

THE EFFECTS OF A ROPES COURSE EXPERIENCE
ON LOCUS OF CONTROL
AND SELF-ESTEEM

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PREFACE

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CHAPTER I

INTRODUCTION

This study was designed to investigate some of the psychological effects of a Ropes course (an outdoor challenge experience adapted from Outward Bound) on college student participants. Similar activities have recently grown in popularity and are believed by their proponents to foster healthy adjustment. Factors effecting such healthy adjustment have been the topic of longstanding scholarly interest and controversy.

Philosophers, political theorists, psychologists and educators have, for a considerable time, pondered on and theorized about the factors that are important for healthy human growth and development (Hall & Lindzey, 1978). As early as 400 B.C. Plato discoursed on the factors he thought necessary for good citizenship and for attaining healthy, productive lifestyles. While the philosophical and political debate continued through the centuries, attention focused in psychological circles on the elements necessary for mental health, and the types of experiences that facilitate psychological well-being.

During the nineteenth and early part of the twentieth century, psychologists directed attention toward psychopathology and behaviors that deviated from the norm. They were interested in both understanding and alleviating individual and societal suffering and in discovering the elements which differentiated the psychologically healthy from the psychologically malfunctioning person. Freud was a pioneer in this area.

He presented a theory which analyzed the dynamics of personality and presented psychoanalysis as a treatment methodology to remediate inadequate psychological functioning. Freud's efforts were elaborated upon and modified after his death, as psychologists continued to strive to develop a sound conceptual framework within which human beings and their behavior could be understood (Garfield, 1981; Hall & Lindzey, 1978).

Since those early days, various theoretical approaches have been developed (Maddi, 1980). A number of these have suggested that two of the critical factors necessary for psychological health are positive feelings toward oneself, and a feeling of control over one's own life and destiny. Many theorists and researchers have investigated various aspects of these factors (Burns, 1979; Joe, 1971). Among them Adler (1927) suggested that individuals attempted to overcome inherent initial inferiority by striving for superiority, and Erikson (1950) considered the development of competence and control to be of great importance in the development of identity. Rotter (1954) introduced the idea of locus of control of reinforcement as an important factor in understanding human behavior, and White (1959) wrote of competence motivation and peoples' need to be effective. Rogers (1947) hypothesized that incongruent perceptions of the self resulted in psychological and behavioral malfunctioning, and DeCharms (1968) introduced the motivational concept of personal causation as a behavioral influencer. Seligman's (1975) notion of learned helplessness suggested a loss of control in one situation could generalize to a perceived lack of control at other times with serious psychological and behavioral consequences.

Similarly, Raimy (1975) suggested misconceptions of the self were responsible for a wide variety of psychological problems.

While it is important to identify factors effecting psychological well-being, many believe it equally necessary to find ways of facilitating the development of these factors and methods of remediation where problems have arisen. Accordingly, alongside the theoretical formulations of psychology, a wide variety of therapeutic modalities have been developed to promote both healthy growth, and provide treatment for those individuals who are experiencing emotional difficulties. Interventions have ranged from assisting the individual to better understand him or herself through psychoanalysis at perhaps one end of the continuum, to a focus on concrete behavior change at the other end (Kanfer & Goldstein, 1980). The variety of therapeutic approaches currently in use is wide and includes analytic, client centered, directive, reality, cognitive, gestalt, group, and marriage and family, to name but a few (Ard, 1975; Budman, 1981). However, results of research into the effectiveness of the different types of therapies have been mixed, and no one model has received unequivocal support (Garfield, 1981).

Despite the diversity of available therapies, and the difference in the theoretical models to which their proponents subscribe, it appears that certain therapeutic interventions transcend theoretical differences (Goldfried, 1980). Goldfried (1980) suggested that two clinical strategies commonly used by psychologists of many different theoretical orientations were " (a) providing the patient with new corrective experiences, and (b) offering the patient/client direct feedback" (p. 994). Thus, although the ways in which these strategies are implemented

differ widely, certain underlying directions of therapy tend to be very similar (Goldfried, 1980).

A method of conceptualizing the purpose of the two above mentioned interventions is to consider the individuals' problems to be the result of his or her faulty, inaccurate thinking about the self (Raimy, 1975). Thus, the goal of the therapist is to provide the client with a corrective experience involving feedback which will challenge unrealistic thinking and result in a more accurate perception of the self (Raimy, 1975). This cognitive restructuring approach has been used by a number of therapists, in particular Ellis (1977), and studies of therapeutic outcomes using this approach have, on the whole, been positive (Ellis, 1977; DiGiuseppe, Miller & Trexler, 1977).

Ellis (1962) points out the negative self-defeating functions served by faulty beliefs and attitudes. His approach to psychotherapy involves the active challenging of inaccurate beliefs to achieve the goal of cognitive restructuring within the counseling or therapy session. Two important beliefs considered to have a profound influence on behavior are beliefs about one's self, and beliefs about the extent to which one is in control within one's environment. Beliefs about one's value or worth, often referred to as self-concept or self-esteem, have been found to effect not only aspirations and sense of well-being, but also interpersonal relationships (Burns, 1979). Beliefs about the extent to which one can control reinforcements within one's environment, referred to as locus of control, have been shown to effect impulse control, the acquisition and use of information and the extent to which initiative and effort are used to attain goals and control the environment (Joe, 1971). Experiences which can be shown to result in a

positive change in beliefs about one's self and one's control within the environment are potentially of great therapeutic value, especially if they can be used in a preventive as well as remedial manner.

The Outward Bound experience fits the cognitive restructuring conceptualization method mentioned above, utilizing the two clinical strategies (among others) considered effective by a wide variety of psychologists. The Outward Bound program was designed to challenge unrealistic self-limiting beliefs by providing direct feedback to participants and offering the opportunity for corrective experiences (Miner & Boldt, 1981). The program is described as offering "the opportunity for experiential learning... using action oriented activities to attain behavioral and educational objectives... Physically demanding and stressful experiences are used to stimulate personal growth, interpersonal effectiveness and one's relationship to the environment" (Medrick, No date, p. 1). While originally used as a preventative, self-enhancing experience, recently it has been used for remediation purposes as a therapeutic intervention with adjudicated youth and emotionally disturbed individuals (Miner & Boldt, 1981).

The Outward Bound program originated in Great Britain during World War II, as a result of a concern that, due to faulty training, many young merchant sailors were dying unnecessarily. They appeared to lack the personal resources needed to survive (Miner & Boldt, 1981). The success of the program in Great Britain resulted in the expansion and broadening of the outdoor challenge education movement (Wright, 1982). A number of Outward Bound schools were established in the United States during the 1960's and a variety of other adventure education projects were formed as offshoots of this movement (Miner & Boldt, 1981). These

programs have been found by researchers to lead to sustained positive change in self-concept, and a greater feeling of control in participants (Adams, 1969; Clifford & Clifford, 1967; Collingwood, 1972; Fersch & Smith, 1971; Fletcher, 1973; Gaston, 1978; Kelly & Baer, 1969; Stimpson & Pederson, 1970; Stremba, 1977; Ulrey, 1974; Wetmore, 1972; Wright, 1982).

The ideal of these programs, according to Holt, is to promote education "through the body, not of the body" (Miner & Boltdt, 1981, p. 33). In other words, the objectives do not concern physical education. Rather, such programs are designed to utilize unfamiliar situations to develop healthy psychological adjustment. The program challenges participants' beliefs about themselves. Tasks that at the outset appeared impossible are found to be achievable. This information and self learning is expected to generalize to other areas of the individual's daily life (Miner & Boltdt, 1981).

One element of the Outward Bound experience - the Ropes Course - is the subject of investigation in this study. The Ropes Course involves a day-long outdoor challenge experience negotiating ropes and beams, some high above the ground, in conjunction with group trust building and problem solving activities. It has been described as "the part of the Outward Bound experience that, except for rock climbing and rappelling, causes most students the most apprehension" (Miner & Boltdt, 1981, pp. 99-100).

While the Ropes Course comprises only one element of the Outward Bound experience, its purpose and design are based on the same theoretical formulations. It aims to actively challenge misconceptions; to offer an opportunity for corrective experiences; and to provide

feedback to participants. Since it is reported to be one of the most challenging parts of the Outward Bound experience, it is suggested that facing and overcoming the difficulties in the Ropes Course may have similar effects on the locus of control and self-esteem of participants as have been reported for Outward Bound.

In addition to investigating the effects of a Ropes Course experience on locus of control and self-esteem, a preliminary inquiry into the effects of this treatment on individuals' interpersonal behavior was conducted. Sullivan (1953) developed an "Interpersonal Theory of Personality" and argued an individual was primarily characterized by his interactions with others. Sullivan (1953) postulated that an individual's interpersonal behavior is the only unit of study which offers insight into the underlying dynamics of personality. Thus, the individual must be viewed in light of her relationship with others (Sullivan, 1953). Schutz (1958) presented three dimensions on which to investigate interpersonal behavior - Inclusion, Control and Affection. Inclusion, similar to Eysenck's Social Extroversion-Introversion Construct (Gard & Bendig, 1964), refers to an individual's desire to be involved in superficial social interactions. Control describes the individual's desire for dominance within relationships, and Affection refers to an individual's need for close, intimate relationships with others (Schutz, 1958). Schutz (1958) suggested these three dimensions could be subdivided into Expressed and Wanted categories - Expressed being the overt behavior exhibited by an individual within a social context, and Wanted referring to underlying covert needs which may not be obvious in interpersonal behavior.

It is suggested that a Ropes Course experience, by virtue of its challenging nature and emphasis on interpersonal trust and support, may influence an individual's interpersonal orientation. Due to the preliminary nature of this investigation, however, no directional hypotheses are presented.

Significance of the Study

As noted earlier, investigations into the effects of Outward Bound and other outdoor challenge experiences suggest that they have a positive effect on self-concept and lead to a shift towards a more internal locus of control of reinforcements. This study attempts to determine the effect of one particularly challenging element of this experience, the Ropes Course, on the self-esteem and locus of control of participants. If similar benefits are found to accrue from the Ropes Course experience, it might have potential as an adjunct to other therapeutic interventions for situations where self-esteem and locus of control are the focus of counseling or therapy. In addition, such an experience could be useful in promoting healthy development.

Considerable interest in and enthusiasm for Ropes Courses have been shown by several counseling services in institutions of higher education. The programs often are used by court referral agencies primarily with substance abusers, campus groups, and other interested agencies within the local community. The increasing popularity of such programs and their more widespread use warrants research to determine both their effectiveness and usefulness for the individuals who participate.

