

1991

## The call of the wild: Investigating the relationship between adventure education, character development, and the college curriculum

Barbara Ann Klingman  
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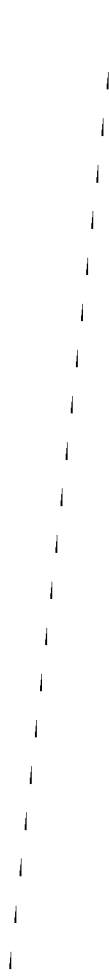
**The call of the wild: Investigating the relationship between  
adventure education, character development, and the college  
curriculum**

**Klingman, Barbara Ann, Ed.D.**

**The College of William and Mary, 1991**

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**The Call of The Wild**  
**Investigating The Relationship Between Adventure Education, Character**  
**Development, And The College Curriculum**

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**A Dissertation**  
**Presented to**  
**The Faculty of the School of Education**  
**The College of William and Mary in Virginia**

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**In Partial Fulfillment**  
**Of the Requirements for the Degree**  
**Doctor of Education**

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**by**  
**Barbara Ann Klingman**

**August 1991**

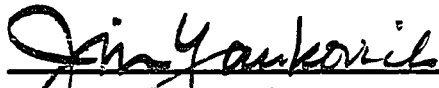
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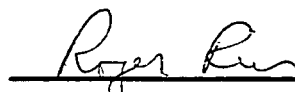
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## **DEDICATION**

**To God, who sustained me with hope and comfort expressed through  
the constant encouragement from family and friends.**



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## ABSTRACT

**The Call of The Wild: Investigating The Relationship Between Adventure Education, Character Development, And The College Curriculum**

**Klingman, Barbara Ann, Ed.D.  
The College of William and Mary in Virginia, 1991**

**Advisor: Professor Jim Yankovich, Ed.D.**

The purpose of this research was to investigate the potential utilization of adventure education programs to provide an effective and innovative alternative for enhancing the college undergraduate experience. Initial research consisted of performing an indepth study of higher education's curriculum reform literature and studies and literature on adventure education programs. Specific components of the curriculum reform literature regarding character development were then correlated with attributes discovered in the adventure education literature. The interrelationship that developed provided a theoretical rationale from which to propose that adventure education programs could indeed address many of the objectives of the recommended curriculum.

The next step in the research was the implementation of a quasi experimental study designed to see if an adventure education program located in the traditional college curriculum was affecting the character of the students involved. Four character traits were targeted: responsibility, self-acceptance, socialization, and tolerance. The California Psychological Inventory was administered to the students during the first week of classes and again thirteen weeks later to detect changes. The scores were studied using the ANCOVA statistical method. None of the scores on the four personality scales were found to be significant at the .05 level. However, the sensitivity of the instrument to detect changes over such a short period of time was in question.

A qualitative questionnaire administered along with the posttest did reveal perceived changes in the character of the subjects. Confidence, responsibility, interpersonal or social skills, and risk taking were strongly perceived by the students as being positively affected by their participation in the adventure education course.

It was concluded that adventure education programs could provide an effective and innovative alternative for enhancing the college undergraduate experience. Adventure education programs, possibly more than any single incumbent program, have provided evidence in support of this claim. Their implementation in the college curriculum should be considered.

Further study is needed in order to investigate the effectiveness of adventure programs in various settings in the college curriculum and in defining the specific components in the program that are responsible for positively affecting character development.

**The Call of The Wild**  
**Investigating The Relationship Between Adventure Education, Character**  
**Development, And The College Curriculum**

## Chapter 1

### Introduction

The problem investigated in this study was the possible symbiotic relationship between adventure education programs, character development, and the college curriculum. This chapter covers the fundamental need of this research, the intent or purpose of the particular course of study conducted, the research questions that guided the investigation, the scope and limitations of this study, and concludes with definitions of terms that might be peculiar to this research.

### Need

Higher education in the United States has always had its critics. However, in relation to this research on curriculum needs, a historic precedent was set in 1744. During a treaty conference the Indians rejected an offer for the education of their braves at the white man's college. It is revealing to see the contrasting approach to education and the low value that the Indians gave to something the Western world prized so highly. The following statement, by an Indian spokesman at the time, suggest curriculum changes sounding much like adventure education. Their intention, as is the intention of educational reformers

today, was to "make men" of the students.

We know that you highly esteem the kind of learning taught in those colleges ... But you, who are wise, must know that different nations have different conceptions of things: and you will not therefore take it amiss, if our ideas of this kind of education happen not to be the same with yours. We have had some experience of it; several of our young people were formerly brought up at the colleges of the northern provinces; they were instructed in all your sciences; but, when they came back to us, they were bad runners, ignorant of every means of living in the woods, unable to bear either cold or hunger, knew neither how to build a cabin, take a deer, nor kill an enemy, spoke our language imperfectly, were therefore neither fit for hunters, warriors, nor councillors; they were totally good for nothing.

We are however not the less obliged by your kind offer, though we decline accepting it; and, to show our grateful sense of it, if the gentlemen of Virginia will send us a dozen of their sons, we will take care of their education, instruct them in all we know, and make men of them.

