EFFECTS OF A WILDERNESS PROGRAM ON SELF-ESTEEM AND LOCUS OF CONTROL ORIENTATIONS OF YOUNG ADULTS

by

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ABSTRACT

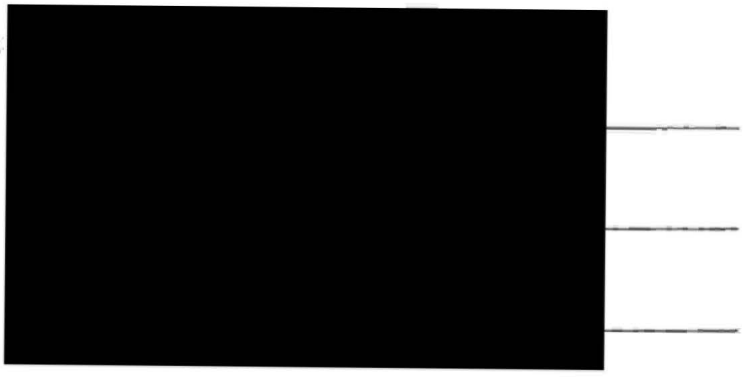
This study examined the effects of a high risk wilderness program upon levels of self-esteem and locus of control orientations of female and male participants (age range 17 - 28), from the perspective of personality development during young adulthood.

A quasi-experimental, non-equivalent control group design was used to collect quantitative data from young adults (N = 45). The program group consisted of participants of a standard 26-day Outward Bound course (N = 19). The course provided a wilderness experience, including challenging activities such as kayaking, rock climbing, and backpacking, designed to promote self-discovery of students. A control group (N = 26) was drawn from individuals registered in the course which followed the course for the treatment group. Pretest and posttests were administered 26 days apart using two self-esteem measures: Rosenberg Self-Esteem Scale and Self-Esteem Scale from the Inventory of Outward Bound Effects. Levenson's multidimensional Locus of Control Scale and the Self-Assertion Scale from the Inventory of Outward Bound Effects were used to collect data for locus of control orientations. Hypotheses were tested using Single Classification Analysis of Covariance ($p < .05$). Qualitative data were collected from one patrol (N = 6) of the program group to answer a research question concerning the process of change associated with participation in a high risk wilderness program.

Results based on comparison with control group subjects showed significant increases in self-esteem for male and female participants.

Differential effects of the wilderness program on changes in locus of control orientations were found depending upon sex. Females and males increased significantly in self-assertion. However, females decreased significantly in perceptions that events were controlled by powerful others and chance, while males significantly increased in internal locus of control orientations. Reasons for these findings are examined. Analysis of qualitative data supported these findings. Students felt more able to exert control over their lives, while developing a realistic recognition of their personal limits. Students also experienced increased self-awareness, leading to a higher but realistic feeling of self-worth.

Conclusions were drawn that the structured wilderness experience provides an important medium for enhancing the personal development of young adults, specifically in self-esteem and locus of control dimensions of personality. Theoretical implications and direction for further research were suggested.

Examiners: 

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If I keep from meddling with people, they take care of themselves,
If I keep from commanding people, they behave themselves,
If I keep from preaching at people, they improve themselves,
If I keep from imposing on people, they become themselves.
- Lao Tzu -

This saying from *The Way of Life* identifies the essential quality within those people who contributed in some way to my ability to complete this project and to learn from the experience.

Don Knowles' guidance, confidence, humour, and constant feedback, helped immeasurably. He allowed me to pursue my ideas even when they deviated from his own areas of concentration, providing professional expertise, but more importantly, friendship. Vance Peavy has been a friend as well as committee member, who has contributed much to my sense of wonder and desire to learn. Rey Carr did nothing but listen, which is a lot. Walter Muir helped me tackle the statistical analysis. Thanks.

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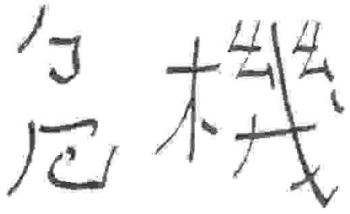
with students during my own years as a wilderness instructor which gave me the impetus to continue learning about the Outward Bound process.

Finally, for belief in me, and encouraging me to continue to take risks and accept challenges in my own life - where, succeeding or failing, I have learned - I thank my friends and family. I need not name these people as they know who they are and what they've meant to me.

I acknowledge most of all, the wilderness as a source of mystery and life.

Having said all this, I'd like to qualify it with the words of Sigurd F. Olson - *You can measure soil, water, and trees, but intangibles never.*

To all those who believe,
as I do,
that crisis provides both danger and opportunity



CHAPTER I

STATEMENT OF THE PROBLEM

Introduction to the Study

The transition from adolescence to adulthood is often a difficult period in human development. While not as turbulent as adolescence, young adulthood is generally a time of change when young people attempt to become independent of their parents and assume more responsibility for themselves. Positive psychological adjustment during this time involves the development of self-reliance and a stable and positive self image (Mussen, Conger, Kagan & Geiwitz, 1979). The age at which these adjustments occur will differ among cultures and between individuals. In our society, developmental psychologists generally agree that the period of young adulthood begins sometime between the ages of 17 - 22 (Boelen, 1978; Mussen, et al., 1979) and is usually marked by events such as graduating from high school, choosing jobs, attendance in post secondary institutions, and choosing a mate.

The shift from dependence on others to dependence on the self during the young adult stage is developed and formalized in some cultures by experiences called "rites de passage". These experiences are usually demanding situations where the individual develops a feeling of self-confidence and self-worth through reliance upon one's own actions. In our society, formalized "rites de passage" do not exist. Knepler (1969) notes that "the relative absence of such rites of passage would seem to contribute to the difficulty of transition in our youth . . . from adolescence into adulthood" (p. 216). However, a similar kind of experience is available to young adults through

Outward Bound and related Wilderness Programs. Through demanding, and often high-risk, wilderness activities such as kayaking, backpacking, canoeing, and rock climbing these programs provide individuals with experiences which are intended to result in increased self-esteem, self-confidence, and self-reliance.

The objective of these wilderness programs is stated succinctly in the Outward Bound Canada brochure (1980) entitled 'Self Discovery Through Adventure':

> Outward Bound . . . prepares young men and women for life, by revealing to them--through exciting wilderness activities and stress situations--the great stores of energy, ability and strength of character which they all possess.

There are currently 30 Outward Bound Schools in 15 countries around the world, including two schools in Canada. Many other similar wilderness programs are associated with correctional agencies, high schools and colleges, manpower training courses, and psychiatric hospitals. These programs attempt to create personal growth experiences for young adults. The degree to which participation in such programs does lead to self-discovery, associated with changes such as increased feelings of self-worth and self-reliance, is an important research topic given the developmental needs of young adulthood. The present study explores some relationships between participation in wilderness programs and the personal growth of young adults.

Purpose of the Study

Self-esteem, self-confidence, and self-reliance are considered essential elements in the development of young adults' ability to adjust positively, and to cope with the stresses inherent in adult life. The physical and psychological stress provided by wilderness

programs is claimed to improve the self-functioning of most individuals (Bernstein, 1972; Pickard, 1968). This improvement, according to the substantial body of research cited by Shore (1977), is found primarily in the participant's self-concept, particularly in the evaluative aspect of self-concept termed self-esteem. To date, studies which have concentrated on the relationship of self-esteem and the wilderness experience have yielded inconclusive and confusing results (Shore, 1977). According to Smith, Gabriel, Schott and Padia (1975), "these studies have been impaired by a variety of design limitations" (p. 1). For example, few studies using control groups have been reported. Many of the self-esteem instruments have had questionable validity and reliability.

The present study replicated previous studies, thereby adding to the understanding of self-esteem and the 'wilderness experience'. To improve on the validity and reliability of previous studies, two well-validated instruments were used within a rigorous control group design.

The study also extended present understanding of the impact of wilderness programs by investigating the personality construct, locus of control. Positive psychological adjustment is generally associated with an internal locus of control, which refers to the "perception of events (positive or negative), as being a consequence of one's own actions and thereby potentially under personal control" (Lefcourt, 1976, p. 29). Two goals of wilderness programs, improved self-reliance and self-assertion, indicate a possible relationship between locus of control and the 'wilderness experience'. Specifically, participation in a wilderness program has been assumed to lead to a shift toward an internal locus of control, on the assumption that experiencing increased effectiveness in dealing with one's environment will lead to an

increased perception of personal control. Recent studies have investigated the effects of a high-risk wilderness experience on the locus of control of participants (Partington, 1977; Stremba, 1977). Nowicki and Barnes (1973) found that successful experience with challenge increased the internality of adolescents. However, only a small number of studies have been done in this area, indicating a need for further research.

The main purpose of this study was to determine whether participation in a high-risk wilderness program has any effect upon self-esteem and internal-external locus of control. Specifically this study examined the effects of an Outward Bound course upon the levels of self-esteem and the locus of control orientation of male and female participants between the ages of 17 to 28.

CHAPTER II

REVIEW OF RELATED LITERATURE

The two personality variables of importance to this study are self-esteem and locus of control. The literature reviewed in this section was selected for three purposes: a) to provide evidence that the variables self-esteem and locus of control are related to positive personal development, particularly during young adulthood, b) to show that both self-esteem and locus of control are susceptible to change, and c) to summarize previous studies which concern the relationship of wilderness programs to these two personality variables and to show the need for the present study.

This review is divided into three parts. The first section deals with the self-esteem construct in relation to personality development and enhancement of self-esteem during young adulthood. The second section reviews locus of control literature focusing upon the characteristics associated with internal versus external control beliefs and the modification of these orientations. The final section examines self-esteem and locus of control variables in relation to participation in a high-risk wilderness program.

The Self-Esteem Construct

Self-esteem has been related to personal development in both personality theory and in empirical studies investigating human development. Theories of adolescence and young adulthood suggest that early adolescence is often accompanied by a decrease in self-esteem followed by a rise in self-esteem as the individual moves toward a greater degree of self-differentiation and independence as a young adult

(Rosenberg, 1979; Newman & Newman, 1975). Katz and Zigler (1967) found that greater self-ideal discrepancies were reported with increased age due to a more mature level of self-differentiation and evaluation. Although in normal development, anxiety may accompany this disparity between the real and the ideal self, it also appears to result in an increased global self-esteem. Newman and Newman (1975) explain this paradox, in the framework of Erikson's theoretical definition of identity, "as a process of reality testing and reorientation that culminates in an invigorating sense of 'well-being' about having a clearer sense of how one fits one's social environment" (p. 209). In another approach to personality development taken by Carl Rogers and the self-enhancement theorists, a high level of self-regard or self-acceptance is seen as a necessary condition for growth during the adult transition. The need for positive self-regard occurs as the individual strives for self-actualization. Successful self-actualization, as challenges are met and potentials are realized, increases global self-esteem (Rappoport, 1972).

The empirical studies reviewed also support the notion that self-esteem is associated with adjustment during young adulthood. Mussen et al. (1979) state that college students who have achieved personal identity tend to be relatively independent of family influences and high in self-esteem. According to Nuss (1969), an individual who does not develop a feeling of self-worth will be less likely to display spontaneity and independence than an individual who has a high level of self-esteem. It is his contention that high self-esteem is an antecedent of adult creativity.

> The low-esteem person is more likely to imitate, to conform, to yield his integrity when his views differ from others, especially from the expectations of his peers . . . feeling good about one's self seems necessary to being one's self: i.e., perceiving and responding to life as an individual. (p. 313)

The ability to be creative is important in the transition from adolescence to adult identity and independence, because the individual is continually being required to make decisions, respond to new situations, and to problem solve. Enhanced self-esteem is therefore related to the individual's capacity to respond to new and routine situations in creative ways.

Coopersmith (1967) reports that high scores on the Self-Esteem Inventory, which measures global self-esteem, are significantly related to a variety of other variables associated with positive adjustment during young adulthood: i.e., creativity, academic achievement, resistance to group pressures, willingness to express unpopular opinions, perceptual constancy, self-confidence, social involvement and positive expectations about the outcomes of one's own behavior. Likewise, Rosenberg (1979) reports that global self-esteem scores are associated with two major realms of achievement during adolescence: social and academic achievement.

Low self-esteem scores have been correlated with a number of negative personality variables. Rosenberg's (1965) study which was based on a sample of 5,024 high school students, showed a correlation between low self-esteem and depression. It also reported that a large number of psychophysiological indicators of anxiety such as hand trembling, heart pounding, pressures or pains in the head, hand sweating, and dizziness, were associated with low levels of self-esteem.

Similarly, Luck and Heiss (1972) found low global self-esteem to be significantly related to submissiveness, depression, anxiety, maladjustment and vulnerability in a sample of adult males. Coopersmith (1967) also associated low self-esteem with a lack of confidence, behavioral passivity and social withdrawal, and preoccupation with personal problems and difficulties.

Given that high global self-esteem does indeed seem to be associated with positive growth during the young adult phase of human development, an important question is whether or not the self-esteem of young adults is susceptible to change. The studies reviewed provide evidence that development of self-esteem may be enhanced. Researchers generally report changes in self-esteem due to participation in a variety of short-term programs such as counselling interventions and activity programs. Peteroy (1979) studied the effects of different counselling orientations on the self-esteem of college students. He found that levels of self-esteem increased significantly depending upon the nature of the expectancies of leaders and participants within different counselling groups. It was concluded that involvement in a growth group enhanced the client's self-esteem.

Significant increases in feelings of self-worth were found for a sample of college students with initially low levels of self-esteem after they had participated in a three week goal attainment program (Parrott & Hewitt, 1978). The program involved keeping a daily record of the extent to which goals involving increased sociability, improving interpersonal relations and enhancing individual achievement, were accomplished. The researchers concluded that the program did help participants to alter levels of self-esteem.

A three-month self-defense training course for women 18 to 40 years old, resulted in positive changes in self-esteem (Donaldson, 1979). Westfried (1979) studied the impact of an intensive five-week residential summer program on 260 artistically and creatively gifted adolescents. She reported an overall strengthening of positive attitudes toward the self for both males and females. And finally, Hunt and Hardt (as cited by Rosenberg, 1979) in a two year longitudinal study of a sample of 303 students in the Upward Bound program, intended to generate the skills and motivation for college success among young people from low income backgrounds and inadequate secondary school preparation, found that self-esteem increased significantly for the program participants when compared with a control group.

In summary, the literature reviewed lends support to the assumption that a relationship exists between levels of self-esteem and positive personal adjustment during young adulthood. High self-esteem scores are generally associated with individual characteristics such as a greater degree of self-differentiation, independence, spontaneity, creativity, academic achievement, resistence to group pressures, social involvement, and self-confidence. Low self-esteem is most often related to poor personal adjustment indicated by anxiety, depression, vulnerability, submissiveness, and social withdrawal. Literature reviewed also provided evidence that enhancement of self-esteem is possible due to involvement in short-term programs such as counselling (i.e., personal growth groups), self-defense courses and residential summer camps.

The Locus of Control Construct

The concept of internal-external locus of control is derived from social learning theory and was initially defined by Julian Rotter (1966). Rotter describes this construct as a generalized expectancy held by individuals about whether or not success or reinforcement in specific situations is dependent upon their own actions or is determined by external forces such as chance and powerful others. Those who perceive positive or negative events to be a consequence of their own actions and therefore under personal control are classified as internals. On the other hand, those who believe that what happens to them is the result of external agents (fate, luck, or powerful others) are generally characterized as externals. Levenson (1972) has made a further distinction within the concept of external locus of control. She points out that it is important to differentiate between those people who believe that chance determines the course of events and those who believe that powerful others are in control.

The perceived relationship between one's own behavior and its consequences has been the concern not only of social learning theory but of personality theorists as well. Constructs of a similar nature to locus of control have been mentioned as important variables in personality development. For example, Alfred Adler's theory of human personality describes a basic human motive as the striving for control over the personal world--an overcoming of helplessness and a striving for superiority (Lefcourt, 1966). Rotter (1966) also points out that the literature of personality theory discusses concepts which are similar to his locus of control construct. Specifically cited are Angyal, who spoke of an individual's motivation towards autonomy and

active mastery of their environment, and R.W. White, who described the importance of personal competence in development. So, in theory the concept of locus of control is believed to illustrate an important variable in personality development.

In empirical research, a variety of personality and behavioral characteristics have been reported as correlates of locus of control. Of particular importance in a consideration of the transition period of young adulthood is the frequent association of locus of control with adaptive and maladaptive behavior such as creativity, delay of gratification, anxiety, persistence, information processing, self-esteem and interpersonal relations (Gilmor, 1978). Joe (1971), in a review of internal-external control as a personality variable, reports that

> Findings depict externals, in contrast to internals, as being relatively anxious, aggressive, dogmatic, and less trustful and more suspicious of others, lacking in self-confidence and insight, having low needs for social approval, and having a greater tendency to use sensitizing modes of defense. (p. 623)

Gilmor (1978) reviewed the extensive literature on locus of control, with a focus upon the developmental aspects of the construct. He gives evidence of many studies that have reported correlations between internality and characteristics such as perceptions of independence and autonomy, lower state and trait anxiety, and an association with more successful positive development using Erikson's psychosocial stages as the criteria.

Several investigators have demonstrated a relationship between an external locus of control orientation and psychological disturbances (Joe, 1971; Lefcourt, 1976; Levenson, 1973a). Boor (1979) investigated the relationship of internal-external control to United States suicide rates. He found that control scores were correlated significantly with

the increasing suicide rates of the total U.S. population. This correlation increased significantly for persons between the ages of 15 - 34. More specifically, Boor concluded that variations in perceptions of external control corresponded to variations in suicide rates. Joe (1971) also reports studies which support the existence of a relationship between externality and suicide proneness.

Levenson (1973a) investigated the relationship between neurotic and psychotic patients and locus of control. She reports that patients perceived significantly more control by powerful others and chance forces than normal samples. Depression, another form of psychological disturbance, has also been found to be highly correlated with external locus of control beliefs (Gilmor, 1978; Joe, 1971). Delay of gratification and future time perspective are two other psychological variables often associated with locus of control. Delay of gratification, which reflects the ability to assess implications of actions and make appropriate judgements based on future expectations, and to pursue long range goals, is related to an internal locus of control. Both delinquency and psychiatric disturbance is often associated with the inability to delay gratification and with the possession of a limited future time perspective which is also correlated with externality (Lefcourt, 1976).