Statement of the Problem

The purpose of this study was to determine the effects of a Ropes Course experience on the Locus of Control, Self-Esteem and Interpersonal Behavior of College Students. These three factors have been considered important in the individual's adjustment to the world and necessary for healthy development (Erikson, 1950; Schutz, 1958). Thus, an intervention which appears to promote positive changes in these factors not only has value for facilitating healthy development, but also, in the longer term, may be useful in remediating psychological problems.

This study aimed to investigate the effects of the Ropes Course on the locus of control and self-esteem of participants. It was designed to answer the following research question: Will a Ropes Course experience have a positive effect on the locus of control and self-esteem of participants? Additionally, the study aimed to conduct a preliminary investigation into the effects of the Ropes Course on Interpersonal Behavior. No hypotheses were presented for this variable due to the preliminary nature of the investigation.

Definition of Terms

Self-esteem has been defined by Rosenberg (1965) as a "positive or negative attitude towards a particular object, namely the self" (p. 30). Calhoun and Morse (1977) differentiate between self-esteem and self-concept by suggesting that "self-concept is a more stable constant phenomenon, while self-esteem may more readily fluctuate from time to time" (p. 32). Self-esteem is thought to develop later than self-concept and to "vacillate according to the success or failure the individual

encounters daily" (p. 320). It does not seem reasonable to assume that a one-day treatment intervention would have an effect on the above defined underlying self-concept; thus, for the purposes of this study, self-esteem as a more variable component of the self-concept will be measured. Self-esteem will be measured by the Self-Esteem Scale (Rosenberg, 1965). High positive scores on this scale reflect low self-esteem.

Locus of Control refers to the individual's perceptions and beliefs about the extent to which he or she controls reinforcements. According to Rotter (1965) "the potential for a behavior to occur in any specific psychological situation is a function of the expectancy that the behavior will lead to a particular reinforcement and the value of that reinforcement" (p. 57). Individuals differ in the extent to which they believe that they have control over such reinforcement (Rotter, 1966).

Internal Locus of Control refers to the individual's perceptions of reinforcements being contingent on his own actions, or, characteristics, and thus being under his personal control. The higher the score (0-40) on Levenson's (1974) eight-item Internal (I) scale, the greater the individual's belief in internal control of reinforcements.

Powerful Others Locus of Control refers to the individual's perceptions of reinforcements being under the control of powerful others and, thus, outside her direct personal control. The higher the score (0-48) on Levenson's (1974) eight-item Powerful Others (P) scale, the greater the belief that reinforcement is controlled by powerful others.

Chance Locus of Control refers to the belief that reinforcements are controlled by chance, luck or fate, and, therefore, outside the control of the individual. The higher the score on Levenson's (1974)

eight-item Chance (C) scale, the greater the belief that reinforcement is controlled externally by chance.

Interpersonal Behavior refers to an individual's total score on the Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B) Scale (Schutz, 1958) obtained by summing expressed and wanted scores on all three dimensions - Inclusion, Control and Affection.

The Ropes Course refers to an eight-hour outdoor experience adapted from the Outward Bound Program. It involves a series of trust building and problem solving activities followed by a physically challenging course using ropes and beams. Safety equipment involving harnesses and belay ropes are used at all times on the high elements of the course.

Hypotheses

1. Subjects participating in the Ropes Course will show a change in their locus of control orientation following the experience, in comparison with those subjects in the control group.

2. The subjects who participate in the Ropes Course will show an increase in self-esteem when compared with those in the control group.

Assumptions and Limitations

This study assumed that participants in the research project did not respond to the instrumentation in a socially desirable manner. In other words, it was assumed that participants' self-reports accurately reflected their feelings. It was also assumed that repeated use of the same instruments did not affect the way in which subjects responded. Additionally, the study was limited by the use of volunteer summer

school students as participants, thereby restricting the generalizability of results.

Organization of the Study

Chapter I presented an introduction to the problem, the significance of the study, a statement of the problem, definition of terms, and hypotheses. Chapter II includes a review of the related literature presented under the following subdivisions: Self-Esteem; Locus of Control; The FIRO model of Interpersonal Behavior; Theoretical Rationale for the Ropes Course Treatment; and Outward Bound. Chapter III presents information about the subjects, instrumentation, research design, procedures and the statistical methods which were used to analyze the results. Chapter IV describes the results of the analysis, and Chapter V offers a summary, conclusions and recommendations.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The first two sections of this chapter review the relevant literature on self-esteem and locus of control in order to establish their roles as important psychological variables amenable to change. These sections are followed by a brief description of the FIRO model of interpersonal behavior. Subsequently, a rationale is developed which places the Ropes Course treatment within a theoretical context. Due to the paucity of empirical research on Ropes Courses (Washburn, 1983), similarities between these and Outward Bound courses are discussed. The final section presents research findings concerning the effects of Outward Bound courses on self-esteem and locus of control.

Self-Esteem

Twentieth-century psychologists have consistently shown an interest in the notion of self and the extent to which attitudes, feelings and beliefs about one's self effect behavior (Burns, 1979). Freud considered that the concept of self in a healthy individual involved the unified and harmonious organization of the ego, id, and superego (Felker, 1974), while Jung considered the self to represent an equilibrium between the conscious and unconscious levels of personality (Hall & Lindzey, 1978).

Jung believed this equilibrium could not occur until all the components of personality were fully developed and this could not be achieved before middle age. Nevertheless, he thought self development was the ultimate goal of human growth. Adler (1927) viewed the goal of life in terms of self assertion motivated by the fear of inferiority, and Allport considered that the core tendencies of individuals involved an attempt to function in a manner expressive of self (Maddi, 1980). Erikson (1950) viewed the development of self-identity as a critical stage in adjustment, and Maslow (1954) formulated a hierarchy of needs involving a self-actualizing tendency to develop capacities, self understanding, and self acceptance.

Raimy (1948) was considered the first theorist to use the term self-concept which he defined as a "learned perceptual system which functions as an object in the perceptual field" (p. 154). He emphasized that self-concept was a significant factor in the understanding of behavior and that an individual's beliefs and perceptions of self influenced beliefs and perceptions of others. Rogers (1947) also considered self-concept to be an important determinant of behavior and a basic factor in the formation of personality. He defined self-concept as "... the sum total of all the characteristics a person attributes to himself, and the positive and negative values he attaches to these characteristics." (Rogers, 1947, p. 146).

While considerable interest has been shown in the concept of self, a certain degree of confusion exists concerning the exact meaning of the terms used to describe this construct (Calhoun & Morse, 1977). In many instances the labels self-concept and self-esteem have been used interchangeably; however, a useful distinction can be made by

considering self-esteem to be the evaluative component of the self-concept (Calhoun & Morse, 1977). Thus, Rosenberg (1965) has suggested "self-esteem is a positive or negative attitude toward a particular object, namely, the self" (p. 30), and described it as "central to the subjective life of the individual" (Rosenberg, 1965, p. vii). Elder (1968) has defined self-esteem as "feelings of personal worth ... influenced by performance, abilities, appearance, and judgments of significant others" (p. 258). It would seem that self-esteem develops later than the rather more permanent self-concept and is subject to fluctuations according to circumstances (Calhoun & Morse, 1977). In essence, people's levels of self-esteem will be dependent on their satisfaction with their self-concepts.

Both Rosenberg (1965) and Coopersmith (1967) conducted extensive research studies in the area of self-esteem. Rosenberg (1965) surveyed over 5000 adolescents in an attempt to understand how they viewed themselves and what criteria were important in influencing this judgment. In particular, Rosenberg was curious to determine the effects of various social factors which had an influence on an individual's beliefs and attitudes about himself. Thus, the survey addressed factors such as socio-economic status, social class, parent-child relationships, minority group membership, religion, parental divorce, birth order, parental interest, anxiety, interpersonal attitudes, occupations, etc., and their influences on and relationships to self-esteem (Rosenberg, 1965). Among the results of Rosenberg's (1965) study it was reported subjects with low self-esteem were more likely to have physiological symptoms of anxiety, to be highly sensitive to criticism, to be more concerned about how others see them, to experience feelings of

worthlessness, loneliness, isolation and interpersonal awkwardness, to be less assertive and more politically apathetic than their counterparts with higher self-esteem.

Coopersmith (1967) found no significant relationship between self-esteem and social class or physical attractiveness. He did, however, find that individuals with low self-esteem tended to have a more impoverished emotional life; more anxiety; frequent or serious emotional problems; to be more physically destructive; to have greater discrepancies between present self-appraisal and ideal self; and to have lower expectancies of success than did subjects with high self-esteem. The development of high self-esteem also was found to be associated with certain parental behaviors. These included almost total acceptance of children by their parents; clearly defined and enforced limits; and respect and acceptance for individual behavior within the defined limits (Coopersmith, 1967). In addition, it has been reported that realistic successful experiences and positive interpersonal feedback both seem to increase levels of self-esteem (Burns, 1979).

Self evaluations seem to have behavioral consequences. Studies by Korman (1966, 1969) suggested that self-esteem acts as a moderator variable in the process of career selection. Individuals with high self-esteem chose careers and roles consistent with their views of self, while those with low self-esteem tend to choose non need satisfying occupations. This was viewed by Korman as consistent with their low self-esteem and their knowledge that needs had not been satisfied in the past. Generalized expectancies from past experiences thus lead individuals to seek out experiences that are consistent with their expectations. A study by Aronson and Mettee (1968) induced several

differential levels of self-esteem in their subjects by giving them inaccurate positive or negative feedback about their performance on a personality measure. They were then placed in a highly competitive situation and given the opportunity to cheat for their own advantage with apparently no chance of discovery. The results indicated that individuals given uncomplimentary feedback about themselves had a much greater tendency to cheat than those who were given positive feedback. Similar results were obtained by Callison (1974) in a study of third grade children. The subjects in the experimental group who were given negative feedback about their performance on a mathematics test showed a significant decrease in the number of positive answers they gave to a self-concept scale. Reckless, Dinitz and Murray (1956) proposed that positive, socially acceptable feelings about the self could act as an insulator against delinquency, and Hurlock (1967) noted that unrealistic evaluations of self are likely to be associated with delinquency since feelings of inadequacy often result from discrepancies between perceived self and ideal self.

High self-esteem can be considered to be an important element of psychological well-being. In addition, self-esteem exerts a powerful influence on behavior. Combs, Avila and Purkey (1971) indicated that the most important factor affecting human behavior was the experience and evaluation of the self, while Diggory (1966) found success in a highly valued activity led to higher self evaluations in other non related activities, indicating generalization of increases in self-esteem. Raimy (1975) related low self-esteem to misconceptions and faulty beliefs about the self. He stated, "Not until I recognized that the self-concept's major components are the convictions, beliefs and notions

one has about oneself did I realize that some of these faulty components might account for faulty adjustment ... beliefs about the self that are consonant with reality lead to adjusted behavior, while inappropriate beliefs lead to maladjusted behavior" (p. 9).