(Franklin, 1784)

The college undergraduate experience continues to be criticized and there is, as always a demand for character development



(Rudolph,1977). There is a basic need to define the affective components in character formation that reformers would like to see developed through the college curriculum and determine an effective program that can be used for enhancing the undergraduate experience in this area. College graduates should have the appropriate character traits that society needs and expects from them.

The integrity of the college curriculum is on trial. The public is questioning the ability of institutions of higher education to adequately train graduates to be productive, contributing members of society. Graduates are expected to be trained in a professional skill but they are also expected to have developed exemplary character. This entails a graduate who is culturally literate, has a sense of social responsibility, has a developed set of values or ethics, and has good reasoning or thinking skills (Association of American Colleges, 1985). Those graduates are highly valued who, not only can understand the latest technology, but who can: reason well, make calculated choices in stressful situations, accept responsibility for those choices, and have the confidence to explore the unknown (Lynton & Elman,1987). The prolific number of reports lamenting the educational failures of the United States in the development of character show it to be a major crisis (AAC, 1985; 1988). Chickering (1989), acknowledges the fact that institutions of higher education do make a difference in the lives of their graduates but argues that effective strategies need to be developed

if they want to exert maximum influence. Mahatma Gandhi, a late Hindu religious leader and social reformer commented that "Knowledge without character." was one of the seven sins of the world (cited in Schoel & Stratton, 1990).

Studies and assessments are being made on various college curriculums in an attempt to address these issues. Responding as they traditionally do, colleges are struggling to change in response to public pressure (Rudolph, 1977). Colleges, however, are confronting more than their customary reluctance to change themselves (Kerr, 1982). The overwhelming emphasis on the development of technical skills in the curriculum, the abstract quality of the demands by educational reformers, and the problem with measurement tools in the affective domain have made it difficult to find a practical and concrete answer.

While the traditional curriculum is still attempting to answer these concerns, there is a program, adventure education, which may prove to be an effective and innovative alternative. Adventure education programs are expanding in scope and number. Various population groups are utilizing adventure programs for the therapeutic benefit they seem to provide. The limited research on adventure education programs indicate that certain socialization skills and character traits are being positively affected (Bertolami, 1981; Gass, 1987). The programs may develop character traits which closely match many of the socialization and integration skills that have been recommended. The

success or failure of adventure educational programs in the affective domain are not well documented and more research is needed in this area to explore the positive contributions that adventure education programs could potentially make to the college curriculum.

To summarize, there is growing concern that colleges and universities have focused on developing technical skills while neglecting the development of student character. Graduates, therefore, may not be fully contributing members of society. Adventure education programs, on the other hand, seem to be developing character. There is a need for a study which correlates the character development being called for in the higher education curriculum and the character traits being developed in various adventure education programs. If there are correlations, then specific adventure education programs in higher education should be studied to determine what specific character traits they can or do enhance in that setting.

#### Purpose

The purpose of this study was to determine if adventure education programs could provide an effective alternative for enhancing the college undergraduate experience? The study reviewed the documented effects and various locations and uses of adventure education programs. It attempted to identify the current curriculum

concerns in higher education that dealt with character development. The results of these two studies were then compared to see if there was a correlation between the components of character development recommended for inclusion in the higher education curriculum and the components of character that adventure education programs encouraged. An experiment was then conducted in order to provide more specific information on a college level adventure education program. The effect of participation in a college level adventure education course on selected character traits was qualitatively and quantitatively studied. It was hoped that this research would increase the knowledge of the effects of adventure education programs and their potential contribution to the improvement of the college curriculum.

### Research Questions

The following questions guided the development of this study. Extensive research was done in an attempt to answer these questions and thereby contribute a unique and practical solution to a prevalent problem.

Can adventure education programs provide an effective alternative for enhancing the college undergraduate experience?

1. What recommendations are being made concerning the

development of student character in the higher education curriculum?

2. What character traits do adventure education programs claim to develop?

3. Do the recommendations concerning the character development in the higher education curriculum correlate with the character traits that adventure education programs encourage?

4. Can an adventure education course, located in the traditional college curriculum, influence the character development of the college students involved?

### Scope and Limitations

This section will describe the parameters around which the research was conducted. There are many areas in higher education that are under scrutiny and in need of reform. This study, however, dealt only with the reports and recommendations made concerning the development of character in students during the undergraduate experience. It should also be understood that the research and recommendations in this study were specific and pertained only to colleges and universities in the United States.

There has been limited research conducted concerning the influence of adventure education programs on the character traits of participants. It is difficult to satisfy the scientific community with

qualitative studies and quantitative studies are difficult to design for research in the affective domain. Therefore, supportive quantitative studies in this area were meager and were also limited in this research.

The experimental phase of this research was limited to studying four character traits. These traits were chosen because: (a) they were found in both the recommendations for improvements in the higher education curriculum and in the list of character traits influenced by participation in adventure education programs, (b) they were targeted as course objectives by the professor of the adventure education course, and (c) an instrument was located capable of detecting the selected traits in a quantitative method. The California Psychological Inventory and anecdotal material was used to determine if student participation in a college's adventure education course caused any significant changes of these character traits.