The transition from adolescence to adulthood is a time of coping with many new challenges and as Lefcourt (1976) indicates, an external locus of control orientation is an impediment to coping with challenges and is associated with maladjustment and negative feelings. Since the reviewed literature generally indicates that desirable characteristics are correlated with an internal locus of control, the shifting of one's

locus of control from external to a more internal position is a desired outcome. One event that changes an individual's locus of control is age. Gilmor (1978) reports that a consistent correlate of generalized locus of control expectancies found in the literature is age. Internality was consistently found to increase with age, through late adolescence into adulthood. Gilmor states that this developmental change in locus of control seems linked to the growing independence from parental dominance and the increased exploration of the environment. Lefcourt (1966) also states that with increases in age, particularly mental age, individuals come to perceive themselves as more able to determine the events which directly affect their own lives. An interesting aspect of the change in locus of control with age is found in the research concerned with antecedents of locus of control orientations. Crandall (1973) found that among the correlates of locus of control scores, independence training was one of the most reliable. In other words, parental attitudes toward independence affected the development of locus of control in their children--"the internal adult has at some time during childhood, experienced a greater push out of the nest than the external adult" (cited in Lefcourt, 1976, p. 103). A similar finding was reported by Levenson (1973b) in a study of perceived parental antecedents. Internal control was connected with positive, independence oriented behavior of the mother, for a group of undergraduate students.

Modification of locus of control orientations has also been accomplished by a variety of training programs and counselling techniques. In Gilmor's (1978) review, the studies reported generally support the notion that short term programs can alter locus of control beliefs. Experience in behavior modification programs, counselling

sessions, and highly structured camp programs was found to increase the degree of internality in participants. Joe (1971) also concludes from his review of the literature that belief in internal control may be increased by participation in community action programs, crisis counselling interventions, and psychotherapy. It is interesting to note that Lefcourt (1976), Levenson (1973) and Gilmor (1978) each conclude that the more action-oriented therapies and programs, which allow participants to experience immediately the contingency between their own behavior and the subsequent results or reinforcements, seem to be the optimal approaches for changing the subject's perception of causality.

In summary, the literature reviewed shows that a variety of behaviors and characteristics indicative of adaptive functioning are related to the locus of control beliefs held by young adults. It also provides support for the contention that the locus of control variable is susceptible to change due to a variety of growth-oriented short-term experiences. And, that with change toward a more internal locus of control, individuals can develop greater independence, more self-confidence, and a greater ability to cope with challenge.

Literature Pertaining to Wilderness Programs

Given the implications of the locus of control and self-esteem variables for positive psychological adjustment during the young adult stage of development, experiences that enhance these variables are desirable. High risk wilderness programs such as Outward Bound have often claimed to provide this kind of experience. This final section of the review of literature explores the reported relationships between these two variables and participation in a wilderness program.

Dr. Kurt Hahn founded the Outward Bound movement in 1942 with the intent of reducing the high mortality rate of young men during World War II by including severe physical challenge as part of their training.

> He based this approach on the conclusion that the younger men hadn't had experience in testing the limits of their endurance and so, unaware of their inner strength, gave up and died. This led him to structure activities that created stressful situations which helped establish self-confidence and a more positive self-image with each successfully completed challenge. (Alexander, 1980, p. 6)

Outward Bound has subsequently evolved internationally into an educational, as well as a corrective and preventative counselling, concept. Since failure to deal satisfactorily with environmental stresses and demands generally leads to loss of self-esteem and self-confidence (Altmaier & Leary, 1979) it would be appropriate to assume that success in dealing with challenging, stressful situations, such as those provided by high-risk wilderness programs, would enhance feelings of self-esteem and increase self-confidence and the feeling of being in control of life experiences. Empirical research designed to test the hypothesis of a relationship between wilderness programs and personal growth began in the mid-1960s. Shore (1977) provided the first overview of the research literature related to Outward Bound programs. This review reveals that much of the literature is unpublished and that many researchers have used questionable methodology and instruments in their attempts to measure change resulting from participation in Outward Bound. He states "one must conclude, overall, that the research literature of Outward Bound is weak" (p. 3). To date, studies of Outward Bound and other similar wilderness programs have focused primarily upon an investigation of changes in self-concept. Although the present study is concerned specifically with changes in the self-esteem dimension of the self,

studies which report self-concept changes will also be reviewed as often these terms are used interchangeably in psychological research.

One of the first substantial pieces of research (Fletcher, Note 2) used questionnaires and interviews to collect replies of ex-students and sponsors (employers, parents, and teachers) concerning personal growth. A random selection of 3,000 from the approximately 20,000 students who attended British Outward Bound Schools during 1962-1967 was used to determine the effects of the experience. He reports that 86% of the students believed that they had increased in self-confidence; 70% of the sponsors reported an observed increase in self-confidence; 78% of students felt they had increased in maturity; and 73% of the sponsors noted an increase in maturity.

Clifford and Clifford (1967) hypothesized that changes in feelings of self-worth and competence would occur from participation in a standard one-month long Outward Bound course. Using a sample of 36 adolescent males aged 16 to 21 years they measured change with a self-rating scale, a self-description and an ideal description scale, a counsellor rating scale, and a semantic differential test. The measures were administered before the Outward Bound course and again one month later, after the course had ended. A significant change occurred in self-concept scores. Specifically, these changes illustrated tendencies toward a greater degree of positive self-rating and self-description. The researchers concluded that changes in the general self-concept were probably related to the initial level of self-evaluation, with the majority of change being accounted for by those boys with the poorer self-ratings on the pretest. No change was found in the ideal-self ratings over time. However, a significant change occurred in the discrepancy between the

real and the ideal self-concepts possibly resulting in a more realistic view of the self. A weakness of this study, and indeed of many subsequent studies, was the lack of a control group. Payne, Drummond and Lunghi (1970) conducted a replication of the Clifford and Clifford study, but with the important addition of a control group. They measured personality and self-concept change in 35 male adolescents (17 to 19 years old) who voluntarily participated in a high-risk wilderness arctic expedition. This expedition was one month long and included a variety of physically and mentally challenging activities similar to those used in Outward Bound programs. The control group was chosen from applicants to the program who had narrowly missed selection. A significant decrease was reported in the discrepancy between the self and the ideal self for the program group. The researchers sum up their findings in the following way:

> The experimental group came to describe themselves more approvingly and to describe a more realistic and more attainable ideal self: that is, they had moved a little towards their ideal and their ideal had moved a little towards themselves. (p. 213)

Wetmore (cited by Shore, 1977) researched the influence of an Outward Bound experience upon the self-concept of adolescent males during 1972. This study is well-designed but, again, is weakened by the absence of a control group. The Tennessee Self-Concept Scale was administered to 291 students at the Hurricane Island Outward Bound School before, after, and six months following the end of the course. Wetmore found significant changes for the various self scores with the exception of the self-satisfaction scale.

Studies dealing with wilderness experiences for special populations have also reported change in the self-concept domain. Stimpson and

Pedersen (1970) considered the effect of a three-week wilderness survival experience, similar in organization to the standard Outward Bound course, upon the self-esteem of underachieving male high school students. Data were collected by a semantic-differential test two weeks prior to the expedition and immediately after. Analysis of results indicated a significant increase in evaluation of the self. However, the conclusions are limited due to an extremely small sample size (N=8) and the lack of a control group.

Researchers have also been interested in wilderness programs used as therapeutic intervention for delinquency (Collingwood, 1972; Thorstenson & Heaps, 1972). The variables most often chosen for study have been self-concept, self-esteem, and, more recently, locus of control. Kelly and Baer (1969), the most prominent researchers in this field, found significant changes in the social attitudes and self-concepts of 60 delinquent males who attended a standard Outward Bound course. In another similar study, the Tennessee Self-Concept Scale and The Rotter Internal-External Locus of Control scale were administered to 18 male and female delinquents before and after a wilderness experience (Grant, Note 3). Reported were changes in both self-concept and locus of control. However, no control group was used.

Partington (1977) reports a study which failed to find significant effects of a wilderness experience on socially maladjusted adolescents but this study has serious limitations in generality resulting from the type of program used as the treatment condition. Treatment involved unstructured activities during three 5-day trips in fall, winter and spring, and one 10-day trip in the summer, whereas the standard wilderness program consists of a series of structured activities over a 26 to

30 day time period. Other limitations related to the techniques and data used in the analysis. Ziller's Self-Other Orientation Tasks were used to measure changes in self-concept. Baker and Hagedorn (Note 1), in an assessment of five self-esteem measures, find that the measures from Ziller do not correlate with the more conventional measures of esteem. Furthermore, 86% of the participants in this study did not complete the program, probably because of the extended time period of the course.

Few studies have dealt with long term changes in self-esteem, most likely due to the difficulty of maintaining contact with subjects once they complete a wilderness program. One of the few longitudinal studies is reported by Heaps and Thorstenson (1974). Using the counselling form of the Tennessee Self-Concept scale, they found significant increases in the self-esteem of 25 male and female university students, immediately and one year after participation in a wilderness experience. A significant phenomenon is reported by Weider (cited in Shore, 1977) in "Evaluation Report: Outward Bound Pilot Project", 1976. Six students sent to the North Carolina Outward Bound School were administered the Coopersmith Self-Esteem Inventory prior to the course, immediately after, and six months later. He reported no significant increase in scores on the posttest but significant increases were found between the pretest scores and the scores obtained six months later. This suggests that the change in students' self-esteem developed during the six months following the actual course involvement. Kimball (1980) comments on this phenomena in a discussion of measurement techniques for Outward Bound programs:

> The inappropriateness of the wilderness setting for psychometric testing relates to the need for an incubation period of about a week before post-testing students. Once the dirt is off and dietary deprivation satiated, the former student begins to take pride in what has been accomplished. As instructors, we have all probably received the letter from a student, three or four months after a course, telling us that the course is beginning to make sense. (p. 156)

Currently, researchers continue to focus upon changes in self-concept and are beginning to look more closely at shifts in the locus of control orientations of wilderness program participants. Three recent studies have used rigorous research designs in examining the effects of wilderness programs on self-esteem. Smith, Gabriel, Schott and Padia (1975) examined the effect of three Outward Bound courses on four variables: self-esteem, self-assertion, self-awareness, and acceptance of others. The researchers used the Inventory of Outward Bound Effects in a time-series design where evaluations were sent out to the students every two weeks (before, during, and after their course). Statistically significant increases in self-esteem were found for two of the three courses. Findings also showed that Outward Bound had a significant positive impact on the self-assertion variable for all three courses. No significant effects were found for the self-awareness and acceptance of others variables. They hypothesize that this may have been due to the low reliabilities of the self-awareness and acceptance of others scales in the testing instrument. Findings which parallel those of the study by Smith et al. (1975) are reported in an unpublished thesis by Hopkins (Note 4). He used the Inventory of Outward Bound Effects to test for changes in a sample (N=30) of male students after a standard Outward Bound course at the Canadian Mountain Outward Bound School. Apparently the age range (14-22 years) was unusual as 16.5

years is normally regarded as the lower limit for Outward Bound courses. Hopkins found that there was a significant increase in student's self-esteem. The results also supported the hypothesis that students would increase in self-assertion, especially in leadership and challenging situations. No positive change was found on the self-awareness or acceptance of other scales. Koepke (Note 5) examined changes in anxiety levels and self-concepts of 44 male and female participants resulting from a wilderness experience at the Colorado Outward Bound School. The students were tested with the Gough Adjective Check List for self-concept and the State-Trait Anxiety Inventory before and at the conclusion of the course. It was noted that females set higher ideals for themselves but males were more successful in approaching their ideal self-concept. Both male and female participants believed themselves closer to their ideal self after the course. She concluded that participants had a more positive view of themselves and had lower anxiety levels following a wilderness experience.

To date, few studies have investigated the relationship of locus of control to participation in a high risk wilderness program. Those studies that have looked at this variable have presented inconclusive findings. Nowicki and Barnes (1973) studied changes in locus of control orientations in 261 inner-city adolescents from Atlanta who participated in a highly structured one-week camp program. Activities were planned to emphasize challenge and the use of group cooperation to accomplish goals. Differences in pretest to posttest locus of control scores supported their major hypothesis that shifts would occur toward a more internal orientation. They concluded that the students were better able to see the connection between their behavior and the results of

their own actions. The lack of a control group was seen as a limitation to this study.

Another investigation of the locus of control variable (Eastman, 1973) assessed changes in 40 adolescent males who volunteered for participation in a month long program comprised of classroom instruction in outdoor skills followed by a short wilderness living experience. The program was specifically designed to increase internal locus of control by creating conditions where students might feel more in control of events. Using the Rotter Internal-External Locus of Control scale, Eastman found no significant increase in internal scores.

Only one available study investigated changes in both self-esteem and locus of control orientations using a pretest-posttest nonequivalent control group design. Stremba (1977) studied the effects of a 23-day Outward Bound course (at the Southwest Outward Bound School) on self-esteem and personal control variables for 40 male and female young adults (mean age 18.5). Bill's Index of Adjustment and Values was used to measure four components of self-esteem: concept of self, self-acceptance, concept of ideal self, and discrepancy between concept of self and concept of ideal self. Significant differences were found in the concept of self component for the Outward Bound program group. The differences in scores on the self-acceptance scale did not reach significance but did show a positive increase for Outward Bound participants. No significant differences were found in the ideal self component and the real-ideal self component of the self-concept. Stremba also reports a lack of significant increase in the internal locus of control dimension as measured by Rotter's Internal-External scale. He concludes that a ceiling effect may have existed for locus of control

scores. In other words, participants already possessed relatively high levels of internality at the start of the program and could not be expected to score beyond the existing degree of internality.

In summary, a review of the literature lends support for the contention that wilderness programs positively affect personality variables but the volume of research which is both reliable and valid is small. The present study employed a control group design and valid measures to increase understanding of the relationship between the wilderness program concept and the personality variables of self-esteem and locus of control. More specifically, this study investigated the following:

1. Hypothesis 1: Levels of self-esteem increased significantly for both males and females as a result of participation in a high-risk wilderness program.

2. Hypothesis 2: Participation in a high-risk wilderness program results in (a) increases in an internal locus of control orientation, and (b) decreases in the chance and powerful others dimensions of locus of control, for both females and males.

3. Research Question: What personal changes, subjectively experienced, accompany involvement in high-risk wilderness programs? In particular, do participants report changes in their feelings of self worth and perceptions of personal control?

CHAPTER III

METHODOLOGY

To accomplish the purposes of this study, both quantitative and descriptive data were gathered. The collection of quantitative data enabled the changes in self-esteem and locus of control to be recorded so that the relationships between operationally defined variables could be statistically tested. As illustrated in the previous section, most empirical studies that have attempted to explore the relationship between self-constructs and wilderness programs have collected quantifiable data. In order to better investigate the process of change associated with participation in a wilderness program, a more subjective methodology was used to allow the researcher to collect descriptive data. This methodology provided a greater understanding of the process of change from the subject's perspective. This approach was intended to enrich the conclusions drawn from statistical analysis of the quantified data.

Sample

The sample used in this study consisted of 45 male and female volunteer participants in the Canadian Outward Bound Mountain School's standard summer course (see Table 1). The age range within this sample was evenly distributed between 17 to 28 years which is the normal Outward Bound course population. Participants came from both urban and rural settings across Canada. Each participant paid their own travel expenses as well as the $750 tuition fee, with the exception of a few students who received financial assistance from Outward Bound Trust Scholarships or correctional and welfare agencies. The latter were a

TABLE 1

Age Means and Sex Distribution of Sample
According to Treatment Condition
(N = 45)

Group		Mean Age	Pretest	Posttest
Program				
	Males	24.23	13	13
	Females	21.50	6	6
	Total group	23.36	19	19
Control				
	Males	23.00	11	10
	Females	22.46	17	16
	Total group	22.69	28	26

small number of people who were attending the course upon recommendation from a probation officer or social worker. The expenditure of money and the time required for travel and for the course itself, demonstrated student motivation which Walsh and Golins (1976) refer to as the primary condition necessary in the learner. This condition is believed to increase the possible benefits to participants of a high-risk wilderness program. Participants came from a variety of educational backgrounds ranging from those still in high school and university to those who had completed professional or technical training. Occupations also varied greatly, including areas such as medicine, commercial art, land surveying, clerical, and human services.

The sample was divided into a control group (N=26) and a program group (N=19) through natural course enrollment. Participants enrolled in the June Outward Bound summer course (K 114) were used as the program group. The control group was drawn from the participants enrolled in the July Outward Bound summer course (K 116).

The descriptive data was collected from a subgroup (N=6) of the program group. This subgroup (often called a patrol in Outward Bound terminology) was comprised of four males and two females who were assigned to this grouping, prior to arrival at the school, by the course director. This assignment was done on the basis of age, sex, and place of origin to insure representativeness.

Program

Before describing the actual program used in this study it is important to discuss briefly the Outward Bound process. The activities which make up a high-risk wilderness program vary according to location, season, and populations. However, all activities used within a

wilderness program, which is designed to promote personal growth of participants, are drawn from the principles of the Outward Bound process. According to the Canadian Outward Bound Mountain School staff manual (1980),

> Outward Bound is an educational process dedicated to the principle that the individual develops self-confidence, concern for others, and self-awareness . . . when confronted by challenging, shared experiences . . . based on adventure in the natural environment and through a learning process based on self-discovery and small group interactions.

Considering the generic description of process to be "a generalized series of conditions, events, and objects which interact to produce a desired effect" (Walsh & Golins, 1976, p. 2), the Outward Bound process may be defined conceptually as a series of characteristic problem-solving tasks set in a unique physical and social environment, which creates a state of adaptive dissonance in the learner. The learner adapts to the dissonance by mastery of himself and his environment which reorganizes the meaning and direction of the learner's experience. This process is further described by the flow chart presented in Figure 1. Walsh and Golins (1976) identify the basic elements of the Outward Bound process as the prescribed physical and social Outward Bound environments, the characteristic Outward Bound problem-solving tasks, the instructor, and the interaction of the learner with all of these.