Raimy's (1975) proposal that unrealistic beliefs about the self lead to distress and maladjustment is supported by Ellis' (1977) propositions. He suggested that peoples' feelings and behaviors depend on what they tell themselves. If people's beliefs about themselves are inaccurate or irrational, the self messages leading to behavior will reflect this. Moreover, faulty thinking about the self in one situation will generalize to other situations and change these as a result of the preconceived expectancies influencing their behavior. A recent study by Daly and Burton (1983) investigated the relationship between self-esteem and irrational beliefs. The researchers administered the Irrational Belief Test and the Janis-Field Feelings of Inadequacy Scale to 251 college students. A significant ($p < .0001$) negative correlation was found between self-esteem and irrational beliefs. The strongest predictors of low self-esteem were general irrationality, need for approval from others, the need to excell in all tasks to generate feelings of self-worth, excessive anxiety about future disasters, and a desire to avoid rather than face difficulties.

These findings lend support to the theories of Ellis (1977) and Raimy (1975), among others, who suggested that misconceptions, irrational beliefs, and generally unrealistic attitudes toward the self play an important role in maintaining low self-esteem. Raimy (1975) contended, however, that these misconceptions about the self can be changed by presenting the individual with evidence. This evidence can

include cognitive insights as well as other data which challenge the accuracy of conceptions. He suggested the task of the therapist is to present such evidence to the client. The methods used to do this can be classified into four categories. In the Self Examination method, client introspection and talking with the therapist is encouraged to locate and correct misconceptions; and in Self Demonstration the client is exposed directly to a situation in which she or he can observe that the misconception exists and can change it. The Vicarious Procedure approach challenges the client's misconception through observation of others, and the Explanation method relies on a process of rational explanation and the presentation of valid arguments in order to change the clients misconceptions.

Raimy (1975) contended that each of these methods effectively influence clients to change cognitive misconceptions about themselves. Such changes lead to more realistic behavior and affect. Thus, a treatment such as the Ropes Course, that actively challenges irrational beliefs about the self, could be expected to have an affect on the self-esteem of participants. This notion will be discussed further in a later section.

Locus of Control

The construct of locus control was derived from Rotter's (1954) Social Learning theory which attempted to integrate the cognitive or field theories with the behaviorist stimulus-response theories of psychology (Rotter, 1975). Social learning theory suggested the potential for a behavior to occur in any given situation depends on the expectancy that this behavior will result in a particular reinforcement

and the perceived value of this reinforcement for the individual (Lefcourt, 1966). Expectancies for reinforcement are determined to a large extent by expectancies in other situations which are perceived to be similar. Thus, individuals can be said to have generalized expectancies for reinforcement which, for any given situation, will be influenced both by that situation and previous experience in similar situations. Generalized expectancies will be relatively more important in novel situations (Rotter, 1975).

The internal-external control construct is considered to be an expectancy variable (Lefcourt, 1966). The generalized expectancies to perceive reinforcement as contingent on one's own behavior (internal control) or as non contingent on one's behavior but rather the result of luck, chance or the control of powerful others (external control) have been widely investigated (Rotter, 1975). While a number of measuring scales have been constructed to study this construct, the most widely used has been Rotter's (1966) Internal-External Control Scale. Hersch and Scheibe (1967) correlated scores on this scale with the California Personality Inventory and the Adjective Check List, and found internally oriented subjects scored higher on the Dominance, Tolerance, Good Impression, Sociability, Well Being, Intellectual Efficiency, and Achievement by Conformance scales of the California Personality Inventory than their more externally oriented counterparts. Further, internally oriented subjects were more likely to describe themselves as assertive, achieving, powerful, independent, effective and industrious on the Adjective Check List.

Studies by Hamsher, Geller and Rotter (1968); Miller and Minton (1969); and Clauser and Hjelle (1970) suggested externally oriented

individuals tend to be less trusting, more suspicious and more dogmatic than those with an internal orientation. Feather (1967) found external subjects reported more debilitating anxiety and neurotic symptoms than did internal subjects and similar findings have been reported by other researchers (Butterfield, 1964; Hountras & Scharf, 1970; Platt & Eisenman, 1968; Tolor & Reznikoff, 1967; Watson, 1967). Other studies (Efran, 1963; Lipp, Kolstoe, James & Randall, 1968; Phares, Richie & Davis, 1968) suggested more internal individuals tend to repress failures and unpleasant experiences, and therefore may just report less anxiety than those with an external orientation. Several investigations have indicated that subjects with higher internal locus of control make more effort to control their environments and impulses than those with an external orientation (James, Woodruff & Werner, 1965; Phares, 1965; Seeman, 1963; Seeman & Evans, 1962; Straits & Sechrest, 1963).

Research on ethnic group membership suggested minority group children (Blacks, Hispanics, and Native Americans) had a more external orientation than white children (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld & York, 1966). Anglo-Americans also were found to be significantly more internal than American born Chinese and Hong Kong born Chinese (Hsieh, Shybut, & Lotsoff, 1969). These findings, coupled with their own research, led Parsons, Schneider and Hanson (1970) to suggest that culture may have an important influence on an individual's expectancies for reinforcement.

Several studies have attempted to link the locus of control construct to social adjustment. An investigation by Shybut (1968) found psychotic subjects had significantly higher external scores than normal and neurotic subjects. Harrow and Ferrante (1969) reported

schizophrenics had a higher external locus of control than non schizophrenics. The same study found depressed patients developed a more internal orientation following six weeks of treatment in contrast to schizophrenic and manic patients who showed a non significant trend towards externality following treatment. However, it should be noted that the manic patients studied were, on admission, significantly more internal than the total sample of non manic patients ($p < .05$). Results of a study by Distefano, Pryor and Smith (1971) supported previous research, with psychiatric patients having a significantly higher expectancy of external control than the hospital attendants serving as a comparison group. Abramowitz (1969) found external subjects had a tendency to report more feelings of anger and depression than did internal subjects, while Williams and Nickels (1969) found individuals scoring high in externality had a significantly higher tendency towards accident-proneness and suicide ($p < .0001$).

There has been a tendency in much of the locus of control literature to consider an internal locus of control to be "good" or "healthy" and an external locus of control to be less "good" or less "healthy" (Rotter, 1975). Rotter (1975) challenged these interpretations and cautioned against such assumptions, since expectancies of control of reinforcement depend on the perceived value of that reinforcement. He also emphasized that in some circumstances individuals are not in control of reinforcements, and thus it may be maladaptive to believe reinforcements to be internally controlled. Further, Rotter (1975) cited evidence that external individuals may be of two types, defensive and passive. Defensive externals believe others control reinforcements, while passive externals consider reinforcements to be the results of

of the developmental antecedents of locus of control (Levenson, 1973a) found, on the whole, subjects who had experienced less parental nurturing had higher P and C expectancies; controlling parental behaviors were significantly related to the subjects' scores on the P scale; and those who perceived their parents behavior to be unpredictable had higher scores on the C scale.

A study of the relationships between age and locus of control was conducted by Ryckman and Malikioski (1975) using the multidimensional scales. College students were found to be less internal than other adult age groups, and a significant relationship occurred between age and scores on the P and C scales. People in their 50's had the highest scores on the P scale, and those in their 40's had the lowest scores on the C scale.

An examination of locus of control and achievement (Prociuk & Breen, 1975) showed internals to be more successful academically than those with a powerful others orientation, who, in turn, were more successful than those with a chance orientation. Differences between females and males also were observed. Male students with a powerful others orientation had less academic success than comparable females. Similar results were found when non academic success was measured. These results led Levenson (1981) to speculate that a powerful others locus of control might facilitate success for women and be an adaptive expectancy in certain situations.

A comparison of locus of control scores was made between professionals, blue collar workers, and college students (Ryckman & Malikioski, 1974). Professionals were found to score significantly higher on internal control than the other groups; however, no

significant difference between the groups was found for their expectancies of control by powerful others. These results imply it may be realistic and adaptive to recognize the influence of powerful others in the control of reinforcements. Research by Rupkey (1978) comparing entrepreneurs with non entrepreneurs found the group who started their own businesses were not only higher on internal control, but also higher on the powerful others dimension than the comparison group. These findings seem to add further support to the hypothesis that recognizing the control of powerful others may be both realistic and adaptive.

Using the multidimensional locus of control scales Levenson (1973b) investigated psychological adjustment and locus of control comparing psychiatric patients with a non psychiatric control group. While no differences were found between the groups for the I scale, there were significant differences on the P and C scales. Schizophrenic patients had a greater tendency to believe powerful others and chance controlled their lives in contrast to the control group. Morelli, Krotinger, and Moore (1979) compared scores on the multidimensional locus of control scales with the Extraversion and Neuroticism scales of Eysenck's Personality Inventory. While there was little correlation between extraversion and I, P, and C scores, neuroticism was found to correlate significantly with both internal and chance control scores.

Investigations of locus of control and alcoholism have reported varied results. Goss and Morosko (1970) found alcoholics to be more internal than non alcoholics; research by Nowicki and Hopper (1974) suggested alcoholics tended to have an external orientation; and Donovan and O'Leary (1975) found no difference in locus of control scores between alcoholics and non alcoholics. Each of these studies used a

unidimensional locus of control scale and this, to a large extent, may account for the seemingly contradictory results. When a multidimensional scale was used to compare alcoholic with non alcoholic groups, the alcoholic group scored significantly higher than the control on chance expectancies (Caster & Parsons, 1977). When follow up data were collected on the alcoholic sample subsequent to a treatment program, drinking recidivists were found to have significantly higher scores on the C scale than non drinking members of the group. Similar results were obtained by Donovan and O'Leary (1978) using a drinking specific locus of control scale. Scores on this scale correlated only with the C scale, indicating that chance expectancies may be influential in drinking behavior while internal and powerful others expectancies are not.

The above review indicates that using a multidimensional scale to measure locus of control may, in many situations, be more useful than a unidimensional measure. It also suggests that recognizing control by powerful others may be adaptive and realistic, especially concerning the achievement of women. There is currently very little evidence to support the notion that chance expectancies can be facilitative. However, Levenson (1981) reports an investigation by Achterberg, Lawlis, Simonton, and Matthews-Simonton studying the relationship between psychological factors and blood chemistry as predictors of disease outcome in cancer patients, which suggested a more chance oriented expectancy might facilitate an individual's biochemical ability to combat disease.

