leadership.” The 3rd Symposium on Experiential Education Research. November 5-6, 2004. **(R)**

Yoshino, A., Hayashi, A. & Cashel, C. (2004). “Cross-cultural Wilderness Education Experience -Collaborative programs between US and Japanese universities-.” The International Conference of Outdoor Recreation and Education, October 28-30, 2004.

Cashel, C., Montgomery, D., Hayashi, A., & Yoshino, A. (2004). “Wisdom leadership as perceived by expedition leaders.” The 7th Annual Conference of Japan Outdoor Education Society. Nara University of Education, Japan. June 20, 2004.

Phipps, M. & Hayashi, A. (2004). “Using the IEQ/IEC on the WCU May Steward Course.” National Conference on Outdoor Leadership. Indiana University, IN. February 7, 2004.

Hayashi, A. (2004). “Outdoor leader training curriculum in the U.S.” Forum for Children and outdoor experiential learning. Sapporo, Japan. January 25, 2004.

Hayashi, A. & Iida, M. (1999). “Concept of outdoor education.” The Annual Outdoor Education Society Conference Japan Outdoor Education, University of Tokyo Agriculture, Tokyo, Japan. June 27, 1999.

WORKSHOPS AND INSTITUTES

Invited Panelist: Children and Experiential Learning in the Outdoors. Forum for Children and outdoor experiential learning. Sapporo, Japan. January 25, 2004.

Translator at the Forum for Children and outdoor experiential learning. Sapporo, Japan. January 25, 2004.

Translator at the international meeting for outdoor education. Osaka, Japan. January 27, 2004.

RESEARCH EXPERIENCES

An investigation of the leadership development through an outdoor leadership program experience focusing on emotional intelligence. (Data Collected from March 2005 to January 2006. Completed for a doctoral dissertation, Indiana University).

Data collection, entry, translation of the instrument for the international study about environmentally desirable response (Data Collected in spring-fall 2005 in US & Japan. PI: Alan Ewert, Ph.D., Indiana University & Graeme Galloway, Ph.D., LaTrobe University).

Data entry and analyses for study about perceived leisure benefits (Summer-fall 2005. PI: Alison Voight, Ph.D., Indiana University).

Data entry, analyses, interpretation, and article submission for study about outdoor program and environmental belief (Summer-fall 2005. PI: Alan Ewert, Ph.D., Indiana University).

An investigation of the effect of outdoor leadership program experience on leadership. Completed as a pilot study for a doctoral dissertation. (Data collected in summer 2004).

A survey of outdoor leaders' emotional intelligence and leadership. Presentations and article submission. Completed as a pilot study for doctoral dissertation. (Data collected in Feb 2004).

Translation of the instrument, survey administration and a presentation for the study about wisdom leadership as perceived by expedition leaders. (Data collected in summer 2003. PI: Chris Cashel, Ph.D., Oklahoma State University).

Qualitative approach to the nature of wilderness experience: Person-situation interaction. A presentation and article submission. Completed as part of Y611 Qualitative Analysis. Dr. Tom Schwen, Indiana University.

Instruction methods of outdoor education regarding experiential learning in the United States. Article published. Master's thesis at the University of Tsukuba, Ibaraki, Japan.

SERVICES

2006-Present	Reviewer for Journal of Experiential Education
2006-Present	Reviewer for Journal of the Wilderness Education Association
2006-Present	Wilderness Education Association Research Committee
2006-Present	Wilderness Education Association Curriculum Committee

2006	Advisory Committee of the CORE (Conservation and Outdoor Recreation/Education) Program at Indiana University.
2005, 2006	Co-Editor, Proceedings of the National Conference on Outdoor Leadership, Wilderness Education Association.
2004, 2006	Reviewer, Research in Outdoor Education, Coalition for Education in the Outdoors.
2004	Reviewer, Proceedings of the 2004 Annual Conference of the Association of Experiential Education.

ACADEMIC COURSES TAUGHT/ASSISTED

Spring 2006	Assistant Instructor: R340 Leisure in Modern Society (3 credits) Indiana University, Bloomington, IN.
	Guest Lecture: R385 Wilderness and American Mind (3 credits) International Perspectives of Wilderness Indiana University, Bloomington, IN.
Fall 2005	Course Assistant: R515 Theoretical Foundation of Adventure/Experiential Education (graduate level, 3 credits), Indiana University, Bloomington, IN.
Summer 2005	Assistant Instructor: PRM 427 Wilderness Education (3 credits) Western Carolina University, Cullowhee, NC.
Spring 2005	Assistant Instructor: Conservation and Outdoor Recreation/Education (CORE) Program (18 undergraduate credits, 12 graduate credits), Indiana University, Bloomington, IN.
Summer 2004	Assistant Instructor: PRM 427 Wilderness Education (6 credits) Western Carolina University, Cullowhee, NC.
Summer 2003	Apprentice Instructor: Wilderness Education (3 credits) Oklahoma State University, Stillwater, OK.
Summer 2003	Apprentice Instructor: PRM 427 Wilderness Education (3 credits) Western Carolina University, Cullowhee, NC.
Spring 2003	Guest Lecture: R385 Wilderness and American Mind (3 credits) History and Philosophy of Wilderness (CORE Program) Indiana University, Bloomington, IN.