The standard Outward Bound summer course was chosen for this study as its format is the one most frequently used in Outward Bound and all other high-risk wilderness programs. It contains all the elements of the Outward Bound process as described in the preceding paragraph. The format is generally a 21-26 day wilderness experience

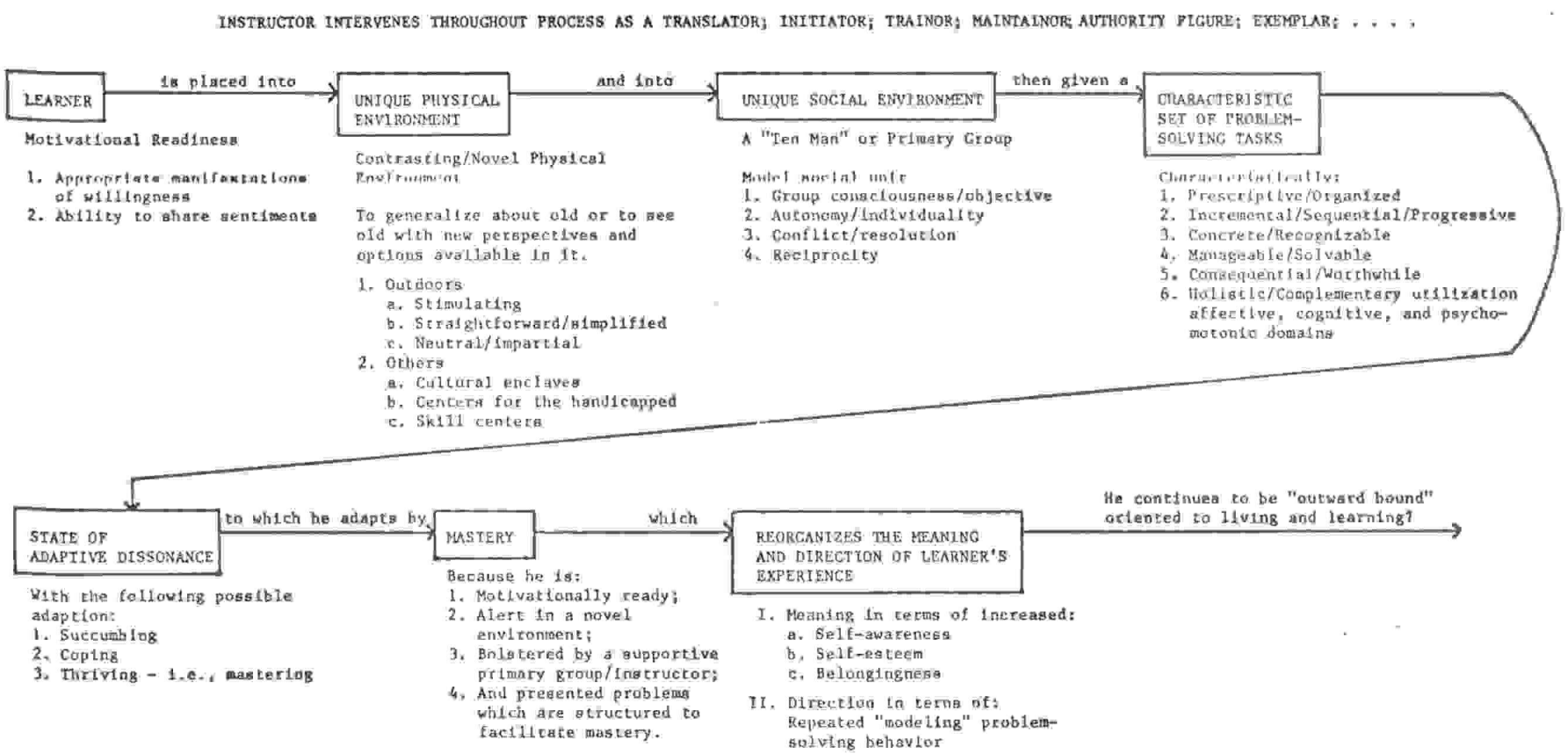


Figure 1. The Outward Bound Process

Note: From "The Exploration of the Outward Bound Process" by W. Walsh and G. Golins. Denver: Colorado Outward Bound Publications, 1976.

which consists of high-risk, stressful activities such as rock climbing, rappelling, mountain rescue, backpacking, kayaking, canoeing, river crossing, first aid, orienteering, and a three day solo experience. Activities are presented in varying and increasing grades of difficulty and are designed so that each individual may successfully challenge them, continually pushing themselves to their own limits. These wilderness activities are used as a vehicle for personal growth. Actual skill acquisition, though important, is secondary.

The Canadian Outward Bound Mountain School, from which the sample was drawn, was selected for two reasons. The first is the geographic location which provided easy accessibility for the researcher. The mountain school is located in the Northern Cascade Mountain range of British Columbia, near Keremeos. The only other Canadian Outward Bound school is in Ontario. The second reason was that, while there were other programs in British Columbia which provided a similar wilderness experience, they were usually geared to a more select population (i.e., delinquent populations). The Mountain School offers wilderness programs which are representative of wilderness programs in general and attracts a wide variety of young adults from across Canada. Over the past year, the school has run four three-week winter Outward Bound courses and ten summer Outward Bound courses of from 21-26 days duration. The wide variety of people who completed programs at the Canadian Outward Bound Mountain School during 1979 is illustrated by the following:

> A total of 417 people, aged from 16 to 40, completed a full length Outward Bound course at the School in 1979. They came from every province in Canada, and from three foreign countries. Thirty-eight per cent of them came from British Columbia, 21%

> from the Prairie provinces and 30% from Ontario. Five per cent came from Quebec and 2% from the Maritimes. Several students came from the U.S.A., one from Britain and one from the Netherlands.
>
> Approximately half our students were teenagers, 15% of them being under 18. Thirty-five per cent were between 18 and 20, 37% were aged from 20-24, and 12% were over 25. Thirty per cent of our students during 1979 were women. (Outward Bound Newsletter, 1980, p. 11)

These characteristics of the Canadian Outward Bound Mountain School contributed to the generalizability of results.

The specific program used in this study was the K114 Co-Ed Summer course which ran from June 4 to June 29, 1980. The participants in this course met at the base camp situated on the banks of the Similkameen River. Each person, upon arrival, was assigned to one of three patrols. Each patrol had an instructor and an assistant instructor who remained with the group for the duration of the course. For the most part, each patrol functioned separately from the others. Exceptions to this were when equipment and logistics made it necessary to double up with another group, or during evenings when the patrols were in base camp. The course activities began immediately upon arrival at camp and continued non-stop for the next 26 days. Table 2 shows the schedule for one group from the June course. The schedule for the other two groups was the same, with only slight variations in the order of activities.

The first two days of the course were spent at the base camp where basic skills necessary for safe wilderness expeditions were taught. These included first aid, map and compass, wilderness travel, and camp craft. During this time, fitness began to be developed through morning run and dips, timed rounds on the rat race obstacle course and daily

Table 2

Canadian Outward Bound Mountain School K114 Co-Ed Summer Course

(June 4 to June 29, 1980)

Schedule

Date	Day	Activity	Comment
June 4	1	Start at 4:30 p.m. Quiet Walk*[a] Director's Welcome and Orientation	Allocation to patrols
June 5	2	6:30 a.m. - Morning Run and Dip* Morning Reading[b] * Rat Race* Ropes Course* Wall and Beam* First Aid - Introduction Initiative Games* Expedition Preparation	
June 6 June 7 June 8 June 9	3 4 5 6	Four Day introduction to mountain travel ⟶ Return to base camp	This is essentially an exercise for further training, building group cohesion, identifying potential weaknesses, and increasing fitness.
June 10	7	Basic Rock Climbing First Aid	
June 11	8	Mountain Rescue Climbing in Caves	
June 12 June 13 June 14	9 10 11	Three Day Unaccompanied Expedition ⟶ Return from expedition	Each patrol plans and implements their own expedition without direct support and supervision of instructor. The groups are shadowed by qualified instructors.

(continued)

Table 2 - continued

Date	Day	Activity	Comment
June 15	12	Community Service Day*	
June 16	13	More-Advanced Rock Climbing River Crossing Techniques	
June 17	14	Kayaking (Whitewater)	
June 18	15	Interviews* Instructor's Option ⟶	Further experience is given in Rock Climbing or Kayaking depending upon individual group needs.
June 19 June 20 June 21 June 22 June 23 June 24 June 25 June 26	16 17 18 19 20 21 22 23	Final Mountain Expedition and Three Day Solo*	
June 27	24	Return from Expedition	
June 28	25	Clean Up Interviews and Final Student Reports Wall and Beam Competition ⟶ Final Dinner, Presentations, and Floor Show	Groups compete against their own previous times in these activities, and against the times of the other groups.
June 29	26	Early Morning Marathon* begins at 5:30 a.m. Breakfast Students leave	

[a] This activity and all others with an asterisk * beside them are described more fully in Appendix A.

[b] The Run and Dip and the Morning Reading occur every morning the students are in base camp. Dependent upon individual instructors, these may also be continued during expeditions into the wilderness.

challenge on the ropes course. Cooperative teamwork developed through group efforts on the wall and beam activities and planning for upcoming expeditions. By day three, the groups left base camp on a four day backpacking trip into the mountains where further instruction was given in basic outdoor skills. Activities during the middle portion of the course increased in difficulty, with more advanced skill training being given and more challenging expeditions being undertaken. Patrols went on a three day unaccompanied expedition and were introduced to basic rock climbing, mountain rescue, river crossing, and kayaking. During this time inidividual interviews and service days were also held. The course culminated in a difficult nine day final mountain expedition which included the ascent of at least two peaks and a supervised three-day solo. The final two days of the course were used for final interviews and student evaluations, and concluded with wall and beam competitions and an early morning marathon.

Dependent Variables

The dependent variables in this study are self-esteem and locus of control.

Rosenberg's (1979) definition of self-esteem was used in this study. Accordingly, the self-esteem construct is taken to mean the evaluative aspect of an individual's self-concept. Self-esteem signifies a positive or negative orientation towards the self. A person with high self-esteem is one having self-respect and positive feelings of self-worth. It is important to note the distinction that is made between a person with a high but realistic level of self-esteem and a person who has feelings of superiority, arrogance, conceit, or

excessive pride. Individuals with a high level of self-esteem are able to appreciate their own merits yet recognize their weaknesses and faults, with the hope of eventually correcting them. The term low self-esteem means "that the individual lacks respect for himself, considers himself unworthy, inadequate, or otherwise seriously deficient as a person" (Rosenberg, 1979, p. 54).

The locus of control variable is taken to mean the degree to which a person feels that what happens to him is the result of his own actions, of chance, or of the influence of powerful others (Rotter, 1966). Those who believe that they control their life will be referred to as internally oriented. People with an external orientation are divided into two groups: those who believe that events in their lives are the result of chance or fate, and those who believe that powerful others control what happens to them (Levenson, 1972).

Design

Quantitative data were collected by the use of the nonequivalent control group design, a quasi-experimental design outlined by Campbell and Stanley (1966). This design may be diagrammed as follows:

$$\begin{array}{ccc} O_1 & X & O_2 \\ \hline O_3 & & O_4 \end{array}$$

O_1 and O_2 refer to the pretest and posttest given to the program group. The X indicates presence of the program treatment. O_3 and O_4 refer to the pretest and posttest administered to the control group. Both the control group and the program group were given a pretest and a postest with an interval of 26 days between the two tests.

The pretest was administered to the program group upon arrival at the Outward Bound School prior to the commencement of program activities but after they had a chance to settle into their cabins and meet their patrol and instructor. It was hoped that this would minimize any anxiety the participants may have been experiencing. All students appeared willing to participate in the study, and most expressed an interest in receiving a summary of the results. The posttest was administered to the program group on Day 26, just prior to departure from the school.

For the control group, the researcher obtained a list of the names and addresses of those registered for the K116 Co-Ed summer course in July, 1980. The pretest was mailed out with a cover letter (see Appendix B) and a stamped return envelope on May 15 to allow for mailing time. A reminder was sent to those who hadn't replied by the beginning of June. Of the 34 people who were sent a pretest, 28 responded by the deadline of June 10. Two of those twenty-eight didn't take the July course. However, the remaining 26 were given the post-test upon their arrival at Outward Bound on July 4. The instructions given for completing the pre and post tests were similar for both the program and control groups. The former was given verbal instructions which matched the written instructions given to the latter in the cover letter that accompanied the instruments. As with the program group, the individuals from the control group were willing to partici-pate. The researcher received many notes from the students expressing interest in the results and enthusiasm for the study.

Descriptive data were collected from one patrol (N=6) within the program group. This material was gathered by the researcher who worked as an assistant instructor with the June course. The close contact with this one patrol for the entire program allowed the researcher to collect the data in a non-interruptive manner. As the researcher assumed an active role in the Outward Bound process, the continuity of the experience for the participants was insured.

The subjective data were of two types: written self-evaluation and individual taped interviews. The written self-evaluations were completed during the three day solo which occurred towards the end of the program. Two aspects of the 'solo experience' made it naturally suited for the collection of self-evaluation data. First, solo is a time when students are encouraged to engage in contemplation and self-assessment. Secondly, it provides them with the opportunity to be alone and reflect on their personal experiences at Outward Bound, and to record their impressions in a journal which they are encouraged to keep throughout the program. Each of the six students were given 10 questions (Appendix C) at the beginning of solo. They were asked to answer the questions or to use them as guidelines for their self-evaluations. Of the six students, only four produced written self-evaluations. The remaining two individuals stated that they felt unable to adequately record their thoughts at that time. Students who produced written evaluations tended to use the questions as guidelines rather than answer each question specifically.

Informal taped interviews were held with each of the six patrol members on the final day of the course. The interviews took place in

a comfortable place on the lawn surrounding the school. Every individual stated that they felt comfortable about the interview being tape recorded. The researcher allowed the participant to talk freely about their personal experience during the past month. Questions were asked by the researcher only when the individual indicated a need for some direction. Each interview was approximately 15 minutes long.

As discussions, personal reflection and evaluation, and interviews are integral parts of the Outward Bound experience, the researcher believes that the collection of descriptive data did not alter or affect the impact of the program upon the participant.

Instrumentation

The three paper and pencil measures used in both the pretest and posttest are described below. A copy of each of the measures is available in the appendix.

Revised Locus of Control Scale. The Revised Locus of Control Scale is a self-report measure developed by Levenson (1972) from Rotter's (1966) Internal-External Locus of Control Scale. According to Levenson (1972), "despite the fact that over 150 studies have been published dealing with the construct . . . reported results dealing with one's locus of control and certain important behavioral variables have been conflicting" (p. 261). Levenson hypothesised that these inconsistent research results were partly due to the broad definition of externals which included all those individuals who felt that fate, chance, or powerful others controlled events. From this, she developed three new scales (referred to in this study as Internal Scale, Powerful Others Scale, and Chance Scale) which distinguish between a chance

orientation and a powerful others orientation. "The rationale behind this tripartite differentiation stemmed from the reasoning that people who believe the world is unordered (chance) would behave and think differently from people who believe the world is ordered but that powerful others are in control. In the latter case a potential for control exists." (Levenson, 1976, p. 377-378)

Each of the Internal, Powerful Others, and Chance Scales consists of eight items in a Likert format which were given to the subject as a unified measure of 24 items (Appendix D). The possible range on each scale is from 0 to 48. Subjects obtained a score on each scale. Some items were adapted from Rotter's Internal-External Scale and the remainder were written specifically for the new scales.

Levenson (1974) reports Kuder-Richardson reliabilities (coefficient alpha) of .64 for the Internal Scale, .77 for the Powerful Others Scale, and .78 for the Chance Scale. Split-half reliabilities (Spearman-Brown) were .62 for the Internal Scale, .66 for the Powerful Others Scale, and .64 for the Chance Scale. She also reports test-retest reliabilities for a one week period of .64, .74, and .78 for the Internal, Powerful Others, and Chance Scales respectively.

The scales are not correlated with a measure of social desirability; correlations between the Marlowe Crowne Social Desirability Scale and each item were all reported to be very near 0.00 (Levenson, 1974). As evidence of construct validity, Levenson (1973b) reports significant relationships between scores on the Revised Locus of Control Scale (Levenson, 1972) and perceived parental behaviors. Also reported are significant relationships between the Revised Scale and two variables:

social action participation (Levenson, 1974) and hospitalization of psychiatric patients (Levenson, 1973a). Other evidence of construct validity is given by the results of factor analyses of the Revised Locus of Control Scale using a psychiatric sample (N=165) and a sample of undergraduate students (N=329). The three predicted factors (Internal, Powerful Others, Chance) emerged (Levenson, 1973a, 1974).

Rosenberg (New York State) Self-Esteem Scale. The Rosenberg Self-Esteem Scale, referred to in this study as the Rosenberg Scale, is a 10-item Guttman scale (Appendix E). It was developed by Morris Rosenberg in 1965 for use with adolescent and adult populations. Designed to measure global self-regard, the scale is a self-administered paper and pencil questionnaire. Subjects are required to strongly agree, agree, disagree, or strongly disagree with each item. The scale is based on contrived items, and yields a seven-point scale for analysis. The short administration time necessary was particularly suited for use in the field situation, where the interference of testing with the subject's experience should be minimized.

Rosenberg (1965) reports a coefficient of reproducibility of .92 and a coefficient of scalability of .72 using a sample of high school students (N=5,024) which indicates that the items have satisfactory internal reliability. Silber and Tippett (1965) obtained a two week test-retest reliability coefficient of .85 for 28 college age subjects. McCullough (reported in Rosenberg, 1979) found a two week test-retest reliability of r = .88, also for a college sample.