While not exhaustive in its scope, it is clear from the literature sampled above, that the expectancies for control of reinforcements differ significantly between individuals. There is evidence that

expectancies are influenced by family atmosphere (Levenson, 1973a), ethnic background (Parsons, Sneider & Hansen, 1970) and socio-economic status (Garcia & Levenson, 1975). Expectancies of control of reinforcements appear to influence achievement levels (Prociuk & Breen, 1975) and in particular it seems a belief in control by powerful others is more facilitative of achievement for females than males. Psychiatric patients differ from non psychiatric patients on the P and C dimensions (Levenson, 1973b) and a belief in the random nature of reinforcements may be a factor in the continued drinking behavior of treated alcoholics (Caster & Parsons, 1977). Whether a predominant orientation is considered to be adaptive or maladaptive seems to depend on the particular individual and his or her situation (Levenson, 1981).

Since it appears expectancies are initially formed in childhood (Levenson, 1973a), and since they can be expected to generalize from one situation to another (Rotter, 1966), it is logical to assume a once adaptive expectancy may be less realistic later in life. There is evidence, however, indicating expectancies for reinforcement can change. Lefcourt and Ladwig (1965) found individual's control expectancies could be altered from external to internal if new goals could be linked cognitively to old successes. A study by Smith (1970) found people in crisis became significantly more internal following crisis resolution, and two other studies (Gillis & Jessor, 1970; Gottesfield & Dozier, 1966) noted an increase in internal control following a subject's involvement in psychotherapy or community action programs. Lefcourt (1967) reported external subjects became more achievement conscious than internal subjects when informed that reinforcements were available for achievement. This suggested that their lack of achievement behavior may

have been due to a failure to recognize the opportunity for reinforcement.

The above studies focus on changing from an external to a more internal locus of control. However, it may be more important to have a control expectancy which is congruent with the present environment (Levenson, 1981). Nevertheless, evidence that reinforcement expectancies can change provides support to the possibility that expectancies of control could change depending on circumstances as well as cognitive factors. Raimy's (1975) theory, discussed in the previous section, is applicable also to locus of control since this construct concerns conceptions and misconceptions held by individuals reflecting their beliefs about control of reinforcements. Thus, an intervention that challenges irrational elements in these beliefs could be expected to produce a more realistic appraisal of an individual's control of reinforcements.

The FIRO Model of Interpersonal Behavior

Schutz (1966) described interpersonal relations as the way in which individuals behave as a result of their interactions with others. It is assumed that an individual may influence the behavior of another simply by sharing the same environment. Further, a person's behavior may be influenced by expectations concerning the behavior of others. The extent to which one individual is influenced by interacting with another will depend on the current situation and upon the individual's structure of interpersonal needs. An interpersonal need is defined as "one that may be satisfied only through the attainment of a satisfactory relation

with other people" (Schutz, 1966, p. 15). Interpersonal behavior is motivated by attempts to meet interpersonal needs.

This model of interpersonal behavior is based on the assumption of three underlying interpersonal needs (Schutz, 1958). The need for Inclusion refers to a need for satisfactory interactions and associations with others; the need for Control describes the need for a satisfactory level of power and responsibility within relationships; and the need for Affection encompasses the desire for close, intimate, dyadic bonds with other individuals. Each of these three basic needs are subdivided by Schutz (1958) into an Expressed and Wanted dimension. Expressed refers to the quantity of behavior exhibited by an individual in an attempt to satisfy her interpersonal needs for Inclusion, Control, or Affection. Wanted (Inclusion, Control or Affection) indicates the extent to which the individual desires others to interact in a particular way toward him to satisfy his interpersonal needs.

Schutz (1966) likened these concepts of interpersonal needs to Freud's Libidinal types. Freud's Narcissistic type corresponds to problems in the Inclusion area; the obsessional type reflects problems in the Control dimension; and the Erotic type corresponds to a point on the Affection continuum. Similar comparisons have been made with Fromm's (1947) concept of Interpersonal Relatedness. Schutz (1967) considered Fromm's notion of Withdrawal-Destructiveness to describe a continuum of behaviors corresponding to the Inclusion dimension; Symbiotic Relatedness to be similar to the Control dimension; and Love to correspond to the Affection dimension.

Several types of interpersonal behavior were delineated by Schutz (1966). He assumed that early interaction experiences leading to anxiety

result in deficient, excessive and pathological types of interpersonal behaviors, whereas need satisfaction (or ideal interpersonal behavior) results from successful resolutions of interpersonal interactions. In the Inclusion area, Schutz (1967) described the Undersocial individual who tends to avoid social interactions and withdraw from interpersonal contact; the Oversocial, who constantly seeks people; the Social for whom interaction with others and solitude are equally acceptable; and the Pathological individual who may exhibit severely regressed behavior essentially very similar to a functional psychosis. For Control, the types described included the Abdicrat who tends toward submission and refuses responsibility; the Autocrat with the tendency toward inflexible domination of others; the Democrat who is realistic and comfortable with responsibility; and the Psychopathic personality, unable to respect the rights of others or to take responsibility for behavior. The Affection types described by Schutz (1967) included the Underpersonal individual, who is uncomfortable with intimacy and, fearing rejection, avoids involvement; the Overpersonal who strives for close relationships, driving others away by the excesses of his needs; the Personal, who is appropriate and comfortable within close relationships; and the Pathological who typically manifests neurotic behavior.

The FIRO-B scale was designed to measure the Inclusion, Control and Affection dimensions proposed by Schutz (1958). It has been used to estimate compatibility within dyadic relationships and groups in addition to providing information on interpersonal styles and needs. It seems reasonable to assume that an intense interpersonal experience such as one might expect during a Ropes Course, could effect an individual's

Expressed and Wanted Inclusion, Control and Affection needs, as measured by their responses to the FIRO-B scale.

Theoretical Rationale for the Ropes Course Treatment

Inaccurate perceptions of the self which negatively affect self-esteem and locus of control have been shown to have an effect on both behavior and psychological well-being. Raimy (1975) outlined a number of types of interventions that can be used to change inaccurate perceptions of the self. The general categories he described are Explanation, Self-Examination, Self-Demonstration, and Vicarious Experience. While to an extent all four types of intervention are used on the Ropes Course, the two most predominant methods utilized are Self-Demonstration and Vicarious Experience. Raimy (1975) describes Self-Demonstration as "any procedure whereby a therapist encourages a patient to participate in a situation in which he can observe his own behavior, so that he may locate his own misconceptions or obtain direct evidence from self-observation that can change his misconceptions" (p. 53). Vicarious experience refers to the clients' opportunity to observe a situation in which similar others are behaving in a way believed impossible by the client.

The Ropes Course to be used in this study is a six to eight hour intervention designed to challenge irrational beliefs. It was originally used by Outward Bound to promote group cohesion, confidence building, to confront fears, and challenge beliefs that the tasks to be accomplished were impossible (Miner & Boldt, 1981). Outward Bound philosophy suggested that it was disservice to allow individuals to maintain unnecessary fears, since left unchallenged they would be likely to

remain throughout life and limit choices (Miner & Boldt, 1981). This view seems to be supported in the psychological literature (Raimy, 1975; Ellis, 1977).

The Ropes Course confronts irrational beliefs in a number of different ways. For example, participants are assigned unusual problem solving tasks which at first sight appear to have no solution. While an individual may be unable to discover a solution, other group members typically do; thus, the individual has the opportunity to observe others successfully complete a task believed impossible (Vicarious Experience). On the completion of a number of such initiative exercises, individuals are confronted with the task of traversing a series of wires and beams situated high above the ground. Initial beliefs that this is too difficult are confronted directly by the staff, both by descriptions of other similar individuals who have completed the task and by drawing comparisons with the individual's own earlier behavior on the course during which she or he developed the skills necessary to accomplish this challenge. Further, other group members are observed once again achieving what was believed impossible. On completion of the task the individual is confronted with clear behavioral evidence that certain beliefs about him or herself were inaccurate (Self-Demonstration). Thus, individuals have the opportunity to develop insight in an active, unusual environment, concerning the irrational nature of certain beliefs.

Earlier in this chapter several studies were cited which indicated beliefs about the self, in terms of self-esteem and locus of control, generalize from one situation to another (Diggory, 1966; Rotter, 1966). Thus, any changes in self-beliefs resulting from a treatment such as the

Ropes Course could be expected to generalize beyond that specific situation and influence other areas of the subject's life.

Few researchers have specifically studied the effects of a Ropes Course experience. Pfaff (1981) reported the use of a Ropes Course as an experiential component in the training of Residence Hall Assistants. The program was evaluated two weeks later using a five-point Likert-type scale. From the mean scores on four of the five items relating to the Ropes Course, the author concluded that Residence Hall Assistants had gained better self-understanding and had a rewarding experience but had not gained a better understanding of the stresses faced by freshmen. It was unfortunate that neither a pretest nor a control group were used in this study, since without these it is difficult to interpret the results.

A study by Washburn (1983) investigated the effects of a Ropes Course experience on the self-concept of 21 subjects (13 male, 8 female). The Tennessee Self-Concept Scale was used to measure self-concept before, immediately after and three weeks after the experience. Two subjects failed to complete the follow up test and were deleted from the study. Analysis of the data revealed no statistically significant ($p < .05$) differences between the pretest, posttest and follow up scores. This study was limited, however, by the lack of random sampling, the small sample size, and by the lack of a control group. It may also have been unrealistic to expect a change in self-concept (the more permanent feelings about self) during such a short time period.

Since there is so little research data on the effects of the Ropes Course, research literature on the effects of Outward Bound courses will now be presented. While the Outward Bound experience is more extensive

than the Ropes Course both in length of time and number of activities involved, there are similarities between the two. First, Ropes Courses were developed by Outward Bound and are frequently used as components of an Outward Bound course (Miner & Boldt, 1981). Second, the Ropes Course has been described as one of the elements of Outward Bound that causes the most apprehension among participants (Miner & Boldt, 1981). For this reason, it is highly effective in provoking (and providing an opportunity to challenge) irrational beliefs. Third, both Ropes Courses and Outward Bound are designed to challenge faulty beliefs and enable individuals to overcome unrealistic fears in an outdoor environment (Miner & Boldt, 1981). Thus, if (as seems to be the case) psychological changes at the end of an Outward Bound experience are at least in part the result of a direct challenge to misconceptions about the self in an active, outdoor environment, it is appropriate to make some comparisons between Outward Bound and the Ropes Course.