Spring 2000	Graduate Assistant at the Intensive Winter Activity Class, University of Tsukuba, Ibaraki, Japan.
1997-2000	Adjunct Instructor at the Theory and Practice Class, University of Tsukuba, Ibaraki, Japan.
1998, 1999	Graduate Assistant at the Intensive Winter Activity Class, University of Tsukuba, Ibaraki, Japan.
Spring 1998	Graduate assistant for the Intensive Winter Activity Class, University of Tsukuba, Ibaraki, Japan.
Spring 1998	Assistant Instructor at the Introduction of Physical Education and Sport Science Study University of Tsukuba, Ibaraki, Japan.

POFESSIONAL ORGNIZATION EXPERIENCES

Japan Outdoor Education Society (JOES)

Member since 1997; National Office Staff in 1997-2000; Articles published in the Japan Outdoor Education Society Journal in 2001 and 2004; Presentations at the annual conference in 1998 and 2004; Conference attendance in 1998, 1999, 2001, 2002, and 2004; Translator at the International Meeting in 2004; and received the Research Award 2005.

Association for Experiential Education (AEE)

Member since 2000; Presentation at the Symposium of Experiential Education Research in 2004; Presentation abstract published in the Journal of Experiential Education 2004; Reviewer for the Proceeding of the 2004 Annual Conference of the AEE; Conference attendance 2000-2005; Received scholarship for conference attendance in 2003; Conference Service Crew 2002 & 2005; Editorial Assistant of Journal of Experiential Education in 2005; and a reviewer of the Journal of Experiential Education 2006-present.

Wilderness Education Association (WEA)

Member since 2002; National Office administrative staff 2002-2004; National Office Manager 2004-2005; Conference Staff 2003-2005; Participation in the Professional-Short Course in 2002; Participation in the Instructor Training Clinic in 2003; Apprentice at the Wilderness Steward Program and the Professional-Short Course in 2003;Granted the National Standard Program Instructor Certification in 2003; Articles published in the WEA Legend (newsletter) in 2004 Spring and 2004 Fall; Article published in the Journal of the Wilderness Education Association in 2005; Conference attendance 2002-2006; Presentations at the Conference in 2004, 2005 & 2006; Co-Editor of the 2005 & 2006 Proceeding of the National Conference on Outdoor Leadership; Co-instructed the Wilderness Steward Programs in 2004, 2004, and 2005; Co-instructed the National Standard Programs in 2005 and 2005; Research Committee & Curriculum Committee, 2006; received the Student Award 2006; and a reviewer of Journal of the Wilderness Education

Association 2006-present.

Coalition for Education in the Outdoors (CEO)

Member since 2002; Reviewer for the Research in Outdoor Education 2004 & 2006; Presentations at the Eighth Biennial Research Symposium in 2006; Research Symposium attendance in 2002, 2004, & 2006.

Association for Outdoor Recreation and Education (AORE)

Member in 2000-2001, 2004-2005; Presentation at the International Conference of Outdoor Recreation and Education in 2004; and the article published in the Proceeding of the 2004 International Conference of Outdoor Recreation and Education.

Japan Society of Physical Education, Health and Sport Science

Member since 2005; and Presentation at the 56th Annual Conference in 2005.

Hiroshima YMCA (1992-1997)

Program leader, Counselor and Management staff for camping education programs; member in the student and volunteer leader organization; participated in several staff trainings for summer programs, winter programs, leadership development, West Japan YMCA leader training, and all-Japan YMCA leader training; organized staff trainings.

HONORS AND AWARDS

Research Council Grant-in-Aid of Travel (Presentation), School of Health, Physical Education, and Recreation, Indiana University. 2006 Spring $200.

Grants-in-Aid of Research Awards, The University Graduate School, Indiana University, 2006 Spring, $1,000.

Student Award, Wilderness Education Association, 2006

International Student Fee Assistance, Office of International Services, Indiana University, 2006 Spring, $1,000.

Research Award, Graduate & Professional Student Organization (GPSO), Indiana University. 2005 Fall, $200.

Research Council Grant-in-Aid of Travel (Presentation), School of Health, Physical Education, and Recreation, Indiana University. 2005 Fall $200.

University Fellowship, School of Health, Physical Education and Recreation, Indiana University, 2005-2006 $1,500.

Research Award, Japan Outdoor Education Society. June 2005 ¥30,000 (about $250).

Research Council Grant-in-Aid of Travel (Presentation), School of Health, Physical Education, and Recreation, Indiana University. 2005 Spring $200.

Student Small Research Grant Program, Leisure Research Institute and Department of Recreation and Park Administration, Indiana University. 2005 Spring $1,000.

Research Council Grant-in-Aid of Travel (Presentation), School of Health, Physical Education, and Recreation, Indiana University. 2004 Fall $200.

International Student Fellowship, Department of Recreation and Park Administration, Indiana University. 2004-2005 $5,000.

University Fellowship, School of Health, Physical Education and Recreation, Indiana University, 2003-2004 $1,100.

International Student Fellowship, Department of Recreation and Park Administration, Indiana University. 2003-2004 $5,000.

Student Scholarship, for the Annual Conference of Experiential Education, Association for Experiential Education, 2003 $175.

Student Scholarship, National Outdoor Leadership School, 2003 $500

International Student Fee Assistance, Office of International Services, Indiana University, 2002 $1,000.

AT & T Leadership Award, AT & T, 2001 $4,000.