Items were selected by Rosenberg on the basis of face validity. He suggest that while it may be reasonable to question one or another

of the items, it appears that the items deal with a general favorable or unfavorable attitude toward the self (Rosenberg, 1979). Relationships between Rosenberg Scale scores and other variables which are theoretically expected to be related to self-esteem have been examined to determine the construct validity of Rosenberg's scale. Rosenberg's New York State Study which involved 5,024 high school students yielded strong relationships between the scale and three other variables: Depressive Affect, Anxiety, and Peer-Group Reputation (Rosenberg, 1965). Kaplan and Pokorny (1969) also report that the Rosenberg Scale is significiantly related to anxiety and depression. Convergent construct validity was considered in a study by Silber and Tippett (1965). Their correlations of the Self-Esteem Scores and three other measures of self-esteem demonstrated high validity results: Kelly Repertory Test (Self-Ideal Discrepancy), r = .67; Heath Self-Image Questionnaire, r = .83; and Interviewers' ratings of self-esteem, r = .56. Crandall (1973) found a moderate correlation of the Rosenberg Scale and the Coopersmith Self-Esteem Inventory, r = .60. Discriminant construct validity is reported by Tippett and Silber (1965).

Inventory of Outward Bound Effects. A modified version of the Inventory of Outward Bound Effects (Smith, Gabriel & Anderson, 1973) was used in this study as a second measure of self-esteem and personal control. The original instrument was a 66-item self-administered questionnaire designed specifically for measurement of four self variables particularly applicable to participation in an Outward Bound program: self-esteem, self-awareness, self-assertion, and acceptance of others. These four variables were chosen in order to meet the demands of content

validity and were picked on the basis of interviews with staff, analysis of program documentation, previous evaluation studies, and materials from a management seminar. Items were selected which related to the operational definitions of the four variables. From the original 66 items, a subset of 47 items was selected based on item-subtest correlations and a conceptual fit between items and their operational definiions. The reliability data for the final version of the instrument is reported in Table 3.

The modified version of the instrument (Appendix F) is a 32-item self-report questionnaire made up of the self-esteem and the self-assertion sub-scales. It differs from the original instrument only in that 15 items from the other two sub-scales have been removed due to low item reliability and definitional problems for these two variables (Smith, Gabriel, Schott & Padia, 1975). It is assumed that the validity and reliability information reported for the original scale would only have been enhanced by the removal of these two subscales to produce the modified scale. For the purpose of this study, the modified scale will be referred to as two separate scales, the Self-Esteem Scale and the Self-Assertion Scale.

Test-retest reliability information is reported by Smith, Gabriel and Anderson (1973) (see Table 3). Details of construct and content validity are given by Smith, Gabriel and Anderson (1975). The major evidence of test validity provided is the ability of the test to distinguish reliably between Outward Bound and control group samples of young adults. The mean composite score for persons who completed Outward Bound was analysed by ANOVA and found to be significantly higher than the control group on self-esteem and self-assertion variables.

TABLE 3

Reliability Data for The Inventory of Outward Bound Effects

Scale	Number of items	Mean	Standard Deviation	Reliability
Self-Esteem	16	51.82	8.35	.77
Self-Awareness	6	21.48	2.97	.44
Self-Assertion	16	56.60	7.16	.78
Acceptance of Others	9	29.99	4.98	.59
Composite Score	47	159.89	17.66	.86

Note. From "Final Report: Project to Design an Evaluation of Outward Bound" by M. L. Smith, R. Gabriel and R. D. Anderson, (Unpublished Manuscript) Boulder, Colorado: University of Colorado, Bureau of Educational Field Services, 1973.

Data Analysis

A Single-Classification Analysis of Covariance was used as the statistical analysis for the results of this study. Covariance analysis provided statistical control over the probable confounding variables of differences in pretest scores of the pre-existing groups. After scores for subjects in the control and program groups were statistically equated, mean differences between the groups were tested to determine the effects of the program upon the two dependent variables: self-esteem and locus of control (Popham & Sirotnik, 1973). Analysis of Covariance was conducted for each of the six measures. Analyses for male and female subjects were done separately on the assumption that the effect of the program might be differential for these two groups. The null hypothesis, that the adjusted means for the program group would equal the adjusted mean for the control group, was tested using (Alpha level) $p < .05$.

CHAPTER IV

RESULTS AND DISCUSSION

This chapter is divided into two sections. The first part describes the results of the statistical analysis of the data and provides a discussion of these results, for the two hypotheses concerning the relationship of the dependent variables self-esteem and locus of control, to the independent variable, participation in high-risk wilderness program. The second part gives the results of the descriptive data, which serve to answer the research question concerning subjectively experienced changes in self-esteem and locus of control.

Results of Statistical Analysis and Discussion

The collection of data to be used in the statistical analysis has been described in Chapter 3. As mentioned, the use of pencil and paper measures as the method for data collection was well received by the students in the control and program groups. The use of psychometric testing in a wilderness setting has been questioned by a number of researchers (Kimball, 1980; Stremba, 1977). Kimball (1980) specifically criticizes the use of tests in a wilderness setting as being a nuisance which many students and instructors don't take seriously, and may even be antagonistic toward. The effectiveness of testing in the present study may have been due to the fact that the researcher was present to explain the purpose of the tests during their administration. Also, the measures were administered in a classroom-type setting provided at the base camp rather than in the field where a certain amount of incongruity would have existed between testing and the wilderness environment.

Based on the reasons given in Chapter III under the Data Analysis section, results are reported according to male and female groupings. A summary of results of the analysis of covariance for the total group is found in Table A (see Appendix G).

Effects of the Program on Self-Esteem

The first hypothesis, which predicted an increase in levels of self-esteem for both males and females as a result of participating in a high-risk wilderness program, was tested in the following manner. Two instruments, the Rosenberg Scale and the Self-Esteem Scale, were used to test for program effects. Analysis of Covariance was performed on scores from the Rosenberg Scale, with pre-program scores as the covariate of post-program scores. Analysis of the results in Table 4 show a significant increase in self-esteem on the adjusted mean scores for both males and females in the program group when compared with the adjusted mean for the control group. Mean scores and standard deviations on the Rosenberg Scale are given in Table B (see Appendix H).

A comparison of the changes in unadjusted mean scores for control and program groups on the pretest and posttest is provided in Figure 2. Possible scores on this self-esteem scale ranged from 0 which indicates low self-esteem to 6 which indicates high self-esteem. A medium level of self-esteem is associated with a score of 3 (Rosenberg, 1979). An inspection of the unadjusted means (Figure 2) shows that scores of female participants in the program moved from 4.33, which shows a generally favorable global self-attitude, to 5.50, which indicates a significantly higher level of self-regard. Changes in unadjusted means followed a similar pattern for scores of male participants, moving from 3.69 to a more positive self-evaluation indicated by a mean of 4.92.

TABLE 4

Analysis of Covariance Comparing Program Group and Control Group Responses on Rosenberg Scale and Self-Esteem Scale

(N = 45)

Measure	Group	Source	df	Adjusted SS	Adjusted MS	F	p
Rosenberg Scale							
	Females	Between	1	3.217	3.217	4.995	.038
		Within	19	12.238	.644		
	Males	Between	1	7.063	7.063	5.327	.032
		Within	20	26.515	1.326		
Self-Esteem Scale							
	Females	Between	1	781.736	781.736	27.678	.000
		Within	19	536.644	28.244		
	Males	Between	1	260.690	260.690	19.811	.000
		Within	20	263.176	13.159		

Note. Pretest scores as the covariate on posttest scores

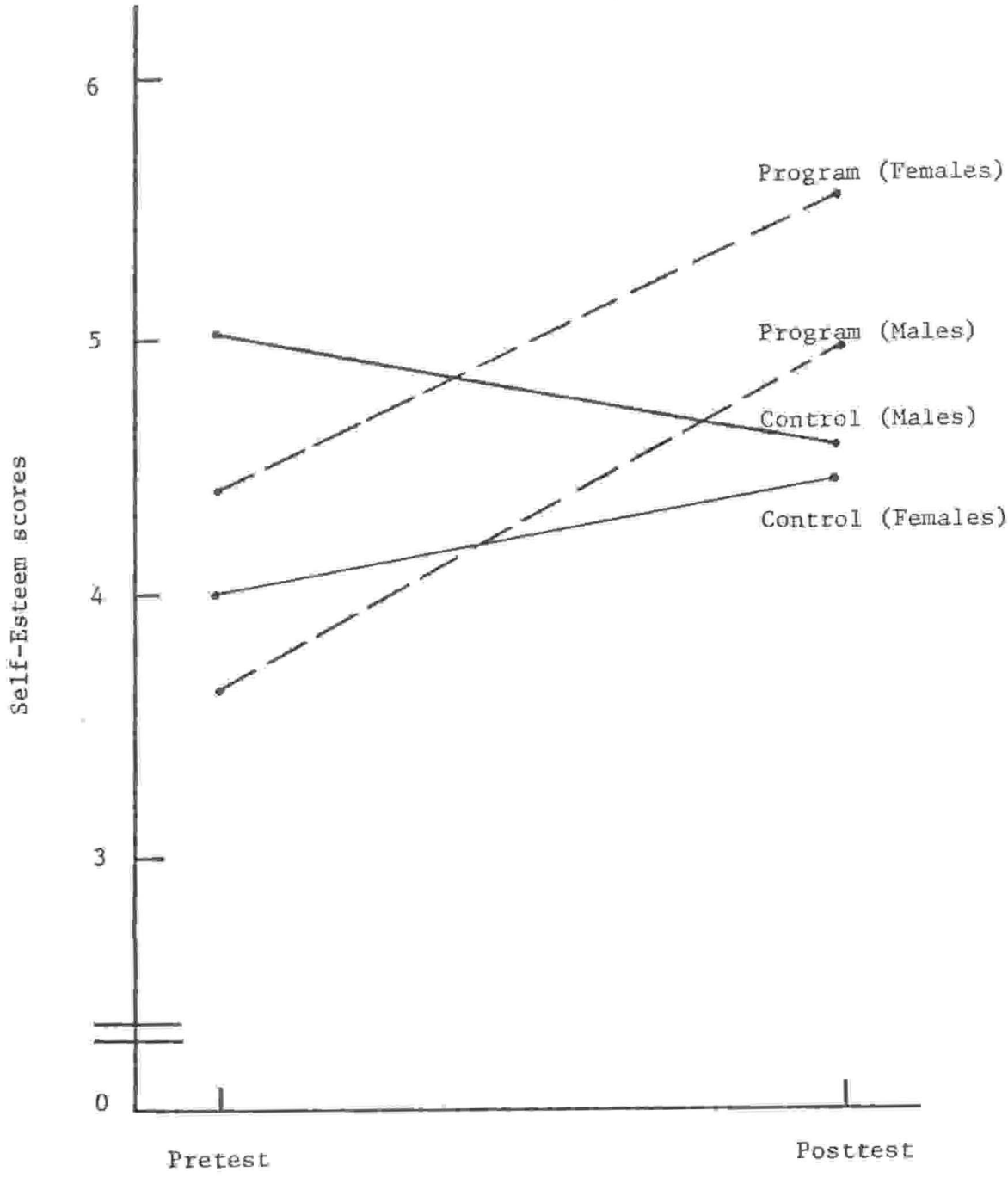


Figure 2. Comparison of unadjusted means for program and control groups on Rosenberg Scale

An analysis of covariance was performed on the Self-Esteem Scale, with the pre-program scores as the covariate of the post-program scores. As indicated by the results in Table 4, adjusted means for the females and males in the program group showed a significant increase in levels of self-esteem when compared with the adjusted means for the control group. Mean scores and standard deviations on the Self-Esteem Scale are given in Table B (see Appendix H).

A comparison of changes in unadjusted mean scores for control and program groups is provided in Figure 3. Possible scores on this scale ranged from 16, which indicates low self-esteem, to 80, which indicates high self-esteem. It can be seen that even though male and female program groups had moderately high self-esteem scores on the pretest, posttest scores showed a large increase in the self-esteem dimension. The female group scores show the largest increase in self-esteem, moving from a mean of 50.33 to 60.83. Male group scores moved from a mean of 51.77 to 56.15.

Inspection of the unadjusted means on both self-esteem measures suggests some alternative explanations in interpreting the results. It may be that not only does an experience such as Outward Bound positively affect an individual's self-esteem (illustrated by the program group means), the lack of such an experience actually seems to decrease feelings of self-esteem as shown by the decrease in control group means over the treatment interval. Another more probable explanation is that the nature of the actual testing situation may have contributed to the mean differences.

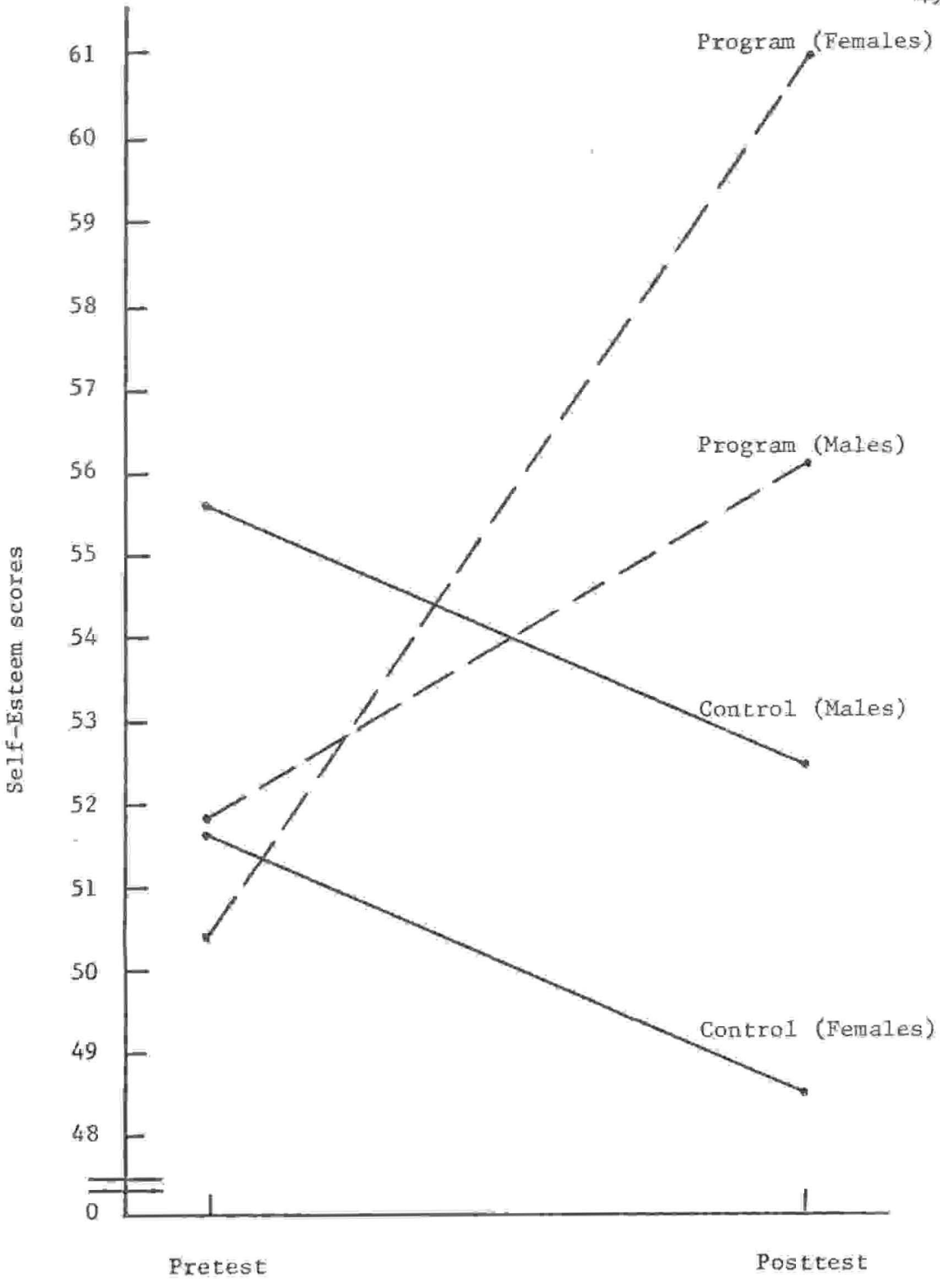


Figure 3. Comparison of unadjusted means for program and control groups on Self-Esteem Scale

As noted, the control group means, for the female group on the Self-Esteem Scale and for the male group on both self-esteem measures, showed a decrease in self-esteem levels on the posttest when compared to pretest means. The circumstances under which the posttest was given may have contributed to this decrease. The posttest was administered to the control group immediately prior to the start of their Outward Bound experience. Due to the slightly threatening nature of an unknown situation (i.e., a month of risky, challenging, new activities), and perhaps also to the self-comparison with the perceived positive qualities of others (i.e., competent instructors, etc.), students may have experienced a slight temporary decrease in feelings of self-worth. This effect may also apply to the pretest data of the program group which was collected under similar circumstances (the first day of the Outward Bound experience) thereby confounding the analysis of results for the self-esteem variable.

Overall, the results on the two measures of self-esteem clearly indicate that participants in the Outward Bound program significantly increased in levels of global self-esteem, when compared with control group members. This finding is consistent with those of studies by Hopkins (Note 4), Smith, Gabriel, Schott, and Padia (1975), and Stremba (1977), where a similar relationship between participation in a high risk wilderness experience and feelings of self-worth was reported. It also supports the general contention that wilderness programs which offer intensive, challenging, and often stressful activities such as kayaking, climbing, survival solo camping and backpacking expeditions, do provide the young adult with experiences which are associated with increased feelings of self-esteem.

Effects of the Program on Locus of Control

The second hypothesis was concerned with changes in participants' locus of control scores. Part A of the second hypothesis, which predicted an increase in an internal locus of control orientation due to a wilderness experience, was tested by comparing scores on the Internal Scale. A concept which is closely related to the Internal Locus of Control construct was examined by comparing scores on the Self-Assertion Scale. Analysis of covariance was performed on scores from the Internal Scale, with pre-program scores as the covariate of post-program scores. Analysis of the results in Table 5 show a significant increase in the adjusted mean for the internal locus of control variable for the male program group when compared with the adjusted mean for the control group. The analysis of internal locus of control adjusted mean scores for females in the program group (M=36.76), when compared with the adjusted mean scores for the control group (M=35.09), did show a slight increase but did not reach statistical significance. Mean scores and standard deviations on the Internal Scale are presented in Table B (see Appendix H).