Outward Bound

History and Description

The Outward Bound movement began in 1941 with the aim of assisting young men to develop the personal resources to survive wartime disasters at sea (Miner & Boldt, 1981). Despite their superior physical attributes, the survival rate for young sailors on torpedoed boats was noticed to be considerably lower than that of older sailors. It was thought the young men lacked the determination to survive (Miner & Boldt, 1981). Kurt Hahn, the Outward Bound programs founder, believed through a process of confronting physical challenges during a group endeavor, participants would overcome fear, strive for mastery, and make important discoveries about themselves and others (James, 1980). The initial month-long Outward Bound course included cross-country orienteering, rescue training, small boat training, and an expedition at sea. Those who participated in the course were found to have a better survival rate than non participants (Clifford & Clifford, 1967). The early success of the Outward Bound program and its impact on participants led to the implementation of many similar programs (Miner & Boldt, 1981). In 1980 there were 34 Outward Bound schools in 17 different countries in addition to a large number and wide variety of adapted programs (Wright, 1982).

The Outward Bound course and related programs place "unusual emphasis on physical challenge, not as an end in itself, but as an instrument for training the will to strive for mastery" (James, 1980, p. 19). Most courses focus on developing wilderness skills over a three-week period, and usually include a Ropes Course, backpacking,

orienteering, climbing, canoeing, and an individual solo event. However, individual programs vary depending on the local terrain and the time constraints of the particular course (Miner & Boldt, 1981).

Outward Bound and Self-Esteem

Research studies and evaluations of Outward Bound have concentrated on measuring the effects of the course on psychological variables (Shore, 1977). One of the most frequently studied variables has been self-concept (Wright, 1982). Clifford and Clifford (1967) studied the effects of Outward Bound training on 36 adolescent boys. A number of tests were administered both before and after the course and the results indicated that self-concept improved for the majority of participants. However, these changes were significant only for the group with initially lower self-concepts. A related study (Payne, Drummond, & Lunghi, 1970) sought to replicate these results using pre and posttest self-concept measures with a group of 35 male school leavers who participated in an Arctic expedition. The results were compared with those of a control group and a significant reduction in the discrepancy between self description and ideal self description was found for the experimental group.

Adams (1969) investigated the effects of survival training on institutionalized emotionally disturbed adolescents. Nineteen adolescents, both male and female, aged between 15 and 19 years, volunteered to participate in a 30-day wilderness course. Subjects were pre and post tested using a number of instruments, including the Tennessee Self-Concept Scale. Longer term follow up data were collected 16 to 28 months after the experience. Significant positive changes were

detected in self-esteem and self-concept and there was an overall decline in the level of maladjustment among participants following survival training.

Kelly and Baer (1969, 1971) conducted two studies investigating the effects on Juvenile Delinquents of participation in Outward Bound. In the first of these 60 adjudicated male volunteers between the ages of 15 and 18 years were randomly assigned to one of nine Outward Bound Courses. They participated in these programs alongside "normal" youth. Individuals were pre and posttested using the Jessness Inventory and a self-concept measure using a semantic differential format. Significant changes ($p < .05$) on six of the ten Jessness Scales and three of the ten self-concept measures were reported following participation in Outward Bound.

The second study by Kelly and Baer (1971) investigated recidivism rates for two groups of adjudicated adolescent boys between 15 and 17 years old. Boys in the experimental group ($N = 60$) attended Outward Bound while another group ($N = 60$) matched on IQ, race, religion, offense, area of residence, and number of prior convictions served as a control. A significant difference ($p < .01$) was found in recidivism rates between the two groups. Forty-two percent of the control group recidivated in contrast to 20 percent of the experimental group.

A study by Smith (1971) investigated the effects of Outward Bound on 50 Junior High School students. Experimental and control groups were administered the Adjective Check List and Cattells 16 Personality Factor Questionnaire pre and post test and again seven and a half months after treatment. Additionally, teacher ratings of students on perseverance, self-confidence, and ability to get along with others were collected 11

months after the Outward Bound course. Results indicated the experimental group had increased significantly in their positive thoughts about themselves; however, seven months later no significant differences were found between the participants and the control group. Teacher ratings of individuals in the experimental and control groups were not significantly different.

Wetmore (1972) examined the effects of Outward Bound on the self-concept of 291 adolescent boys aged 15-19. The Tennessee Self-Concept Scale was administered on the first and last days of the course and again six months later. Significant positive changes were found following participation in the course for nine of the ten self-concept measures. Additional significant positive change was detected between the posttest scores and follow up scores for three of the scales.

Heaps and Thorstenson (1972) studied self-concept changes measured by the Tennessee Self Concept Scale immediately after and one year after a survival course similar to Outward Bound. Seven male and 14 female university students comprised the final sample. Significant differences were found between pre and post tests and testing one year later on all scales except self criticism, social self and family self. These results suggested certain positive effects of the Outward Bound experience could be enduring; however, the researchers advocated caution in interpreting their results and recommended further research.

Participants in the Colorado Outward Bound schools' three summer courses during 1974 were studied by Smith, Gabriel, Schott and Padia (1975). Measures of self-esteem, self-awareness, self-assertion, and acceptance of others were administered to the 620 subjects, using a time

series design. Results indicated that the course had a positive impact on the participants' self-assertion, and significant positive changes in self-esteem were found for two of the three groups. No significant changes were found for self-awareness or acceptance of others. The authors suggested that the lack of random assignment of subjects to groups might be responsible in part for the inconsistency of the results between groups on the self-esteem measure.

Nye (1975) compared 82 (38 male and 44 female aged between 16 and 23) participants in the 1974 North Carolina Outward Bound program with 78 summer school students in Pennsylvania, to determine the effects of the course on the self-concepts of participants. The Tennessee Self Concept Scale was administered to both groups on the first day of treatment, at the end of the Outward Bound course, and three months later. The results indicated a significant increase in self-concept scores for participants as compared to the control group. These increases were still evident in the follow up study.

A study by Stimpson and Pederson (1970) was designed to measure the effects of survival training experiences on the self-esteem, evaluation of parents, and evaluation of friends of eight under-achieving male high school students. The treatment lasted for three weeks and involved a number of modified Outward Bound elements including wilderness survival, a Ropes Course, rappelling, rock climbing, and a three-day solo. Data were collected both before and after the treatment and results indicated a significant increase in self-esteem and evaluation of parents.

Outward Bound and Locus of Control

While many researchers have reported positive changes in self-esteem following an Outward bound experience, fewer studies have investigated the effect of Outward Bound on locus of control. An evaluation by Fersch and Smith (1971) measured the effects of an on-going outdoor adventure experience on 60 high school sophomores. Rotter's Internal-External Scale, and the Tennessee Self Concept Scale were used to measure locus of control and self-concept, both before and after participation in the course. Posttest results indicated a significant change in the direction of internality on the locus of control measure, and significant changes in several of the self-concept scales. However, these results should be viewed with caution since no control group was used in this evaluation.

A study by Collingwood (1972) evaluated the effects of a modified Outward Bound program on 19 adolescent offenders. Rotter's Internal-External Scale was used to measure locus of control, and a significant increase in internality and decrease in externality were found at the end of the program. Collingwood also reported significant increases in self-concept as a result of the treatment. However, it should be noted that due to insufficient cooperation, the control group was deleted from the research.

Ulrey (1974) investigated the effects of an outdoor educational experience on the locus of control of third and fourth grade children. The treatment was designed to improve problem-solving skills and physical competencies and consisted of nine one-hour sessions emphasizing completion of an outdoor physical task. A total of 140

subjects participated, 83 of whom were in the experimental group. Locus of control was measured using the Nowicki-Strickland Locus of Control Scale for Children. Comparison of pre and post test scores indicated that the program significantly modified the locus of control orientation of the experimental group in an internal direction.

Research by Stremba (1977) was designed to investigate the effect of Outward Bound participation on the self-esteem and locus of control of 26 subjects. Individuals enrolled in a later program served as a control group (N = 27). Participants in the course were found to be significantly different from the control group on one of the self-esteem measures used. However, no significant differences were found between groups on locus of control. Stremba suggested this may have reflected a "ceiling effect" on this variable.

A recent study by Wright (1982) measured the effects of an Outward Bound program on a number of variables including self-esteem, self-efficacy, and locus of control. The experimental group was composed of 35 subjects. Another 12 individuals served as a control group. All were adjudicated adolescents. The Tennessee Self-Concept Scale and Internal-External Scale were administered to both groups as a pretest and posttest. Data analysis revealed a significant difference between the groups on self-esteem and internality. A comparison of the experimental groups' pretest and posttest scores showed significant increases in self-esteem and internality between the beginning and the end of the program.

Nunley (1983) studied the effects of a therapeutic outdoor program on the self-concept and locus of control of 56 "troubled" adolescents. The Coopersmith Self-Esteem Inventory and the Nowicki-Strickland Locus

of Control Scale were used as pretest and posttest instruments for both the treatment and control groups. The treatment lasted five days and involved a number of structured activities including initiative games, sailing, and hiking. When the data were analyzed, the treatment group showed a numerical change toward the internal direction on the locus of control scale, and a numerical increase in self-concept scores. However, there were no statistically significant differences between the treatment and control groups at the end of the program.

Summary

A review of the literature on self-esteem and locus of control has established these as important psychological variables influencing behavior. Both can be traced to generalized belief systems concerning the self, and these beliefs may or may not be realistic. Several theorists assert that unrealistic belief systems are at the root of many psychological disturbances, and that such irrational beliefs are amenable to change by a variety of therapeutic interventions.

Cognitive restructuring, that is, helping individuals to think differently about themselves, can be achieved by presenting evidence which contradicts previously held beliefs. One of the goals of the Outward Bound movement is designed to actively challenge participants' unrealistic and inaccurate perceptions of themselves. The literature on the effects of Outward Bound courses indicates that in many cases program participation leads to increases in self-esteem and a more internal locus of control. There are many similarities between Outward

Bound and the Ropes Course. Thus, it would seem pertinent to investigate the effects of this treatment on self-esteem and locus of control.

CHAPTER III

METHODS AND PROCEDURES

The objective of this study was to measure the effects of a Ropes Course experience on the self-esteem, locus of control and interpersonal behavior of participants. This chapter presents a description of the experimental methods and procedures that were used. The sections included present information on the following areas: (a) subjects, (b) instruments, (c) research design, (d) procedures, and (e) analysis of data.

Subjects and Sample Selection

The individuals who served as subjects in this study were summer school students at a large Mid-Western university. All students living in campus residence halls were individually invited to participate, and general invitations were posted in communal areas of the residence halls and in the Student Union Building. Volunteers were offered the opportunity to participate in the Ropes Course free of charge. Additionally, students in several undergraduate and graduate classes in the Department of Applied Behavioral Studies were invited to participate in this research. Many of the undergraduate volunteers recruited in this way received extra class credit for their participation.

A total of 50 subjects were needed to assign 25 to each of two groups while setting the power level at .80, alpha at .05, and effect

size at .40 (Cohen, 1969). Sixty summer school students initially volunteered to participate in this research. A table of random numbers was used to assign subjects to either the experimental or control groups. After all data had been collected, 42 of the original 60 subjects had participated in all testing sessions and the Ropes Course. Twenty-one male and 21 female students participated. Their ages ranged from 18 to 52 with a mean age of 24.7. Undergraduates comprised 64% of the sample, the remaining 36% being graduate students (See Table 1). Of those in the experimental group who dropped out (N=8), all but one did so because they were unable to attend the Ropes Course on the designated day. Repeated efforts to contact the remaining individual were unsuccessful; thus, the reason for lack of continued participation is not known. Of those assigned to the control group, the majority of drop-outs (N=7) occurred due to scheduling conflicts on the designated Ropes Course day. (While not necessary for the study that they participate in the Ropes Course most volunteers wanted to attend the Ropes Course and dropped out of the study if they could not.) It is not known why the remaining individuals failed to participate. As a result of the reduced number of participants (21 per group) the power level was set at .73, assuming a large effect size (.40) and alpha set at .05.

The Ropes Course is both an unusual and time-consuming treatment; thus, ethical considerations rendered it essential that subjects volunteer to participate. Such individuals (volunteers) are not necessarily representative of a college population as a whole. Thus, despite attempts to minimize bias by random assignment of subjects to groups, the results of this study are generalizable only to volunteer subjects in similar settings.

Table 1

Subject Characteristics

Variable	Control Group	Treatment Group	Total Sample
<u>Age</u>			
Range	18-37	18-52	18-52
\bar{X}	22.7	26.7	24.5
<u>Sex</u>			
Males	10	11	21
Females	11	10	21
<u>Academic Class</u>			
Undergraduate	16 (76%)	11 (52%)	27 (64%)
Graduate	5 (24%)	10 (48%)	15 (36%)

Instruments

Self-Esteem Scale

The Self-Esteem Scale (SES) (See Appendix B) is a Guttman-type scale developed by Rosenberg (1965) in an attempt to achieve a unidimensional index of global self-esteem. It is considered appropriate for use with older adolescents and college students (Cohen, 1976). The scale consists of ten statements, half of which are phrased in a positive direction (indicate positive feelings toward self) and the other half in a negative direction (suggest negative feelings toward

self). A score is recorded if a positive item elicits disagreement or a negative item elicits agreement. Scored items are then summed to get the final score. Scores range from 0-6 with high scores reflecting low self-esteem. This scale has a reproducibility index of .93 and test-retest reliability over a two-week period shows the coefficient of stability to be .85 (Silber & Tippett, 1965).

Validity was determined by comparing the actual relationship of scores on the SES to ratings on such factors as depression, neuroticism, psychosomatic symptomology, etc., with the theoretical relationship between self-esteem and these factors. The results of these comparisons yielded considerable evidence for the construct validity of the scale (Rosenberg, 1965).

Locus of Control Scales

Levenson's (1974) locus of control scales (See Appendix D) are composed of three separate factors, Internal (I), Powerful Others (P), and Chance (C). They are designed to measure the extent to which people believe that they (I), powerful others (P), or chance (C) control the reinforcement in their lives. Each scale consists of eight items. A six-point Likert scale ranging from strongly disagree (-3) to strongly agree (+3) is used to rate each item. Items within each scale are summed and a constant of 24 added to eliminate minus numbers. Possible scores per scale range from 0-48. The instrument is presented as a unified attitude scale of 24 items.

Kuder-Richardson reliabilities were .64 for the I scale, .77 for the P scale, and .78 for the C scale. Split half reliabilities were .62 for the I scale, .66 for the P scale, and .64 for the C scale.

Test-retest reliability for a one-week time period were .64 for the I scale, .74 for the P scale, and .78 for the C scale (Levenson, 1974).

A principal components factor analysis was conducted by Levenson (1974) using responses to the 24 items. Seven factors were found which accounted for 52.3% of the total variance. The first factor (P) was comprised only of P scale items and accounted for 16.8% of the total variance; the second factor (I) contained only I scale items and accounted for 9.7% of the variance; and the third factor (C) contained only C scale items and accounted for 6.4% of the total variance. The other factors were all one item specific.

Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B)

The FIRO-B is a 54-item questionnaire constructed as a Guttman-type scale. Six questions are repeated in a slightly different manner nine times. Individuals are instructed to choose the most applicable response to each statement. Possible responses range between two extremes, for example: "never" to "usually". A scoring key is used to add items to get the final score on each scale. Scores on each of the six scales (Expressed and Wanted Inclusion, Control and Affection) may range from zero to nine. Low scores suggest a particular behavior occurs rarely while high scores indicate a preponderance of a particular behavior.

The reproduceability index of the FIRO-B scales range from .93 to .94 with a mean of .94 (Schutz, 1967). Gilligan (1973) reported a mean test-retest reliability coefficient for the scales over a one-week period of .69, but found the highest correlation (.81) to be for the total score derived from the sum of the six scales. Gilligan (1973)

therefore recommended that researchers use the total FIRO-B score when investigating changes in interpersonal behavior.

Concurrent validity was established by comparing scores on the FIRO-B with political attitudes and occupational choice (Schutz, 1966). A series of Chi-Square tests were conducted comparing FIRO-B scores and political attitudes. Three of the predicted correlations were found to be significant at the .05 level which tended to support the hypothesis that interpersonal relations orientations are related to particular political attitudes. Comparisons between different occupational groups for Affection and Control found (as expected) Air Force officers to have high scores for Expressed and Wanted Control, and teachers and nurses to have low Control but high Affection needs. Harvard Business School students had significantly higher scores ($p < .01$) on the Control and Inclusion dimensions of the FIRO-B than did the control group (as was theoretically expected).

Research Design

The design used in this study was the pretest posttest control group design (Gay, 1976). Volunteer subjects were randomly assigned to one of two groups. Both groups were pretested, the experimental group received the treatment, then both groups were posttested. A follow up test was administered to both groups two weeks after the posttest. This design was chosen because it controls for all sources of invalidity with the exception of instrumentation (Gay, 1976). While this was a potential problem, it was deemed more important to protect internal validity by collecting pretest data which would allow comparisons to be made between the experimental and control groups.

Procedure

Undergraduate and graduate students attending the summer session at a large Mid-Western University were invited to participate in a study investigating the effects of the Ropes Course. Individuals who volunteered were randomly assigned to one of two groups. One of two possible Ropes Course dates was randomly assigned to each group. The group receiving the earliest Ropes Course date became the experimental group. All subjects completed an Informed Consent, Demographic Questionnaire, Self-Esteem Scale, Locus of Control Scale, and the FIRO-B two days prior to the treatment (See Appendixes A-D). At that time students in the experimental group were given directions to the Ropes Course and instructions concerning appropriate clothing, etc. In addition, all students participating in the study were given information on the dates and times of later testing sessions.

On the day of the treatment, students in the experimental group gathered at the site of the Ropes Course and signed an Insurance Waiver (See Appendix E). The day's activities began at 8:30 a.m. and were concluded by 3:30 p.m. Details of the Ropes Course procedures are provided in Appendix F. Two days after the experimental group attended the Ropes Course, all students in both groups again completed the SES, Locus of Control Scales and the FIRO-B. Students who had attended the Ropes Course had the option of providing written comments on their experiences (See Appendix G). Two weeks later the same instruments were again completed by participating students and on this occasion those in the control group were given directions to the Ropes Course and instructions concerning appropriate clothing, etc. On the designated

day, students in the control group completed the activities of the Ropes Course.

Analysis of Data

Data were analyzed as appropriate for a repeated measures (split plot over time) experimental design. The mean squares for the subjects within treatment groups represented the error term for testing time and the treatment by time interaction. Error correlations between the dependent variables (Internal Locus of Control, Powerful Others Locus of Control, Chance Locus of Control, Self-Esteem, and Interpersonal Behavior), obtained from the residual sums of squares and crossproducts, were all low (See Table 2). Correlations obtained at each time period were in general of similar magnitude to each other (See Table 9, Appendix H). Therefore, a univariate rather than a multivariate analysis of variance was conducted for each of the five dependent variables separately. As a result of the increased number of tests, alpha was set at .01.

Table 2
Error Correlations Between Dependent Variables

	P^a	C^b	S^c	F^d
I^e	.070	.009	-.021	.214
P		.274	-.117	-.180
C			.109	-.078
S				-.057

P^a = Powerful Others Locus of Control Score
 C^b = Chance Locus of Control Score
 S^c = Self-Esteem Score
 F^d = Total Score on FIRO-B
 I^e = Internal Locus of Control Score

CHAPTER IV

RESULTS OF THE STUDY

Introduction

The purpose of this study was to examine the effects of a Ropes Course experience on the locus of control, self-esteem and interpersonal behavior of participants. Forty-two summer school students volunteered to participate as subjects and were randomly assigned to the treatment or control groups. Pretesting, which involved completing the Levenson Locus of Control Scales (Levenson, 1974), the Rosenberg Self-Esteem Scale (Rosenberg, 1965), and the Fundamental Interpersonal Relations Orientation-Behavior (Schutz, 1958) took place shortly before the experimental group received the treatment. All subjects were pretested. A posttest comprised of the same instruments was given to all subjects two days after the experimental group completed the Ropes Course. A delayed posttest was administered two weeks later.

The results of the statistical analysis of the data are presented in the following sections. The data pertaining to each of the research hypotheses and the preliminary investigation of interpersonal behavior will be examined. Since the error correlation matrix (See Table 2) revealed all intercorrelations between the five dependent variables (Internal Locus of Control, Powerful Others Locus of Control, Chance Locus of Control, Self-Esteem, and a composite FIRO-B Interpersonal

score) to be less than .30, univariate analyses were performed for each dependent variable.

Hypothesis 1

This hypothesis stated that students participating in the Ropes Course would show a change in their locus of control orientation following the experience in comparison with those subjects in the control group. Locus of control was measured by three variables - the Internal locus of control scale, Powerful Others locus of control scale and the Chance locus of control scale.

The interaction of treatment and time was not found to be significant ($p > .01$) for Internal locus of control ($F(2, 80) = .59, p > .01$), Powerful Others locus of control ($F(2, 80) = 1.45, p > .01$) or Chance locus of control ($F(2, 80) = .07, p > .01$). The main effect of treatment was not significant for Internal locus of control ($F(1, 40) = 4.77, p > .01$) or Powerful Others locus of control ($F(1, 40) = 1.62, p > .01$), however it was significant for Chance locus of control ($F(1, 40) = 11.70, p < .01$). Time was not a significant main effect for any of these variables (See Table 3).