A comparison of the control and program group unadjusted means is presented in Figure 4. An examination of these means show that both male and female groups possessed a relatively high degree of internality prior to the program treatment. Possible scores on this scale ranged from 0 - 48 with higher scores indicating a greater belief in an internal locus of control. Means for the male group moved from 31.62 to 34.69 which indicates a greater sense of control over one's own life. The female group mean also showed a very slight degree of increased feelings of personal control, moving from 34.85 to 35.33.

TABLE 5

Analysis of Covariance Comparing Program Group and Control Group Responses on Revised Locus of Control Scales and Self-Assertion Scale

(N = 45)

				Adjusted			
Measure	Group	Source	df	SS	MS	F	p
Internal Scale							
	Females	Between	1	11.230	11.230	1.005	.329
		Within	19	212.338	11.176		
	Males	Between	1	139.056	139.056	4.703	.042
		Within	20	591.297	29.565		
Powerful Others Scale							
	Females	Between	1	118.856	118.856	4.518	.047
		Within	19	499.863	26.309		
	Males	Between	1	117.625	117.625	3.648	.071
		Within	20	644.825	32.241		
Chance Scale							
	Females	Between	1	97.536	97.536	4.782	.041
		Within	19	387.507	20.395		
	Males	Between	1	29.045	29.045	.901	.354
		Within	20	645.069	32.253		
Self-Assertion Scale							
	Females	Between	1	134.263	134.263	5.291	.033
		Within	19	482.130	25.375		
	Males	Between	1	136.275	136.275	8.389	.009
		Within	20	324.886	16.244		

Note. Pretest scores as the covariate on posttes scores

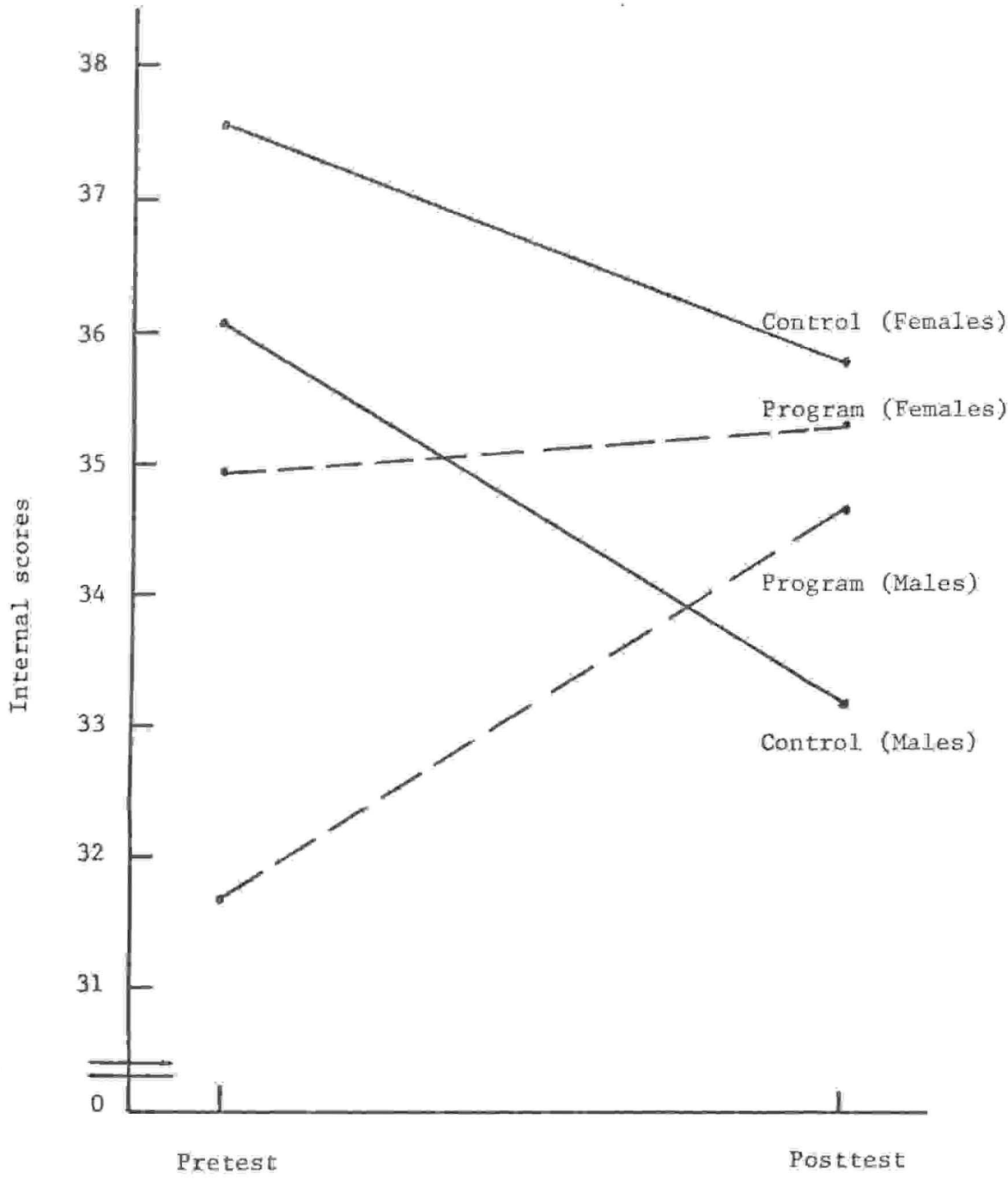


Figure 4. Comparison of unadjusted means for program and control groups on Internal Locus of Control Scale

Analysis of covariance was used to analyse the results from the Self-Assertion Scale, with pre-program scores as the covariate of the post-program scores. Analysis of the results in Table 5 show a significant increase in self-assertion on the adjusted mean scores for both males and females in the program group when compared with the adjusted mean scores for the control group, giving support to the hypothesis that feelings of personal control would increase due to a high-risk wilderness experience. Mean scores and standard deviations on the Self-Assertion Scale are presented in Table B (see Appendix H).

A comparison of the control group and program group unadjusted means is presented in Figure 5. Possible scores on this scale range from 0 to 80, the higher score representing a greater degree of self-assertion. The female group moved from an already high degree of self-assertion indicated by the mean group score 57.33, to an even higher self-assertiveness, indicated by a mean of 62.00. The male group showed similar changes of a lesser degree, moving from a pretest mean of 54.15 to posttest mean 57.69.

The data pertaining to internal locus of control and self-assertion are supportive of the hypothesis that a wilderness experience leads to a greater belief that events are contingent on behavior and thereby under personal control. In other words, participants increased in their willingness to take responsibility for their own actions. This result is consistent with findings by Grant (Note 3) and Nowicki and Barnes (1973) that indicate the existence of a relationship between internality and structured wilderness experience. It is also consistent with evidence given by Hopkins (Note 4) and Smith, Gabriel, Schott and Padia

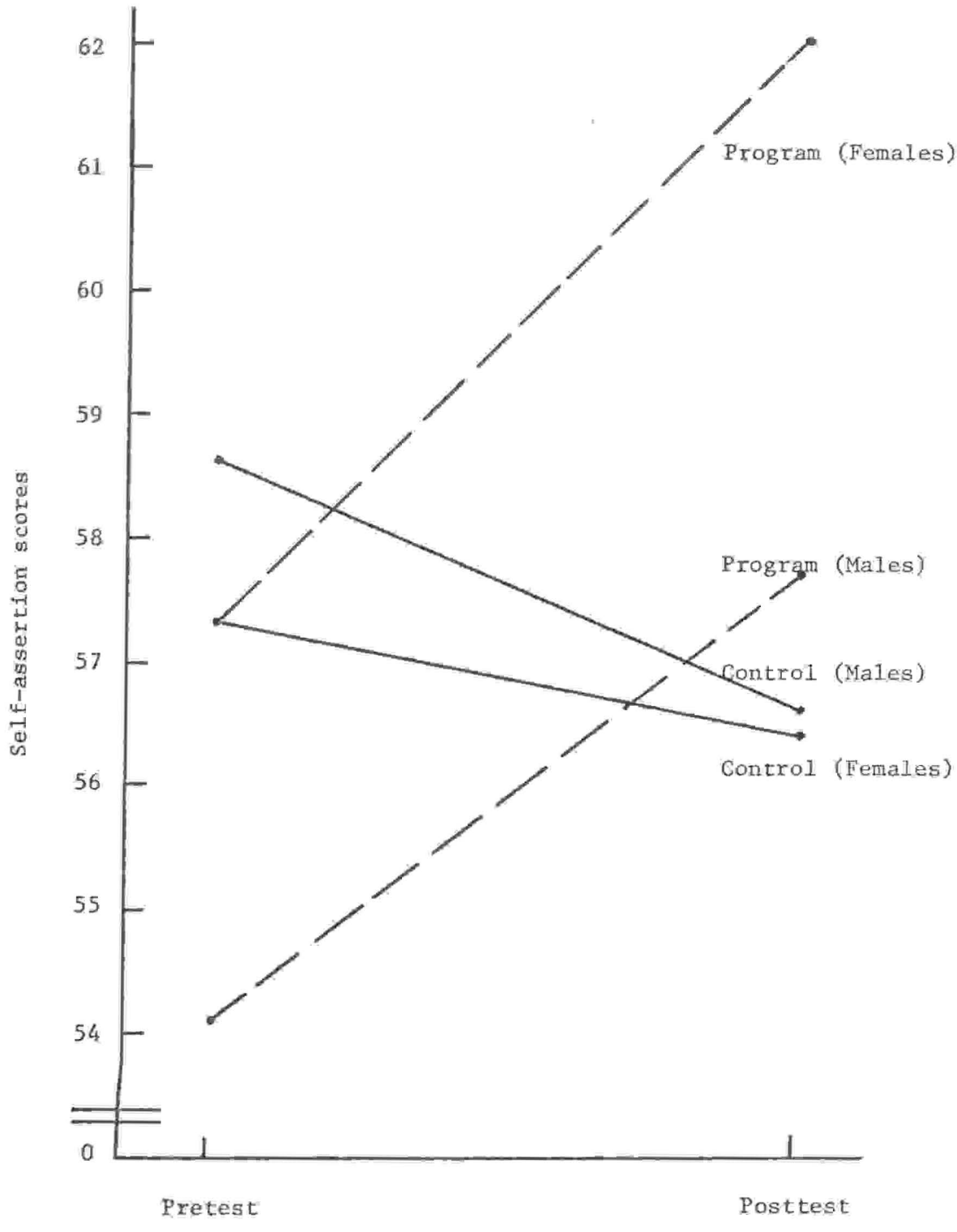


Figure 5. Comparison of unadjusted means for program and control groups on Self-Assertion Scale

(1975) that an Outward Bound experience was associated with increases in self-assertion. As defined by Smith, Gabriel and Anderson (1973), increased self-assertion means that individuals take a more active stance in relation to their environment. A more self-assertive person will "show activity rather than passivity, which indicates taking rather than avoiding leadership and responsibility, which indicates confronting rather than avoiding fear-provoking or challenging situations" (p. 17).

The lack of significant increases in perceptions of personal control, as indicated by scores on the Internal Scale, for females in the program group when compared with females in the control group is the only result which fails to support Part A of the second hypothesis. The direction of change as indicated by mean scores is, however, consistent with the suggested relationship between Internal scores and participation in wilderness programs. The lack of significant program effect for females on the internal locus of control variable may be explained in a variety of ways. Considering that a significant change is reported for females on the self-assertion variable but not on the internal control variable, it seems that the two instruments may be measuring different aspects of the construct concerning personal control. Comparison of the correlations between total group pretest scores on the Self-Assertion Scale and Internal Scale shows a modest coefficient of .3671 which is significant at the .01 level (see Appendix I for a complete report of correlations between measures). However, it could be that the Self-Assertion scale measures a more specific area of the personal control variable whereas the Internal Scale measures a more

generalized expectancy. Considering recent findings concerning the curvilinear relationship between locus of control and adjustment, a large increase in the internal dimension might be undesirable. While it is generally thought that low internal scores are related to maladjustment, it has also been found that individuals who possess high internal orientations may have greater difficulty adjusting to stressful events than those who are more moderate (Gilbert & Mangelsdorff, 1979). In other words, individuals who score at the high end of the internal scale, which measures perceptions of internal control, may not recognize their personal limits, believing that they have more control than is warranted by reality. Gilbert and Mangelsdorff (1979) state that "when such individuals fail in their unrealistic efforts to control events, they may experience exaggerated feelings of stress, loss of control, and lowered self-esteem, partly because their expectations are so high" (p. 478). This interpretation is supported by the nature of the wilderness environment and the structured high-risk activities which encourage realistic perceptions of personal control. If it rains, individuals are not able to exert control over that condition but they are able to realistically exert control over the effect the rain will have on them (i.e., build good shelters, fires, etc.). Also, if an activity such as climbing a difficult route on the cliff requires a degree of strength which the individual does not possess, realistic acceptance of this is required and supported. Each person performs to the extent of his or her own capabilities. Therefore, it may be that a high-risk wilderness experience encourages a moderate belief in personal control related to generalized expectations, whereas it contributes to greater increases in self-assertion which is related to the 'trying' aspect of personal control.

Scrutiny of the unadjusted means from the Internal Scale suggests a slightly different but related explanation for the results. The smaller increase in the internal dimension, as measured by the Internal Scale, for the female group when compared with the male group, can possibly be understood in light of the "ceiling effect" discussed by Stremba (1977). He attributed a lack of significant increase in internality for the Outward Bound treatment group to the initial high level of internal locus of control shown on the pretest scores. In the present study, this 'ceiling effect' may explain the lack of significant increases on the Internal Scale for the female group whose mean score on the pretest indicated an initially high level of internality. Further support of the presence of the 'ceiling effect' is provided by comparison of results of the present study with those of Grant (Note 3) and Nowicki and Barnes (1973). These earlier studies reported increased perceptions of internal control for samples drawn from special populations (i.e., delinquent and blacks) generally believed to have relatively low internal orientations, thereby increasing the possibility that significant change in the internal dimension would occur. In contrast, the Outward Bound sample group, particularly the females, had initially high internal orientations which may have decreased the likelihood of significantly large changes occurring.

A similar explanation may be applied to the discrepancy between findings for the females on the two variables, self-assertion and internal locus of control. The Self-Assertion Scale, which was designed to pick up changes particularly for Outward Bound course objectives, may be more sensitive, than the Internal Scale, to subtle

changes in feelings of personal control, particularly for samples whose mean scores reflect initially high levels of internality.

For the present study, validity of the 'ceiling effect' explanation may be questioned however, due to the fact that a comparable group of females in the control group scored higher than the program group, on both pretest and posttest, indicating the potential for the program group to have increased further in internal locus of control. Therefore, the explanation concerning the measurement of different aspects of the personal control variable by the two scales, appears to be a more feasible explanation of the findings.

Results of the present study, which indicate a relationship between increased feelings of personal control and a wilderness experience, particularly for males, are inconsistent with those reported by Stremba (1977) which showed no significant increases in internal locus of control. It may be that the Internal Scale devised by Levenson which was used in this study, is more sensitive to change in the internal dimension, than was the Rotter Internal-External Locus of Control Scale used by Stremba. According to Levenson and Miller (1976), the locus of control construct is multi-dimensional rather than unidimensional as Rotter suggested. Therefore, the rejection of the internal items on the uni-dimensional Rotter Scale would result in a higher external score, reducing the sensitivity to changes within the internal dimension.

Also of concern in the interpretation of results for the Internal Control variable, is the effect of the testing environment on program group pretest data and control group posttest data, as discussed previously in the results section for the self-esteem variable. This

may have contributed to the size of the differences in means reported for the Self-Assertion variable and the Internal Control variable, thereby confounding the results. However, Stremba (1977) used the same sample selection and testing procedures as those used in the present study but found no significant changes in a comparison of the control and program group's adjusted means. This negative finding would indicate that the testing procedure itself could not account for the change in internal control found in the present study.

Part B of the second hypothesis, which predicted a decrease in the chance and powerful others dimensions of locus of control, was tested in the following way. An analysis of covariance was performed on scores from the Powerful Others Scale and the Chance Scale, with pre-program scores as the covariate of the post-program scores (see Table 5). Analysis of the results indicated lower mean scores from the Powerful Others and Chance Scales for females in the program group, compared with mean scores for females in the control group, indicating decreased belief that events are controlled by powerful others. Differences in scores on the Powerful Others Scale for males in the program group ($M = 12.41$), and those in the control group ($M = 16.97$), were in the predicted direction but did not reach statistical significance. On the Chance Scale, mean scores for males in the program group ($M = 15.94$), were lower than mean scores for males in the control group ($M = 18.68$), indicating a decrease in the belief that events are contingent upon chance factors, but this finding did not reach statistical significance. Mean scores and standard deviations on the Powerful Others Scale and Chance Scale are presented in Table B (see Appendix H).

A comparison of the control and program group unadjusted means is presented in Figures 6 and 7. Possible scores on these scales ranged from 0 to 48, with higher scores indicating a greater belief in events being the result of influence by powerful others or of chance. Specifically, high scores on the Powerful Others Scale represent a belief that a potential for control exists but that powerful others are in control, whereas, high scores on the Chance Scale represent a belief that chance factors determine events and no potential for personal control exists. It can be seen from Figure 6 that both females and males in the program group decreased in their belief that events were determined by powerful others, even though the finding for males did not reach significance. Female participants showed a large decrease in their perception of the extent to which events are contingent upon control by powerful others, changing from an initial low score of 11.33 to an even smaller chance orientation, indicated by a mean of 6.50. A similar decrease occurred for scores of male participants, moving from a mean score of 14.08 to 12.54, indicating a slightly smaller degree of perceived influence of powerful others.