Means and standard deviations for the Internal, Powerful Others and Chance locus of control scales are presented in Tables 4-6. Examination of the means for Chance locus of control (See Table 6) for the Ropes Course group (Pretest = 11.33; Posttest = 10.86; Delay posttest = 11.10) and the Control group (Pretest = 17.29; Posttest = 17.14; Delay posttest = 16.81) shows that the difference between the experimental and the control groups was present from the beginning of the study.

Table 3
Analyses of Variance for Dependent Variables

Variable ^a	Source	df	ss	F
I	Treatment	1	280.51	4.77
	Subject (Treatment)	40	2351.02	-
	Time	2	45.76	3.34
	Treatment x Time	2	8.11	.59
	Residual	80	547.46	
P	Treatment	1	142.51	1.62
	Subject (Treatment)	40	3516.03	-
	Time	2	4.25	.14
	Treatment x Time	2	44.63	1.45
	Residual	80	1230.44	
C	Treatment	1	1128.01	11.70*
	Subject (Treatment)	40	3856.70	-
	Time	2	3.16	.13
	Treatment x Time	2	1.73	.07
	Residual	80	978.44	
S	Treatment	1	2.571	1.49
	Subject (Treatment)	40	68.921	-
	Time	2	.587	.97
	Treatment x Time	2	.619	1.03
	Residual	80	24.127	
F	Treatment	1	257.14	1.81
	Subject (Treatment)	40	5680.86	-
	Time	2	14.29	.42
	Treatment x Time	2	86.29	2.56
	Residual	80	1349.43	

a

I = Internal Locus of Control Score
P = Powerful Others Locus of Control Score
C = Chance Locus of Control Score
S = Self-Esteem Score
F = Total Score on FIRO-B

* $p < .01$

Table 4

Means and Standard Deviations of Internal Locus of Control Scores
by Treatment and Time

Treatment	N	Time						Treatment Means	
		Pretest		Posttest		Delay-Posttest		\bar{X}	SD
Control	21	35.90	(5.42)	36.95	(4.53)	36.38	(5.35)	36.41	(5.05)
Ropes Course	21	38.24	(4.79)	40.00	(4.63)	39.95	(4.67)	39.40	(4.70)
Time Means		37.03	(5.19)	38.48	(4.78)	38.17	(5.28)		

Table 5

Means and Standard Deviations of Powerful Others Locus of Control
Scores by Treatment and Time

Treatment	N	Time						Treatment Means	
		Pretest		Posttest		Delay-Posttest		\bar{X}	SD
Control	21	16.95	(6.05)	17.10	(5.47)	17.90	(6.40)	17.32	(5.90)
Ropes Course	21	15.71	(6.44)	15.76	(7.31)	14.10	(5.91)	15.19	(6.52)
Time Means		16.33	(6.21)	16.43	(6.41)	16.00	(6.38)		

Table 6

Means and Standard Deviations of Chance Locus of Control Scores
by Treatment and Time

Treatment	N	Time						Treatment Means	
		Pretest		Posttest		Delay-Posttest		\bar{X}	SD
		\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
Control	21	17.29(7.44)		17.14(5.34)		16.81(6.87)		17.08(6.50)	
Ropes Course	21	11.33(5.43)		10.86(5.17)		11.10(7.38)		11.10(5.98)	
Time Means		14.31(7.10)		14.00(6.09)		13.95(7.61)			

Therefore, despite random assignment, the groups were not comparable at the outset of the study on this dimension which may have been due to a Hawthorne effect. It appears that students assigned to the experimental group were aware of that status probably because the control group did not participate in an alternative treatment at the same time as the experimental group attended the Ropes Course. This awareness, in and of itself, was likely responsible for the difference between the two groups on the Chance locus of control scale. Omega squared, strength of association indicated that only 18% of the variability of the Chance locus of control scores was due to treatment.

Hypothesis 2

This hypothesis stated that participation in a Ropes Course experience would have a positive effect over time on Self-Esteem. Self-Esteem was measured by the Rosenberg Self-Esteem Scale (See Appendix E). Neither the main effects of treatment ($F(1, 40) = 1.49, p > .01$) and time ($F(2, 80) = .97, p > .01$) nor their interaction ($F(2, 80) = 1.03, p > .01$) were found to be significant (See Table 3). Means and Standard Deviations for Self-Esteem Scores are presented in Table 7.

Table 7

Means and Standard Deviations of Self-Esteem Scores
by Treatment and Time

Treatment	N	Time						Treatment Means	
		Pretest		Posttest		Delay-Posttest		\bar{X}	SD
Control	21	.714	(.902)	.667	(.913)	.714	(.956)	.698	(.909)
Ropes Course	21	1.143	(1.014)	1.000	(.707)	.810	(.750)	.984	(.833)
Time Means		.929	(.973)	.833	(.824)	.762	(.850)		

An exploration of the effects of a ropes course on interpersonal behavior as measured by FIRO-B yielded results which indicated neither the main effects of treatment ($F(1, 40) = 1.81, p > .01$) or time ($F(2, 80) = .42, p > .01$) nor their interactions ($F(2, 80) = 2.56, p > .01$) were significant. Means and standard deviations for FIRO-B scores are presented in Table 8.

Table 8

Means and Standard Deviations of Total Scores on the FIRO-B by Treatment and Time

Treatment	N	Time						Treatment Means	
		Pretest		Posttest		Delay-Posttest		\bar{X}	SD
		\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
Control	21	23.43(8.77)		22.14(7.70)		22.14(7.07)		22.57(7.78)	
Ropes Course	21	24.10(8.34)		26.81(7.12)		25.38(6.70)		25.43(7.39)	
Time Means		23.76(8.46)		24.48(7.70)		23.76(7.00)			

Summary

When the data were analyzed using univariate analyses of variance, no significant interactions between treatment and time were found for any variable. There were no significant main effects for the Internal, or Powerful Others locus of control scales, or for the Self-Esteem Scale, or the Interpersonal Behavior scores. Treatment was a significant main effect for the Chance locus of control scores only. Further examination found this to reflect a significant difference between groups, which was evident in the pretest scores possibly reflecting a Hawthorne effect. Thus, it may be that students in the treatment group were aware of that status and responded to the Chance locus of control measure differently from those in the control group. The results of this study, therefore, did not support the hypotheses.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to investigate the effects of a Ropes Course experience on the locus of control and self-esteem of participants. Its aim was to investigate whether benefits similar to those documented for Outward Bound courses could be found to accrue from this abbreviated outdoor adventure experience. It was hypothesized that the experience of the Ropes Course would have an effect on the locus of control and self-esteem of those completing the course. Forty-two summer school students from a large Mid-Western University volunteered to serve as subjects in this study. Students were randomly assigned to one of two groups and each group was randomly assigned a Ropes Course date. The group with the earlier date became the experimental group; that with the later date, the control group. A pretest, posttest control group design was used in this study. Data, comprised of subject responses to the Levenson Multidimensional Locus of Control Scales, the Rosenberg Self-Esteem Scale and the FIRO-B were collected on three occasions. Participants were pretested prior to the experimental group receiving treatment; posttests were administered shortly after the treatment, and a follow up was given two weeks later. After all the data had been

collected, students assigned to the control group participated in the Ropes Course.

The data were analyzed using univariate analysis of variance. No significant interactions were found between treatment and time on any dependent variable nor was time significant for any of the dependent variables. Significant differences were, however, found between the treatment and control groups for Chance locus of control. Examination of the means indicate the possibility of a Hawthorne effect and do not appear to reflect a difference due to treatment. The results of the study did not support the hypotheses that participation in a Ropes Course experience would have an effect on the locus of control, self esteem and interpersonal behavior of participants.

Conclusions

While the results of the present study failed to support the research hypotheses, certain factors need to be considered before drawing conclusions regarding the effects of the Ropes Course. Initially, it is conceivable that the measuring instruments were not of sufficient sensitivity to detect changes which may have occurred as a result of the treatment. In addition, use of volunteers gives rise to the possibility that those who volunteer are in some significant way different from their peers. In other words, the characteristics which led them to volunteer may reflect some other "real" differences which effect the results of the study.

It seems likely that student volunteers who participated in this study were, to an extent, different from their peers. Pretest means for participants on the Rosenberg Self-Esteem Scale (Rosenberg, 1965) ranged

from .71 to 1.4, indicating an overall high level of self-esteem given the possible range of the scale is from 0-6 (lower scores reflect high self-esteem). Thus, it can be argued, given the participants' initial scores, there was little room for positive changes in self-esteem to occur. The volunteer participants tended to be individuals with relatively high self-esteem.

Similar patterns can be seen when the pretest means for the Levenson Locus of Control Scale (Levenson, 1974) scores are examined. Group means were toward the high end of the Internal scale and toward the lower end of the Powerful Others and Chance scales when compared with the mean scores of adults and undergraduates which were reported by Levenson (1981). Thus, it may be that while volunteer participants were needed due to the unusual nature of the treatment, their particular characteristics restricted the range of the scores obtained. As a result, there was little room for the treatment to make a measurable difference.

Another factor to be considered when interpreting the results of this study is that a large effect size (.40) with a power level of 73% (given the number of subjects participating) was assumed. This may not have been realistic. It might be more appropriate to assume only a moderate effect size for such a treatment (.25). In this case, given the same number of subjects, the power level drops to only 36%. Thus, it is possible that in the present investigation the power level was too low to differentiate between the groups based on the effects of the treatment.

A further difficulty encountered in this study was that subjects in the experimental group appear to have been aware of this status. As a

result, they responded differently to one of the instruments than did students in the control group (Hawthorne effect). This likely reflected the tactical error of providing the control group with the delayed treatment rather than an alternative treatment. Had a comparable activity been scheduled for the control group at the time the experimental group received the treatment, the problem might have been avoided.

In conclusion, while the results of this study failed to support the hypotheses that participation in a Ropes Course experience would have an effect on locus of control, self-esteem and interpersonal behavior, other factors may have confounded this research. It may be the measuring instruments were not sensitive enough to detect changes which may have occurred. Also, the use of volunteers seems to have resulted in a restricted range of scores, thus leaving little room for the treatment to make a noticeable difference. Additionally, the assumption of a large effect size may have been erroneous and, consequently, given the sample size, resulted in too little power. Further, a Hawthorne effect appears to have operated such that on the Chance locus of control measure, those in the experimental group responded differently from individuals in the control group. Finally, it may be unreasonable to assume an experience such as the Ropes Course - in isolation - would have a measurable effect on relatively stable psychological characteristics such as self-esteem, locus of control and interpersonal behavior. This type of experience may have greater utility and impact if employed as part of a diverse program of intervention and self-education.