Examination of Figure 7 shows that changes in the chance dimension paralleled those in the powerful others dimension. Means for the female group moved from 11.50 to 8.83 illustrating that perceptions of control by chance decreased from an already very low chance orientation. The males in the program group also decreased in chance orientation, but to a lesser degree than did the females. They changed from a relatively high belief in control by chance factors, represented by a mean of 19.00, to an only slightly lower belief shown by the posttest mean of 17.77.

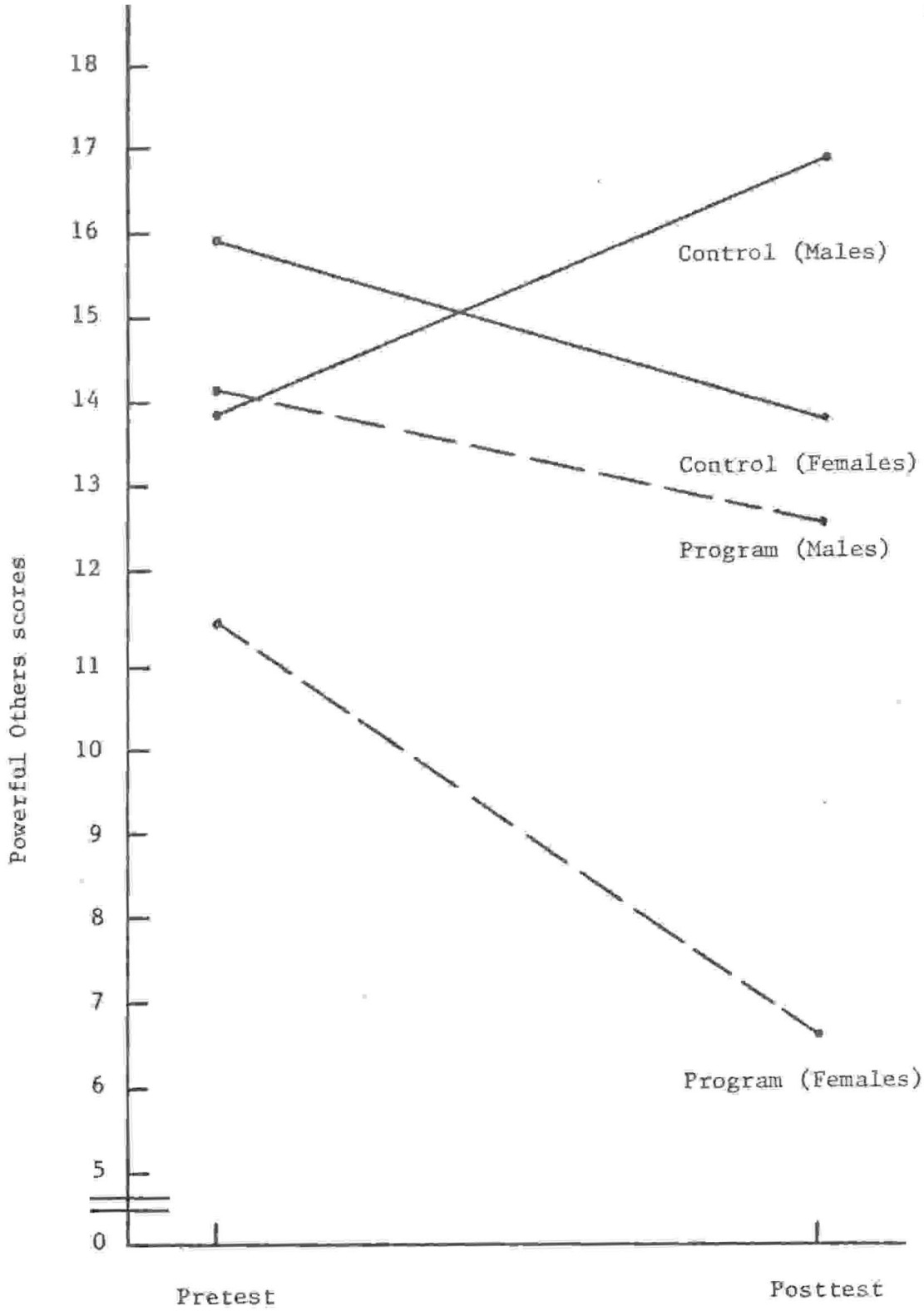


Figure 6. Comparison of unadjusted means for program and control groups on Powerful Others Locus of Control Scale

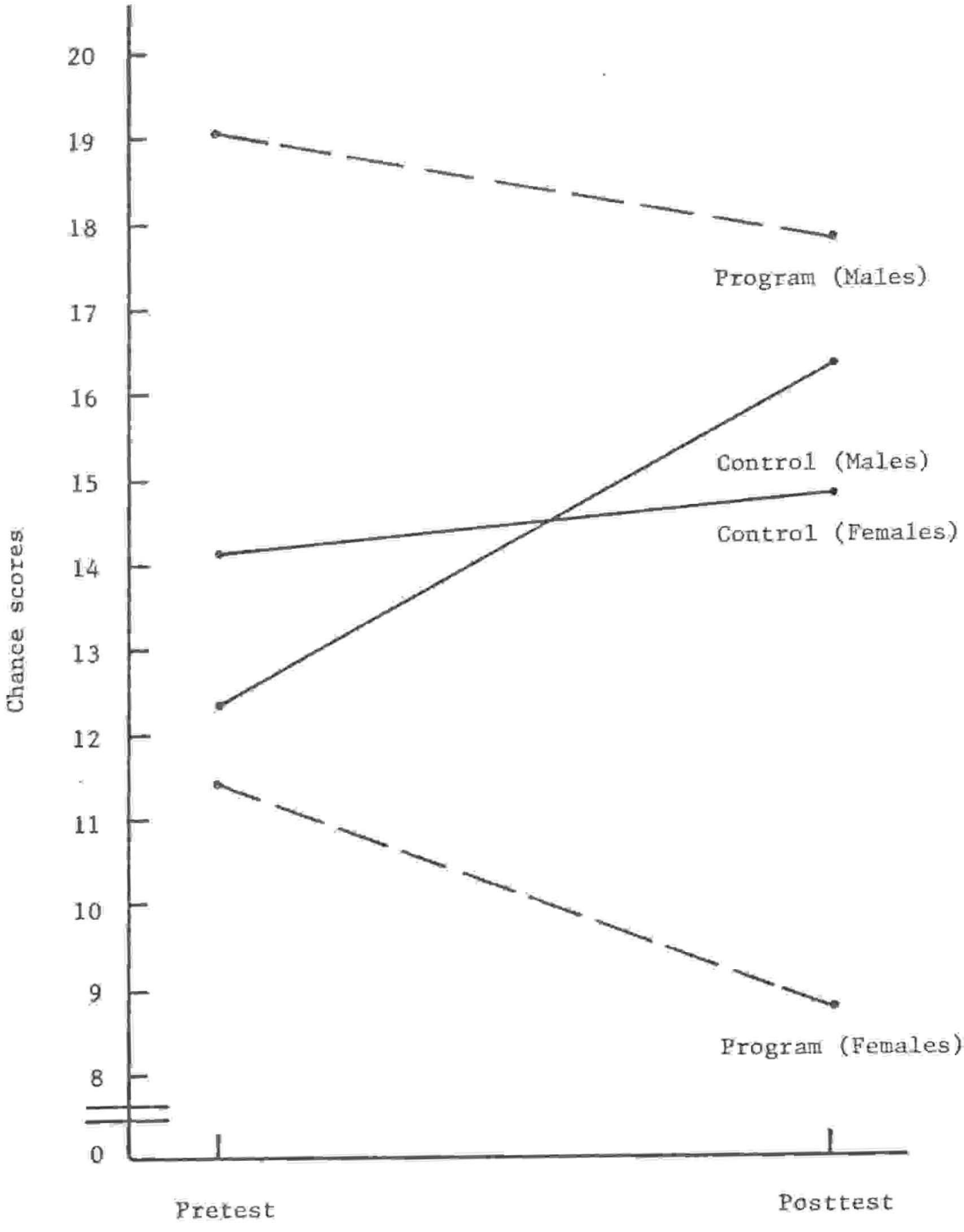


Figure 7. Comparison of unadjusted means for program and control groups on Chance Locus of Control Scale

A differential program effect for male and female participants appeared to exist in the internal and external dimension of the locus of control variable. The impact of the structured wilderness experience on the internal locus of control dimension was greater for males than for females. On the other hand, the program had a greater impact on the powerful others and chance dimensions of external control expectancies for females than for males. This latter finding is particularly noteworthy considering that the members of the female group had an initially lower belief in both dimensions of external control than did members of the male group. It would have been expected that those individuals scoring at the low end of the external scales would have little room for change and therefore less possibility would exist that appropriate levels of significance would be reached. Considering these results it seems that a decrease in externality is not necessarily associated with an increase in internality. This finding is supported by results from other studies that have used a multidimensional locus of control scale (Levenson, 1973b, 1974; Levenson & Miller, 1976).

The finding that there seems to be a differential relationship between participation in a wilderness program and changes in an individual's locus of control depending on the sex of the participant, warrants further discussion. Rotter (1966) stated that sex differences in the locus of control dimension among college students appear to be minimal, leading one to expect no differences in the effects of a wilderness experience for males when compared with females. However, more recent researchers (Levenson, 1973b; Levenson & Miller, 1976) have reported sex differences but prediction based on this more recent work would

have been that females would have initially higher external orientations while males would possess initially higher internal orientations (Joe, 1971). The data from the present study consistently show the opposite to be true, suggesting a possible explanation for the difference in findings for males versus females. It may be that there are selective differences both in the personality characteristics of male and female samples, and in their reasons for seeking out an experience such as Outward Bound. Females who choose to participate in an Outward Bound course may be atypical of the general female population, possessing greater feelings of personal control. Taking the course may be a way of stating their uniqueness and personal strength, a stepping out of traditional role expectations. On the other hand, males who choose an Outward Bound experience may do so based on expectations that such a course will enhance their masculinity and sense of personal effectiveness.

In summary, the second hypothesis concerning locus of control orientations was partially supported when data from the four measures--Internal, Self-Assertion, Powerful Others, and Chance Scales--were considered. Males who participated in the wilderness program increased significantly in feelings of internal control and self-assertion when compared with the male members of the control group who did not undergo a similar experience. Although the direction of results was consistent with the hypothesis, no significant differences were found in the powerful others and chance dimensions of external locus of control beliefs, for males. Females who participated in the wilderness program increased significantly in levels of self-assertion when compared with the female members of the control group. No significant differences

were found in the feelings of internal control for females, but the direction of results was consistent with the hypothesis. Belief in control by powerful others and chance factors decreased significantly for the females after the Outward Bound course, when comparison was made with females in the control group. Overall, the results support the notion that participation in a high-risk wilderness program does provide the young adult with experiences which are associated with positive change in the locus of control personality variable.

Summary of Results

Results based on comparisons with control group subjects on six measures, Rosenberg Scale, Self-Esteem Scale, Revised Locus of Control Scale with Internal, Powerful Others and Chance dimension, and Self-Assertion Scale, showed a significant increase in self-esteem for males and females who participated in the wilderness course. Differential effects of the wilderness program on changes in locus of control orientations were found depending upon the sex of the participant. Specifically, females in the program group increased significantly in self-assertion and decreased significantly in perceptions that events were controlled by powerful others and chance. Males in the program group significantly increased in feelings of personal control and in levels of self-assertion.

Analysis of Descriptive Data

In this section, descriptive data is presented to answer the research question concerning perceptions of personal change of participants in a high-risk wilderness experience. Analysis of these results is based on observations and evaluations made by the participants about subjectively experienced changes relating to their involvement in a wilderness program. The collection of the data to be used in the descriptive analysis has been described in Chapter III. Personal interviews with six students were successfully completed; written self-evaluations were provided by four of the six group members.

Overall, the participants were very willing to discuss their thoughts and feelings associated with the experience they had undergone. This willingness is particularly exemplified by the following statements which were made by two of the students in journal entries:

> By answering these questions [during solo], I have had to look at myself and collect all sorts of scattered ideas of mine and harmonize them . . . many things aren't obvious until forced upon you by some sort of trauma or heavy experience (physical or emotional). Other things aren't at all obvious until you are asked the right questions (or you ask them of yourself). In addition to the great experiences I have had at the school, this opportinity [written self-evaluation] to come closer to knowing myself is just super. Thanks for this opportunity.

> I'm not sure I've really answered all your questions but I have gotten to know myself better and why I keep certain things in. I have to learn to live from the inside out not from the outside in.

The immediacy of the experience ensured a high degree of interest in the examination of the events of the month and the importance of these events to the ongoing lives of the participants.

In the following discussion of results, individual responses, both oral and written, are reproduced as accurately and as closely to

the exact wording of the original statement as possible. Content of the statements has not been altered in any way but changes to spelling and grammar were made to clarify the meaning of some statements. Presentation and discussion of the findings from the descriptive data is separated according to the dependent variables self-esteem and feelings of personal control.

Perceptions of Change Related to Self-Esteem

All six individuals, from whom the qualitative data were collected, reported having experienced change in their attitudes and feelings towards themselves which they associated with participation in the wilderness program. They generally indicated that their feelings toward themselves had improved, that they experienced increased self-awareness and realistic self-acceptance, and that, overall, they felt "richer" than when they had started the program.

To questions concerning the impact of the program upon self-worth and self-acceptance, all students reported positive increases in these dimensions, both during the interviews and in the journal notes. Some general statements, made by the participants, which indicated increased feelings of global self-worth are as follows:

> To me, it has been, as of now, a kind of intangible growth process. I know that I'm richer than I was when I came here but I can't pinpoint exactly what it is. It's a global feeling of betterness. (Interview)

> I was feeling middle-ing about myself and I'm feeling, I would say, better. . . . I guess I feel a bit more confident. (Interview)

> Just finding out that what I thought my limitations were, weren't really. They were a lot higher than I gave myself credit for. When I learned and started pushing a little harder it was like I gained a little more respect for myself. I felt better about everything. About trying more. More confidence. I just feel better about myself. (Interview)

> I've changed quite a bit in the last few weeks. I feel stronger and can give more to my family without sacrificing my own needs, which is a nice feeling. I've learned to be more patient with myself and others. . . . I'm really excited how all of this has affected me. I honestly feel more open to change. (Journal)

Self-descriptive statements such as these reflect a greater overall satisfaction with the self following the experiences provided by the high-risk wilderness course. Students frequently linked their improved feelings of self-satisfaction with the ability to see themselves and their potentials differently than they had prior to course participation. Often this change in perception was reported in terms of the successful accomplishment of difficult, challenging activities. From successfully tackling physically and emotionally demanding situations, the students felt better about themselves and about their ability to succeed in new endeavors in the future. Some specific examples illustrating this are:

> I feel better about myself because of some little things and big things. Jumping in the river--that's a big thing. And I sort of did it without hesitating and all that. Of course we were warm by that time from running. So, it isn't a big deal when you actually do it. But it seems like a big deal before you do it. I don't like cold water--so, that was one of the things--Oh God, go over there and jump in cold water--No way! But, I did! (Interview)

> This month, the thing that hit me the most--or, when I discovered my worth, inside a group, as part of a group--was that time on the simulation when I was supposed to run. I really felt at that moment that I was important and--well, running is such an individual thing and for once I was able to contribute because of that. So, that was a high point for me. Even though I didn't really have to run, it proved, it helped me prove something to myself. (Interview)

> If anything, I'm more self-confident. Just because I've done some stuff and it was hard to do, and I did it. Especially in the kayaking. First of all, you do your wet exits, and that's all right. And then you do your first dump in the river and that's a scare, the second one's a scare, the third one became routine. So, in a sense, I'd overcome a fear. . . . And, although

> it's cold and uncomfortable, I didn't mind it any more. So for me, the third dump was really valuable because I learned something out of it. (Interview)

Individuals not only reported an increased appreciation of their own merits but also indicated that they recognized their faults and limitations. According to Rosenberg (1979), the recognition of weaknesses as well as strengths is an essential factor in the development of a high self-esteem. This positive attitude toward the self, shown by a high but realistic level of self-esteem, is reflected in students' comments such as:

> Because of this course I feel like there's a lot more that I can do, and I feel good about going back to where I came from and having a better attitude, cause I know I can do way more than I think I can--like, school-wise, physically-wise, everything. I just want to work on that. . . . But, then I found things out about me, negative things too, from other people. Like, that I talk too much sometimes and need to listen more--stuff like that. Sometimes I had conflicts with people, like with Doug and John, some things they picked up about myself that I don't like. For example: communicating sometimes. Sometimes I don't use the right words or the right way of expressing it. And that's something I really want to work on. (Interview)

> I am more aware of what a small little person I am in a big, big world. The thought doesn't depress me though because I am what I am and the size of the world doesn't affect my feelings about me. (Journal)

> The excitement I have may be like the feeling you must get going down a fast river and when you finally realize you made it, there'll always be more and harder challenges, and that's exciting. I want to experience more challenges and I'm beginning to understand a little more about myself. The more I learn and become aware of, the more I realize how little I really know. (Journal)

> My feelings about myself have changed as a result of this course. I'm learning to get more <u>involved</u> in things and people, which is the first step to going for things. I want to work on myself in every way--creatively, athletically, expressively, involvement, achievement--also I learned that I really know I can do things--that I shouldn't feel down on myself, cause I have lots going for me. (Journal)

An important aspect of the above statements, in which students report an increased awareness and acceptance of limitations and faults, is the simultaneous recognition that faults may be changed and limitations accepted without decreased feelings of self-worth. As the above excerpts from journals and interviews indicate, students did express a commitment to future learning and personal growth (i.e., "want to work on myself", "want to experience more challenges", etc.), yet continued to accept themselves in the present.

On the basis of the qualitative data it would appear that participation in the Outward Bound program had a strong impact on the student's perceptions of self-worth. Specifically, the self-descriptive reports indicate an increase in global feelings of self-esteem and in the degree of satisfaction with the self. In examining the descriptive data it is evident that subjects experienced increased self-awareness, leading to high but realistic feelings of self-worth. In other words, they grew to value their strengths while still recognizing their faults and believing it possible to correct them sometime in the future. The descriptive results therefore support, and enhance understanding of, the significant relationship between increased levels of global self-esteem and participation in a wilderness program that was found in the analysis of quantitative data.

Perceptions of Change Related to Feelings of Personal Control

Analysis of the qualitative data shows that five of six individuals reported changes in their perceptions of personal control related to involvement in the high-risk wilderness program. The direction of these reported changes coincides with those found in the statistical

analysis, generally moving towards increased feelings of self-assertion and internal control, and away from perceptions of control by external factors. The one individual who did not report any change in perception of personal control stated that prior to the program he already believed that what happened in his life was largely the result of his own actions.

To questions concerning the impact of the program upon feelings of personal control, most subjects reported initially strong beliefs in internal control prior to the program experience. As indicated earlier, this is to be expected considering that participants had chosen to undergo an Outward Bound experience, often travelling many miles and paying large sums to do so, which seems to illustrate a high level of internality. Although they already felt that their actions determined what happened to them, they did report increased perceptions of personal control. An example of this follows:

> I used to feel, and still do to a large part, that I control my life. By being alert, and on the move, and quick to act, I feel that I am largely responsible for what happens to me. . . . So, if I don't feel good about something I'm doing, I only need become aware of it to change it. If I feel I can't change it, then it's because, in a self-centered way I somehow want to nurture that feeling or attitude. It takes awareness, honesty with yourself, and good friendships to become whoever you want to be. . . . I'm not saying that I know myself completely! But this Outward Bound course has sort of set the stage for things to happen. . . . If forming a personal notion of who and what you are, and how you fit into the world is the goal of Outward Bound, well I just got a good start on a long quest. (Journal)

In the above statement the student indicates that awareness or self-knowledge is an important element in the move toward taking responsibilities for feelings, thoughts and actions. It seems, as Nadler (Note 6) suggests, that it is the acquisition of personally relevant knowledge of patterns of behavior and their consequences which increase the feelings of personal control--of being able to change behavior and

to influence the events of one's own life. Other students also indicated that they felt more able to accept responsibility for their own actions and believed this would continue even after completing the wilderness course. The following exerpts from the journals and interviews illustrate this:

> Rock climbing--it was tough at first getting used to it and doing the boulder thing up there. Like I knew I could do it, but at first I didn't trust the rope or anything. I think that's helped a lot. Cause I've always been seeing people climbing and I've always wondered--I wonder if I could ever do anything like that? And now I have . . . and I'm looking forward to going home and getting started on more things. I feel like I have more control. (Interview)

> It feels like its given me a lot more confidence. I'm not afraid to go try new things now. But I'll really know when I get home, back to everyday life. Right now I feel like I could go out and do anything--at least give it a good shot. Before I was a little hesitant. So, I think this course has been really good in that way. I know that I'm not afraid to try things now--I'll try it now whereas before I might not have. (Interview)

> Shelters don't get put up unless you go for it and put them up. Everybody could be sitting around--not everyone is going to jump up and do it--but you have to do it or else it's not going to get done. And I'm just learning to have more control over that--like, I sort of leave those things up to other people (like driving home from parties)--but I'm just starting to get the feeling of more responsibility. (Interview)

> I learned I hold back in a situation where really I shouldn't because I know I can do something . . . as a result of this course, things that I've been struggling with, like to not hold back, I'm really putting in practice here. (Journal)

Further support of this finding was provided by another student who reported that the course had helped her feel more in control of the events in her life. Her statement also indicates a decrease in a belief that other people necessarily control her actions. To the question "Do you feel this course has helped you to have any more control over what happens to you?" she replied:

> Yeah! Just hiking and moving on. No one's going to pick you up and carry you--you have to keep moving on. And like no one's going to, when you're soaking wet, put warm clothes on you. Just having more control—over your body and listening to what it's saying. I don't think I listened to myself as much before. I think I'm just getting to trust more in what I want and in what I do. And getting away from what my sisters think is the best thing, because they have a strong influence on me. I think this has helped a lot cause I'm forming my own sort of ways. Just doing this course, in going for it and then accomplishing it, makes me feel good. Cause I've done it! And there's so many more things I can do. (Interview)

From the preceeding student comments it is evident that most perceptions of changes in personal control were related to increased feelings of self-confidence and self-assertion. Students frequently observed that they felt more confident to <u>try</u> to exert control over significant areas of their lives. This lends support to the suggestion made in the discussion of statistical results, that the high-risk wilderness experience may have contributed primarily to increases in the self-assertion or 'trying' aspect of personal control. Students, quite realistically, did not believe that internal control was the only factor affecting events in their lives. As mentioned earlier, a recent study (Gilbert & Mangelsdorff, 1979) showed that realistic recognition of personal limits is associated with positive adjustment. The possiblity that the wilderness experience encouraged a moderate belief in generalized expectancies related to personal control, is illustrated clearly by the following incidents described by two program participants.

> One important thing I learned is related to the feeling of helplessness. How people come up against something which they can do nothing about, let alone conquer. Usually people just quit and never get to the point of knowing they've done all they can. For example, for me, that climb with Rick was a real challenge. I was in a position where I could do nothing. I couldn't close my fingers, I couldn't change my mind, I couldn't go down, and I couldn't ignore reality or continue to fool myself. I was at my endurance and it wasn't enough. I fell.

> Thanks to Rick and Jack (and the rope) I made it up finally. The lesson here I think, is that unless you tackle something too hard for yourself, you'll never know your limits. (Journal)

This statement emphasizes the perceived importance of 'trying' and yet accepting your own limitation when confronted with failure. The next situation concerns a student who sustained a knee injury during the middle portion of the course.

> I've always had a lot of responsibilities and felt strong enough to cope with them. I've been fairly independent in my living and have never liked to give up in trying to do something that I'm having problems with. . . . I've always sort of felt responsible for what I do. Like if I make a mistake it's always been my mistake. . . . This course has been a great experience and I've become more aware of my thoughts and actions. The other day hiking to our solo location was one of the most frustrating days but I learned a lot. I've never worked so hard and the group was great. I didn't want to slow them down or have them take any more extra weight. John was great. I really appreciated his concern. I felt each step becoming a struggle. As I had to concentrate on each step I really felt at times like sitting down and crying. I had the strength inside but my knee didn't. Any pressure at some points felt like it might give out, and I probably would have given up and felt sorry for myself, instead we made the whole distance at a good pace. Coming down hills, I walked very close to John or Henry so I'd have a pack to lean on in case my knee felt weak. It hurt, but what hurt the most was how much support from everyone I was getting and I felt useless and frustrated. My good leg did half the work and the group did the other half. Larry carrying my pack across streams. Rick singing and Kate always encouraging and talking. I realized how good and willing everyone was to help and how typical my first reaction was, (I have to do it by myself) and realized finally there is nothing weak about taking help from others. I really needed the support and feeling part of the group. . . . The feeling, I had strength inside but some part of my body wouldn't cooperate, was frustrating but the group made up in support--which took me a lot further than just reaching our destiny. (Journal)

This student, with the help of the group, accepted the very real limitation placed upon her by an injured knee. By facing this reality she moved toward a more moderate notion of personal control and was able to accept support from the group members, relinquishing her need

to remain completely independent. She completed the course with positive and more realisitic feelings of personal control.

Analysis of the qualitative data revealed that the Outward Bound program provided participants with an experience that affected perceptions of personal control. Specifically, students felt more able to exert control over their lives, and had a greater belief that events in life are contingent upon their actions. Examination of the descriptive data indicated that students developed a more realistic recognition of their personal limits. So, while continuing to hold an internal expectancy of control, they were more able to accept real limitations and deal with them constructively. These findings support, and contribute to a fuller understanding of, the analysis of the quantitative data which showed a significant relationship between increased feelings of personal control and participation in a wilderness program.

CHAPTER V

CONCLUSIONS, LIMITATIONS AND IMPLICATIONS

Conclusions

Results from this study lead to the conclusion that personality change can occur in young adults; self-esteem and locus of control scores were found to be susceptible to change. Specifically, findings consistently demonstrated that positive changes in the self-esteem and locus of control dimensions of personality are related to the kind of experience provided by a high-risk wilderness program for both males and females. Evidence was found to suggest that a wilderness experience has a differential effect upon participants' locus of control orientations depending upon the sex of the individual.

The survey of literature indicated that self-esteem and locus of control beliefs are related to positive personality adjustment during the period of young adulthood. Considering the results of the present study within this context, the conclusion may be drawn that the wilderness experience provides an important medium for enhancing the personal development of young adults. In particular, participants experienced increased, but not inflated, feelings of self-worth after the Outward Bound program. This is a desirable outcome as realistic levels of self-esteem are associated with positive development (Rosenberg, 1979). Also, the wilderness experience encouraged a moderate belief in generalized expectancies of personal control while contributing to a large increase in students' attitudes regarding the possibility of exerting control over their lives. Since students increased in their desire to try to effect changes in themselves and

their environment but also retained realistic notions of their ability to succeed in all situations, it may be concluded that they will be better able to cope with the stresses and environmental constraints of daily living.

The descriptive results contributed further to the understanding of the process of change associated with participation in a wilderness program. It can be concluded that changes in self-esteem and personal control were primarily attributed to: a) the successful accomplishment of difficult, challenging activities, b) the supportive group environment and intense personal interactions, c) the wilderness environment which, as one student stated, "draws honesty out of you . . . you can't sit there and lie to yourself when you're sitting with everything that's so bare and open to you", and d) increased self-awareness which included recognition of both strengths and weaknesses leading to a more realistic self-image. These connections which emerged from students' descriptions of the impact of the wilderness program upon themselves concur with those previously identified in examinations of the 'Outward Bound' process, by Walsh and Golins (1976) and Nadler (1980).

Limitations

These conclusions should be considered in light of the following limitations. The major limitation was due to two aspects of the actual data collection. First, the appropriateness of using paper and pencil measures in an outdoor environment has been questioned by Stremba (1977) and Kimball (1980). This limitation was hoped to have been partially offset in the present study by the collection of qualitative data more in keeping with the nature of the wilderness experience.

Secondly, the conditions under which quantitative data were collected from the program group differed from those during the collection of control group data. As discussed in Chapter IV, this may have confounded the results.

Another limitation was that the results may be confined to those women and men who choose to participate in a high-risk wilderness experience. Extensive demographic data was not collected for the individuals in the program group which may limit the generalizability of the results to a larger population.

The small number of subjects in the program group from whom qualitative data were collected is an additional limitation. Although this group was representative of the total program group on variables such as sex, age and residential locale, its size and the fact that members of this sample group had the same instructor may limit generalizability of results from analysis of the qualitative data.

Implications

Although qualitative data were collected from a small sample, the results yielded rich information concerning the process of change from the participant's perspective. Further investigations using larger samples and a variety of techniques in the collection of qualitative data are warranted in order to extend present understanding of the process of change.

Another implication for further research is indicated by student statements such as "there's a lot to look back on, I need some time to reflect on things--so, I can't draw any conclusions yet", "when I get home I think I'll realize a lot more how it's affected me" and

"I'm pretty sure that when I get back into the real world I'll be able to extrapolate the simple experiences that I had here". A fuller understanding of the nature of changes associated with involvement in a wilderness course would arise from follow-up testing some weeks after the completion of the course to allow participants time to assimilate and reflect upon changes which had occurred. Even longer term follow-up studies are required to investigate the transferability of personality changes to the normal, everyday lives of the participants. In other words, are changes which occur during a wilderness experience lasting?

The possible confounding effect of the testing environment should also be considered in future research designs. One solution would be to administer the pretest to the program group and the posttest to the control group one week prior to the beginning of their respective courses, thereby creating similar testing conditions for the two groups and eliminating any interference from situational stress.

The findings concerning the locus of control variable indicate a need for further consideration of possible sex differences in the effects of wilderness programs upon personality variables. This study supports "the view of a growing number of researchers . . . concerning the importance of analysing personality data for males and females separately" (Levenson, 1973b, p. 265). It also provides further support for the use of a multi-dimensional scale such as Levenson's (1972) when measuring changes in the locus of control variable.

Results from the two scales, self-esteem and self-assertion, extracted from the Inventory of Outward Bound Effects (Smith, Gabriel

& Anderson, 1973) further validates this instrument in measuring changes associated with wilderness programs, indicating it to be a valuable research tool.

The importance of "rites de passage" during the transition from adolescence into adulthood and the relative absence of any such experience in our culture has been reported by many psychologists and sociologists (Gibbons, 1974; Knepler, 1969; Newman & Newman, 1975). Participants' experiences during a high-risk wilderness program in many ways parallel experiences during "rites de passage". Confronted with risk and challenge, the individual is given the opportunity to grow and change. This opportunity is invaluable if it contributes to personal growth associated with increased ability to cope and adjust to the demands placed upon the adult by life in our complex society. The results of this study clearly imply that personal growth of this nature is related to participation in an intensive wilderness course. As such, the importance of this kind of experience should not be neglected by fields such as counselling and public education which have traditionally been concerned with the enhancement of personal development.

The results of this study have implications for all those committed to providing learning opportunities through such programs as Outward Bound and related wilderness courses. Increased self-esteem and feelings of personal control are among the goals of wilderness programs and the present study lends support to the contention that the type of experiences provided by such programs meet these goals. Specifically, this study gives support to efforts by the staff at the

Canadian Outward Bound Mountain School to accomplish aims related to the personal growth of program participants.

Finally, Rubin (1981) in an article "Does Personality Really Change After 20?" concludes:

> Now that researchers have established beyond reasonable doubt that there is often considerable stability in adult personality, they may be able to move on to a clearer understanding of how we can grow and change, even as we remain the same people we always were. (p. 27)

The present study demonstrated that wilderness programs provide one way in which we can grow and change.

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APPENDIX A

Descriptions of Outward Bound Program Components

Quiet Walk

This is the first real opportunity to assess the capabilities of each student and, in particular, to detect any potentially hazardous inabilities. The Quiet Walk is the students introduction to Outward Bound; in addition to showing the students aroung the grounds, this is the time to set the style and tone of the course to follow. The Quiet Walk often includes the following:

- an introduction to the layout of the school, usually on the run
- explanation of fire precautions and procedures in event of fire
- fast run where instructor tries to stretch students to determine physical capabilities
- a brief visit to the wall and beam, and one or two items on the ropes course
- river crossing where entire group helps each other to get successfully across the river

Run and Dip

Not only is the morning run and dip a traditional part of the Outward Bound process but also it serves as an element of fitness training during a course and helps to build self-discipline. This need not be an unpleasant activity if approached in the right spirit - so much here depends on the instructor's attitude.

The morning run should start slowly and perhaps could begin with limbering exercises; then set off with a jog, keeping the group together at first. Vary the route from day to day, to maintain interest and to progressively increase the length and difficulty. Try and provide alternates which will stretch the fitter students and allow the instructor to encourage the slower people. Students should be stimulated to push themselves, trying to improve their performance each day. Students who are badly blistered need not run, of course, but they should get up and exercise on their own.

Morning Readings

The morning assembly is the formal start to the day. At this time, it is an Outward Bound tradition (and a program requirement) that the Duty Instructor do a "morning reading". This can be a

favourite piece of poetry or prose, a piece of a song, anything, in fact, which is either instructional or inspirational in nature and which the D.I. would like to share with the students. Readings should be appropriate to the type of students and to the time of the course. Look at the daily program - your favourite climbing description would be best used on a day when most students are climbing than on a paddling or service day.

Once the tone has been set, students can be encouraged to read; many will have brought favourite books with them (they are encouraged to do this) and some people may have written something during the course which they may wish to share. In any event, keep the readings short. The entire morning assembly should be less than ten minutes long.

Rat Race (Stress Test)

The rat race is to be used as a comparative fitness test (stress test) for all Outward Bound students. Students must do a timed run on the Rat Race either during the Quiet Walk or on the first full day of program activities. The rat race is often included in the daily program depending upon student's needs and instructor's choice.

The course itself, which begins just beyond the north end of the highway underpass, is slightly less than one and one-half kilometers in length. The runner travels over undulating and often rocky ground, encounters several obstacles along the way, and finishes at the starting point. The Rat Race should be shown to the students on an easy jog. Students are competing only with themselves and should be encouraged to try and better their times by doing timed runs near the middle and end of the course.

Ropes Course

A visit to the ropes course can be a highlight to any student's day. Certain elements of the course require a highly developed sense of balance; others require strength only. A student should experience triumph and failure, fright and enjoyment. An instructor's role is to ensure the activity is conducted safely, and to encourage those with difficulties.

Wall and Beam

The wall and beam are traditional Outward Bound elements which serve many purposes. By forcing co-operation within the patrol they provide an early opportunity to promote teamwork and an awareness of each person for the others in his/her patrol. If a timed competition is to be used, these two activities help to create a team spirit and

provide a focal point for pride in the group accomplishment. The instructor should explain fully the rules and safety considerations and then allow students to find their own solutions to the problem. The object of this exercise is for the group to get all members over high wall or beam as quickly as possible.

Initiative Games

An initiative game is essentially a non-serious physical or mental task presented to a small group. The problem should be such that the combined resources of the group are required for its solution. When used early in the course (with a group who had previously been strangers), it provides a vehicle for reducing inhibitions, breaking the ice and creating close social involvement and a relaxed relationship within a group. Even in a group who may be familiar with one another, it helps to break down stereotyping, encourages compassion and understanding, illuminates the obligation and resources within a group and promotes an awareness of one's companions. On an individual basis, participation in an initiative game can enhance a student's own sense of competence within a group.

Community Service Day

Service to the larger community is one of the more obvious means of selfless expression and possibly one of the more rewarding. Leaving behind for the moment the somewhat insular existence on an Outward Bound course, we, the young and strong, are able to help the old and the weak, communicating across a gap of age and vitality to express a compassion which comes from individuals with a reverence for life and a respect for self.

Interviews

Direct personal contact with their instructor is seen by Outward Bound students as one of the most important aspects of their course. Direct feedback from their instructor is a significant part of the personal growth of a student. Although contact and feedback are part of an ongoing process throughout the course, a formal interview on a one-to-one basis at the end of a course can be a valuable experience for students (and sometimes instructors, too) and should form part of every standard course.