Recommendations

1. Since the present study offers no evidence to support the hypotheses that a Ropes Course experience has a positive effect on self-esteem, locus of control and interpersonal behavior of participants, further studies examining the effects of this type of activity are needed. This is particularly important in the light of the increasing popularity of such courses both in the private and public sectors.

2. Ideas about other variables (e.g., trust, motivation) warranting study may be gleaned from the participants' comments (See Appendix G). Additionally, it may be more useful to study the effects of Ropes Courses from a qualitative rather than quantitative perspective, for example, by means of descriptive research studies.

3. In conducting studies similar to this, it is suggested that subjects be selected on the basis of pretest scores that do not approach the limits of the measuring scales. That is, treatment effects if present would more likely be seen if, for example, participants with moderate to low self-esteem were selected.

4. To avoid the problems encountered in the present study whereby the experimental and control groups were found to be significantly different at the pretest despite random assignment of subjects to groups, it is suggested that the control group receive an alternative treatment as opposed to a delayed treatment.

5. Since in retrospect it seems likely the assumption of a large effect size was erroneous, future studies would be advised to assume

only a moderate effect size. A larger sample size would then be needed to give a reasonable level of power.

6. Future investigations could profitably examine the effects of a Ropes Course experience in conjunction with other therapeutic interventions. It may be that its most useful role is as an adjunct to other therapeutic experiences.

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APPENDIX A
INFORMED CONSENT FORM

INFORMED CONSENT

I understand that the Ropes Course in which I am scheduled to participate is a minimum risk activity. However, I realize that it is necessary to adhere at all times to the safety precautions described by the staff. I agree to use the Ropes Course equipment only when under the direct supervision of a staff member, and to ask questions to clarify any confusions I have, particularly with respect to my personal safety on the higher elements of the course.

It has been explained to me that participation in the Ropes Course is part of a study designed to measure the effects of this experience. I understand that the exact nature of the study will not be made clear to me until all subjects have participated in the Ropes Course. I also understand that the information that I disclose about myself will remain strictly confidential and that my name will be deleted from all records when the study is complete. Results of the study will be made available to me on request.

I further understand that I am free to withdraw my consent to participate in this program at any time.

I hereby agree to abide by the conditions outlined above, and give my consent to participate in a study investigating the effects of the Ropes Course.

Signature of Subject

Signature of Witness

APPENDIX B
DEMOGRAPHIC QUESTIONNAIRE

We are conducting a study on the effects of the Ropes Course and would be very grateful if you would complete the following questionnaire and instruments as accurately as possible. Individual results will be strictly confidential, and we ask you to give your name only for initial identification purposes.

If you have any questions, please feel free to ask.
Thank you very much for your help with this study.

Name _____

Age _____ Sex _____

Nationality _____

Academic Classification (e.g., Freshman, Sophomore, etc.) _____

Grade Point Average _____

Major _____

APPENDIX C
SELF-ESTEEM SCALE

Please respond to the following 10 statements by checking the boxes that best describe the way that you feel. There are no right or wrong answers, just check the box that you feel best fits you.

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

APPENDIX D
LOCUS OF CONTROL SCALES

Presented below is a series of attitude statements. Each represents a commonly held opinion. There are no right or wrong answers. You will probably agree with some items and disagree 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 following each statement. The number and their meanings are listed below:

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

First impressions are usually best. Read each statement, decide if you agree or disagree and the strength of your opinion, and then circle the appropriate number. Please give your opinion on every statement. If you find the numbers to be used in answering do not adequately reflect your opinion use the one that is closest to the way you feel. Thank you.

	Strongly disagree	Disagree somewhat	Slightly disagree	Slightly agree	Agree somewhat	Strongly agree
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. I feel like what happens in my life is mostly determined by powerful people.	-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 my 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. People 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 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.	-3	-2	-1	+1	+2	+3

APPENDIX E
INSURANCE WAIVER

WAIVER

In consideration of permitting me, _____,
to participate in the Ropes Course on the _____ day of _____,
19 ____, I HEREBY VOLUNTARILY RELEASE, DISCHARGE AND RELINQUISH any and
all actions or causes of action for personal injury. IT IS MY INTENTION
BY THIS INSTRUMENT TO EXEMPT AND RELIEVE Oklahoma State University, its
employees, and the Board of Regents FROM LIABILITY FOR PERSONAL INJURY.

Dated this _____ day of _____, 19 ____.

Witness

Signature of Participant

APPENDIX F
ROPES COURSE PROCEDURE

ROPES COURSE PROCEDURE

8:30 a.m. Arrival/Introductions

Included: Learning the names of other participants and staff.

Instructors descriptions of the day's activities

Division into two smaller groups

Group Games and Trust Building

Included: Toe Tag

Group Sit

The Spider's Web

The Amoeba

Safety Instructions

Trust Falls in Pairs

Group Trust Falls

Introduction to the Low Elements of the Ropes Course

Included: Balance Beam Walk (some blindfolded)

Wild Woozy (" ")

Swinging Log

Wire Walk (" ")

Large Group Island Game

The Wall

Included: Safety Instructions and Rules

3 minutes of Group Planning strategy

10 minutes for group to get over the wall (no talking)

Lunch

Safety Instructions

Included: Introduction to Ropes, Safety Harnesses,
Caribinas, etc.

Demonstration of the High Elements by a
Staff Member

The High Elements

Included: Walking High Balance Beams

Climbing a Rope Ladder

The Postman's Walk

A Zip Line

The Pamper Pole

3:30 p.m. Conclusion

Included: Brief Discussion of the day's activities

Opportunity for participants to comment on
the experience and describe feelings/
reactions, etc.

Details of these elements and activities can be found in Rohnke (1977).

APPENDIX G
PARTICIPANTS' COMMENTS

Participants' Comments

During the second testing session (the posttest) individuals in the experimental group who had participated in the Ropes Course two days earlier were invited to submit comments about their experiences. Seventy-one percent of the group chose to do so. Their comments are presented in full below.

"I had a great time on the ropes course. It was a fantastic feeling to have so many people support me and to support them as well. It was a very good experience."

"Excellent experience! Need more challenging obstacles, fun day and I enjoyed the people."

"Had lots of fun would recommend it to everyone. I enjoyed my time spent there wish it hadn't ended so soon."

"I really enjoyed the group spirit of 'support' that I felt throughout the whole day at the Ropes Course. As we changed group members more than once throughout the day I felt I had really gotten acquainted with the whole group that attended on July 1. I left the Ropes Course with a much better self attitude than when I arrived!"

"I felt the course was a challenge in some areas and not in others. Walking across a swinging log and the bouncing steel cable was not very challenging even blindfolded but the rest was. I really liked the course, it was great and so was the group of people."

"I enjoyed the experience. During several of the exercises I was surprised that I was a little shaky. Heights have never bothered me before. Afterwards it occurred to me that I had 'decided' beforehand whether or not I could succeed at each different activity. The pumper pole was the only place I missed my mark. I remember thinking as I stood up on the platform, 'I won't be able to reach that bar.' I'd like to try it again, believing that I can reach it. Food for thought."

"I am glad that I took time out to go to the Ropes Course. It is really heartening to see a group of people (who do not nec. know each other) pulling together and encouraging one another. I like the group activities where we all (or some) had to work together and accomplish the task. Of the individual activities, I especially like trying to catch the trapeze - I thought I believed I was safe until I got up there and I was scared to death to jump. That was a very interesting experience."

"I really enjoyed myself. I feel I'm more inclined to be forward with people, I feel a little bit better when I'm around people. 'I know I have a better sense of balance'. I realized that there are a lot of nice people in the world and if you want something you've really got to go for it."

"It was a good trust building experience. It's always good to meet new people, but to meet them and trust them is a bonus. The Ropes Course made this possible. It also created challenges, whether they were individual or group, it was great being able to rise above and conquer these challenges."

"After completing the Ropes Course I have been able to see myself as a person that is able to do what I want to, achieve it, and do it well; if I want to. As long as (you) I have the drive and motivation to do (something) anything I can do it. It is up to me and no one else! Others can help but the bottom line is you do it and the job gets done. Also, if you have people around you who are pulling for you and you are pulling for them any task is not too great. Thanx, I had a lot of fun, met a lot of neat people and learned something about myself."

"I think that it helped me mentally, in a way that will help in the future. Most of all I really think it boosted my ego. It helped me to understand and related to people more. It helped me realize anything can be done, you just have to go for it."

"The course was exciting and stimulating. It renewed my confidence and is moving me faster toward goals I have set for myself. It also helped me identify patterns of behavior that I want to work toward modifying; i.e., I believe I can work less and get more accomplished. I also believe I'll be more willing to jump into new projects and more motivated to complete them successfully. The course was a real high and the facilitators were concerned, interested in participants and very helpful."

"Really enjoyed it! There were many things learned that leads one toward introspection. However, enjoyed the opportunity to be associated with so many eager, enthusiastic people. Good luck on the dissertation!"

"I did appreciate the opportunity! I found that the Ropes Course was well supervised. The activities led me personally to some new 'breakthroughs'. I appreciated. 'Viva la Ropes Course.' Good job I'll be most interested in your findings."

"The Ropes Course was a satisfying and exhilarating experience. I perceive it has an application to almost all aspects of one's life. The early activities soon reduced any anxieties and fostered trust in the

leadership as well as the participants. My only recommendation and only because it would have been useful to me, would have been to spend more time processing following each activity. I do, however, realize that since this activity was designed to include specific variables, it may not have been possible. I appreciate being part of this activity."

APPENDIX H
ERROR CORRELATIONS BETWEEN
DEPENDENT VARIABLES AT
DIFFERENT TIMES

Table 9

Correlations Between Dependent Variables at Different Times

	Time ^a	P ^b	C ^c	S ^d	F ^e
I ^f	1	.247	.100	-.180	.260
	2	.244	.119	-.189	.253
	3	.354	-.114	-.225	.194
P	1		.616	.111	.069
	2		.574	-.111	.112
	3		.539	.018	.104
C	1			.367	.068
	2			.122	.019
	3			.270	-.041
S	1				-.103
	2				-.186
	3				-.096

^aTime : 1=Pretest; 2=Posttest; 3=Delay-Posttest

^bP = Powerful Others Locus of Control Score

^cC = Chance Locus of Control Score

^dS = Self-Esteem Score

^eF = Total Score on FIRO-B

^fI = Internal Locus of Control Score

VITA 2

Sally Elizabeth Boyle

Candidate for the Degree of

Doctor of Philosophy

Thesis: THE EFFECTS OF A ROPES COURSE EXPERIENCE ON LOCUS OF CONTROL
AND SELF-ESTEEM

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