Solo

The solo is meant to be a "solitary, contemplative experience", not a survival test. It should occur during the latter part of the

course and normally takes place during the final expedition. The reasons for having a solo exercise are as follows:

1. To give students uninterrupted time and to provide them with the setting to stimulate introspection, self-assessment, and the opportunity for meditation and contemplation.

2. To require students to confront the potential stress of solitude, to live simply with minimal food and equipment and to feel the responsibility for their own welfare. Normally taken on solo are: sleeping bag, pad, hibachi stove, solo food, adequate clothing, rain gear, tarp, cup, log book and pencil, matches and whistle.

3. To allow students to experience the natural, unspoiled wilderness environment as their only sensory stimulation.

4. To offer students the opportunity to reflect on the course so far in terms of their group and themselves and to consider the implication of Outward Bound's impact on their life.

During solo, students remain by themselves for a period of three full days in a stationary wilderness location. Supervision is maintained.

Marathon

The marathon is an opportunity to end the course on a physically active and exciting note; it is a wrap-up of the physical and mental challenges encountered during the course and a chance for each student to extend his/her own limits. It is individually competitive (i.e., each student is encouraged to try and push beyond his/her assumed abilities) and each student judges his/her own success.

Note. This material has been extracted and summarized from the Instructors Manual for the Canadian Outward Bound Mountain School, 1980.

APPENDIX B

Cover Letter to Control Group

UNIVERSITY OF VICTORIA
P.O. BOX 1700, VICTORIA, BRITISH COLUMBIA, CANADA V8W 2Y2
TELEPHONE (604) 477-6911, TELEX 049-7222

Faculty of Education

May 14, 1980

Your name has been given to me by the Canadian Outward Bound Mountain School, where you have registered for a standard summer course beginning July 4. I am a graduate student at the University of Victoria, and am currently doing research on certain aspects of wilderness programs. In cooperation with the Outward Bound School in Keremeos I am surveying future students and current students to look at some effects of the Outward Bound experience upon participants.

During the past seven years, I have worked as a wilderness program instructor. My interest in this as an area of research comes from my work experiences and from a commitment to Outdoor Education. Your registration in Outward Bound leads me to believe that you are also interested in Outdoor experiences: therefore I am asking for your assistance with my research project. I would like you to respond to the enclosed survey now, and to another one that will be given to you upon your arrival at Outward Bound in July. This will enable me to gather information about changes in your attitudes which may occur between now and the start of your program. From this information I will be better able to identify changes in participants registered in an earlier Outward Bound course, which occured because of the wilderness experience.

There are no right or wrong answers to these questions, only what is right for you. Please answer each question as honestly as you are able. It is important that all six pages be completed. This should take you no more than 20 minutes.

Your answers to these questions will be seen only by myself and will be kept completely confidential. Please make sure that you put your full name, age and sex on each of the three parts of this survey.

You will find a pre-addressed, stamped return envelope with the survey. Please use this when returning the completed questions. It is important that your responses are returned quickly ... if possible, before May 31, 1980.

Once I have finished the project on Outward Bound I will make a brief summary of the results available to those who helped and are interested in the findings. If you would like this summary please tear off and enclose the completed statement at the bottom of this page, with your survey.

In advance, I wish to thank you for the time, energy and cooperation I am requesting from you. I look forward to hearing from you.

Yours truly,

Cheryl Bertolami

PLEASE SEND A COPY OF THE SUMMARY OF RESULTS (OUTWARD BOUND STUDY) TO:

NAME: _____

ADDRESS: _____

APPENDIX C

Question Guidelines for Self-Evaluation during Solo

1. Why did you choose to take an Outward Bound course?

2. What personal qualities did you most value about yourself before you came to this course?

3. What have you learned about yourself as a result of your experiences during this course?

4. Have your feelings about yourself changed as a result of this wilderness experience? If so, in what way? Be as specific as you can.

5. What has been the greatest learning experience for you so far? (Personally, rather than skill acquisition)

6. What qualities do you most value about yourself right now?

7. How do you feel events in your life are controlled? Do you feel any different about this now than you have in the past?

8. What qualities do you least value in yourself? Has this changed during the course of this experience?

9. Do you believe you have the potential to change things about yourself that you don't like?

10. Do you feel you know yourself better as a result of your experiences during this past month? If you do, why?

APPENDIX D

Locus of Control Scale

CODE NUMBER: _____ AGE: _____

SEX: M / F

ATTITUDE STATEMENT SURVEY

Directions

Below is a series of attitude statements. Each represents a commonly held opinion and there are no right or wrong answers. You will probably disagree with some items and agree with others. We are interested in the extent to which you agree or disagree with such matters of opinion.

Read each statement carefully. Then indicate the extent to which you agree or disagree by circling the number in front of each statement. The numbers and their meaning are indicated below:

If you agree strongly - circle +3
If you agree somewhat - circle +2
If you agree slightly - circle +1

If you disagree slightly - circle -1
If you disagree somewhat - circle -2
If you disagree strongly - circle -3

First impressions are usually best in such matters. Read each statement, decide if you agree or disagree and the strength of your opinion, and then circle the appropriate number in front of the statement. Give your opinion on every statement.

If you find that the numbers to be used in answering do not adequately indicate your own opinion, use the one which is closest to the way you feel.

+3 +2 +1 -1 -2 -3 1. Whether or not I get to be a leader depends mostly on my ability.

+3 +2 +1 -1 -2 -3 2. To a great extent my life is controlled by accidental happenings.

+3 +2 +1 -1 -2 -3 3. People like myself feel that the people in power mostly determine what will happen in the lives of people like me.

+3 +2 +1 -1 -2 -3 4. Whether or not I get into a car accident depends mostly on how good a driver I am.

+3 +2 +1 -1 -2 -3 5. When I make plans, I am almost certain to make them work.

+3 +2 +1 -1 -2 -3 6. Often there is no chance of protecting personal interests from bad luck happenings.

+3 +2 +1 -1 -2 -3 7. When I get what I want, it's usually because I'm lucky.

+3 +2 +1 -1 -2 -3 8. Although I might have good ability, I will not be given leadership responsibility without appealing to those in positions of power.

+3 +2 +1 -1 -2 -3 9. How many friends I have depends on how nice a person I am.

+3 +2 +1 -1 -2 -3 10. I have often found that what is going to happen will happen.

+3 +2 +1 -1 -2 -3 11. My life is chiefly controlled by powerful others.

+3 +2 +1 -1 -2 -3 12. Whether or not I get into a car accident is mostly a matter of luck.

+3 +2 +1 -1 -2 -3 13. Persons like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups.

+3 +2 +1 -1 -2 -3 14. It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune.

+3 +2 +1 -1 -2 -3 15. Getting what I want requires pleasing those people above me.

+3 +2 +1 -1 -2 -3 16. Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right place at the right time.

+3 +2 +1 -1 -2 -3 17. If important people were to decide they didn't like me, I probably wouldn't make many friends.

+3 +2 +1 -1 -2 -3 18. I can pretty much determine what will happen in my life.

+3 +2 +1 -1 -2 -3 19. I am usually able to protect my personal interests.

+3 +2 +1 -1 -2 -3 20. Whether or not I get into a car accident depends mostly on the other driver.

+3 +2 +1 -1 -2 -3 21. When I get what I want, it's usually because I worked hard for it.

+3 +2 +1 -1 -2 -3 22. In order to have my plans work, I make sure that they fit in with the desires of people who have power over me.

+3 +2 +1 -1 -2 -3 23. My life is determined by my own actions.

+3 +2 +1 -1 -2 -3 24. It's chiefly a matter of fate whether or not I have a few friends or many friends.

APPENDIX E

Rosenberg Scale

PERSONAL OPINION SCALE

CODE NUMBER: _____ AGE: _____

SEX: M / F

Please respond to each statement in the following way:

SA Draw a circle around SA if you strongly agree with the statement, if it is a very true picture of yourself.

A Draw a circle around A if you agree with the statement, if it is mostly true of yourself.

D Draw a circle around D if you disagree with the statement, or if it is usually untrue of yourself.

SD Draw a circle around SD if you strongly disagree with the statement or if it is a very untrue picture of yourself.

	Strongly agree	Agree	Disagree	Strongly disagree
1. On the whole, I am satisfied with myself.	SA	A	D	SD
2. At times I think I am no good at all.	SA	A	D	SD
3. I feel that I have a number of good qualities.	SA	A	D	SD
4. I am able to do things as well as most other people.	SA	A	D	SD
5. I feel I do not have much to be proud of.	SA	A	D	SD
6. I certainly feel useless at times.	SA	A	D	SD
7. I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
8. I wish I could have more respect for myself.	SA	A	D	SD
9. All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10. I take a positive attitude toward myself.	SA	A	D	SD

APPENDIX F

Inventory of Outward Bound Effects

INVENTORY OF OUTWARD BOUND EFFECTS

PART ONE:

CODE NUMBER: _____

AGE: _____ SEX: M / F

Please respond to each statement in the following way:

SA Draw a circle around SA if you strongly agree with the statement, if it is a very true picture of yourself.

A Draw a circle around A if you agree with the statement, if it is mostly true of yourself.

N Draw a circle around N if you have no opinion about the statement or is it is neither true nor untrue of yourself.

D Draw a circle around D if you disagree with the statement or if it is usually untrue of yourself.

SD Draw a circle around SD if you strongly disagree with the statement or if it is a very untrue picture of yourself.

Remember that the correct answer is the one that best applies to you.

1.	I feel a person is better off when he takes responsibility for himself.....	SA	A	N	D	SD
2.	What other people think of me does not affect the way I feel about myself.....	SA	A	N	D	SD
3.	I don't think I make friends as easily as I should.....	SA	A	N	D	SD
4.	I need somebody else to push me through on things.....	SA	A	N	D	SD
5.	I live largely by other people's values and standards.....	SA	A	N	D	SD
6.	I don't question my worth as a person, even if I think others do.....	SA	A	N	D	SD
7.	I usually sit back and wait for things to happen to me, or for the other person to make the first move.....	SA	A	N	D	SD
8.	I would change my personality if I could.....	SA	A	N	D	SD
9.	I am really confident when I'm doing something I know how to do.....	SA	A	N	D	SD

10.	My fears of failing stop me from doing many things..	SA A N D SD
11.	I don't worry or condemn myself if other people pass judgement on me.....	SA A N D SD
12.	I'm afraid for people that I like to find out what I'm really like, for fear they'd be disappointed in me.....	SA A N D SD
13.	I feel confident that I can do something about the problems that arise in the future.....	SA A N D SD
14.	I am just as good looking to the opposite sex as most people I know.....	SA A N D SD
15.	If enough competent people are around, no one will notice when I don't take the lead.....	SA A N D SD
16.	I am not as bright as most of the other people I know.....	SA A N D SD
17.	I would be happier if I could relate to others better.	SA A N D SD
18.	I believe that what happens to me is usually the result of my own actions.....	SA A N D SD
19.	When someone criticizes me, it makes me feel less worthwhile as a person.....	SA A N D SD
20.	I am nervous about having someone evaluate me.....	SA A N D SD
21.	I am embarrassed by my limitations in intellectual ability.....	SA A N D SD
22.	I often wish that I was more physically attractive to the opposite sex.....	SA A N D SD
23.	I guess I put on a show to impress people. I know I'm not the person I pretend to be.....	SA A N D SD
24.	I'm very sensitive. When people say things about me I think they are criticizing me or insulting me.....	SA A N D SD

PART TWO:

Please respond to the remaining statements in the following way:

1. Draw a circle around "1" if the statement is ALWAYS TRUE FOR YOU.

2 Draw a circle around "2" if the statement is USUALLY TRUE FOR YOU.

3 Draw a circle around "3" if the statement is SOMETIMES TRUE FOR YOU.

4 Draw a circle around "4" if the statement is SELDOM OR RARELY TRUE.

5 Draw a circle around "5" if the statement is NEVER TRUE FOR YOU.

	Always	Usually	Sometimes	Rarely	Never
1. If something needs to be done, I'll step in and get the ball rolling.....	1	2	3	4	5
2. When I'm afraid of something, I would rather get around it somehow than to meet it head on.....	1	2	3	4	5
3. When people say nice things about me, I find it's hard to believe they really mean it.	1	2	3	4	5
4. I would rather assist someone else than to take charge of something myself.....	1	2	3	4	5
5. Even when I've learned a new skill I hesitate to try it out.....	1	2	3	4	5
6. When I meet a difficult obstacle I hold back, hoping that someone else will lead me through it....	1	2	3	4	5
7. People look to me to get them through a tough situation.....	1	2	3	4	5
8. I let other people decide what to do.....	1	2	3	4	5

Did you have any trouble reading or understanding any of the questions on these pages? YES _____ NO _____
If you answered yes, please place a check mark next to the question which was unclear to you.

APPENDIX G

TABLE A

Analysis of Covariance comparing program and control group responses for total group on all measures

Measure	Source	df	Adjusted SS	Adjusted MS	F	p
Self-esteem scales						
Rosenberg Scale						
	Between	1	8.863	8.863	9.220	.004
	Within	42	40.374	.961		
Self-Esteem Scale						
	Between	1	906.329	906.329	40.210	.000
	Within	42	946.684	22.540		
Revised Locus of Control and Self-Assertion Scales						
Internal Scale						
	Between	1	124.922	124.922	6.293	.016
	Within	42	833.731	19.851		
Self-Assertion Scale						
	Between	1	242.039	242.039	12.129	.001
	Within	42	838.117	19.955		
Powerful Others Scale						
	Between	1	113.001	113.001	3.346	.074
	Within	42	1418.547	33.775		
Chance Scale						
	Between	1	53.577	53.577	1.907	.175
	Within	42	1180.070	28.097		

Note. Pretest scores as the covariate on the posttest scores

APPENDIX H

TABLE B

Adjusted and Unadjusted Means and Standard Deviations of Pretest and Posttest scores, by group

Group	n	Criterion: Posttest Scores Adjusted	SD	Criterion: Posttest Scores Unadjusted	SD	Control: Pretest Scores	SD
Rosenberg Scale							
Program Group							
Males	13	5.31	*	4.92	1.71	3.69	1.84
Females	6	5.35	*	5.50	.55	4.33	1.86
Total	19	5.28	*	5.11	1.45	3.89	1.82
Control Group							
Males	10	4.10	*	4.60	1.43	5.00	1.41
Females	16	4.49	*	4.44	1.41	4.00	1.55
Total	26	4.37	*	4.50	1.39	4.38	1.55
Self-Esteem Scale							
Program Group							
Males	13	57.55	*	56.15	8.88	51.55	9.71
Females	6	61.67	*	60.83	12.11	50.33	9.31
Total	19	58.53	*	57.63	9.91	51.32	9.35
Control Group							
Males	10	50.59	*	52.40	7.17	55.40	6.11
Females	16	48.25	*	48.56	7.17	51.63	7.21
Total	26	49.38	*	50.04	7.28	53.08	6.94

(Continued)

Table B - continued

Group	n	Criterion: Posttest Scores Adjusted	SD	Criterion: Posttest Scores Unadjusted	SD	Control: Pretest Scores	SD
Internal Scale							
Program Group							
Males	13	36.33	*	34.69	8.10	31.62	5.89
Females	6	36.76	*	35.33	2.16	34.83	2.86
Total	19	36.88	*	34.89	6.71	32.63	5.27
Control Group							
Males	10	30.97	*	33.10	5.57	36.00	4.99
Females	16	35.09	*	35.63	5.14	37.50	4.77
Total	26	33.20	*	34.65	5.34	36.92	4.82
Self-Assertion Scale							
Program Group							
Males	13	59.46	*	57.69	8.78	54.15	8.94
Females	6	61.99	*	62.00	7.56	57.33	8.59
Total	19	60.34	*	59.05	8.46	55.16	8.73
Control Group							
Males	10	54.31	*	56.60	5.99	58.60	4.03
Females	16	56.44	*	56.44	7.07	57.31	6.49
Total	26	55.56	*	56.50	6.56	57.81	5.61
Powerful Others Scale							
Program Group							
Males	13	12.41	*	12.54	6.23	14.08	7.22
Females	6	7.79	*	6.50	4.04	11.33	6.22
Total	19	11.22	*	10.63	6.22	13.21	6.87
Control Group							
Males	10	16.97	*	16.80	9.55	13.70	6.45
Females	16	13.20	*	13.69	6.30	15.69	7.65
Total	26	14.45	*	14.88	7.69	14.92	7.14

(Continued)

Table B - continued

Group	n	Criterion: Posttest Scores Adjusted	SD	Criterion: Posttest Scores Unadjusted	SD	Control: Pretest Scores	SD
		Chance Scale					
Program Group							
Males	13	15.94	*	17.77	5.61	19.00	4.95
Females	6	9.63	*	8.83	3.43	11.50	4.76
Total	19	13.86	*	14.95	6.52	16.63	5.96
Control Group							
Males	10	18.68	*	16.30	7.33	12.40	5.17
Females	16	14.45	*	14.75	5.52	14.13	6.46
Total	26	16.14	*	15.35	6.18	13.46	5.95

* Information not available from the program used for statistical analysis

APPENDIX I

TABLE C

Correlations between measures
using total group pretest scores

	1	2	3	4	5	6
1	1.000					
2	.623**	1.000				
3	.240	.533**	1.000			
4	.038	-.001	.367**	1.000		
5	-.129	-.277*	-.327**	-.204	1.000	
6	-.108	-.117	-.121	-.340**	.368**	1.000

1 Rosenberg Scale

2 Self-Esteem Scale

3 Self-Assertion Scale

4 Internal Scale

5 Powerful Others Scale

6 Chance Scale

* $p < .05$

** $P < .01$

VITA

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Date of Birth: October, 20, 1951

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High risk wilderness programs: An alternative for the school counsellor. *The B. C. Counsellor*, 1980, *2(1)*, 5-13.

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ON SELF-ESTEEM AND LOCUS OF CONTROL
ORIENTATIONS OF YOUNG ADULTS

Author: [redacted]

Cheryl Bertolami

May, 1981