The experiment was limited to data gathered in two courses at one highly selective small university. There was 44 subjects in the experimental group and a similar number in the control group. There was no way to provide for random sampling among the groups. The initial character difference of someone who elected an adventure course over a traditional, nonadventure physical education course was considered when performing the analysis of covariance on the data.

This study did not take into account the effect that age, sex, race, or any unaffiliated experiences might have had on the character

development of the subjects.

The same professor taught both groups. While this kept one variable consistent, it brought with it the possibility that the influence of a professor's philosophy and teaching style might override the influence of different course material. Adventure education can mean many things to many people and any instructor will have his/her own objectives. An attempt was made to target only the character traits that were both recommended for good student character and were included in the objectives that the professor had set forth for the class. A change in character was, therefore, somewhat dependent on whether the professor met the stated objectives for the course.

Quantitative documentation involving the affective domain is difficult and there was a question as to whether the CPI instrument would be sensitive enough to detect significant changes in character that might occur during one semester.

### Definition of Terms

For the purpose of the present study, the following definitions will be applied.

Actual Risk - The real risk or true possibility of physical or emotional harm resulting from the adventure. It cannot be definitely predicted. Effective leaders with good judgement can usually distinguish the level of actual risk. If the potential injury would be

minor or unlikely to take place then the actual risk is low. If the potential injury is likely to take place or could be extreme then the actual risk is high. Due to safety and liability concerns, adventure education programs attempt to minimize the actual risk while allowing the perceived risk to fluctuate.

Adventure Education Programs - Although programs vary greatly, there are some universal traits. Programs usually include challenging outdoor activities such as backpacking, rockclimbing, rope courses, biking, or canoeing, however, they do not simply deal with skill instruction. These activities serve as an educational tool and, with appropriate leadership and instruction, will encourage individuals to deal with challenges as part of an enjoyable adventure. Discussion with the group after an activity has been attempted is often employed as a means of assisting in the learning transfer. The primary responsibility of the outdoor educator is to structure these experiences and assist in the learning process so that it will encourage positive change in the participants (Knapp). Adventure education does not directly cause the change but it focuses on the need to change and provides a supportive atmosphere for that change to take place (Miles & Priest, 1990). There is usually an element of risk involved. Though it is seldom a life-threatening situation, the perceived risk, actual risk, stress, or potential inconvenience is enough to foster an acute sense of awareness.



Experiences are usually new and skill is developed, but the emphasis is on cooperation rather than competition. There is often close interaction between people in small groups (Metcalf, 1976). The situations encourage and often force individuals to rely on and accept help from fellow participants. The nature of the activity often forces individuals to: make a decision; take a risk; work together; trust themselves, their equipment, or fellow personnel.

Adventure Games - This is the official university title of the adventure education course used in this research. The course is designed to provide physical activity and challenging experiences. Course work includes fitness and flexibility exercises, nontraditional games, group initiative and trust activities, and ropes course elements.

Character Development - There is no universal description of good character as it would depend on the distinctive qualities or competencies valued by a particular race or individual. Recommendations for character development in higher education have targeted various traits. They include the development of: a realistic self-image, self-acceptance, confidence to explore the unknown, values or ethics, critical thinking skills, social responsibility, and interpersonal skills. Therefore, in the context of this research character development involves the formation in the affective domain of

these attributes commonly accepted as positive.

College Curriculum - In this research the term college curriculum is used to encompass the entire higher education experience. It will include the concept of the traditional curriculum, the hidden curriculum, and student life experiences. The traditional curriculum refers to registered formal courses that have the explicit function of transmitting knowledge of the subject matter. The hidden curriculum consists of implicit values taught to students, often unintentionally, through the institution's rules, routines, and rituals of student/teacher exchanges. Student life experiences refers to any programs, services, or facilities provided to students to facilitate or enrich their college experience. This could include freshmen orientation or resident life programs.

Perceived Risk - Perceived risk is the estimation of actual risk of an activity. Novices tend to have faulty estimations. Fearful people tend to overestimate, while reckless people tend to underestimate the risk. The actual risk in adventure education programs is usually well below what participants perceive. This allows for a safe ratio to develop between the actual risk needed for completion of an activity and the perceived risk which challenges the participant.

Ropes Course - Ropes courses are adaptations of military obstacle

courses which involve a combination of high and low elements and initiative activities. Elements are ingeniously designed challenging obstacles made from a variety of ropes, cables, trees, posts, swings, tires, rings, and ladders. The participants are given the challenge to climb, balance, swing, jump, and fall as they move on these obstacles (Darst & Armstrong, 1980). The elements may be only a few feet above the ground or fifty feet in the air. Students falling from low elements are spotted and caught by fellow participants. Students on high elements are tied and hooked into safety ropes and are belayed carefully to the ground by classmates or instructors when they fall. To be successful the participants must use a combination of strength, balance, flexibility, ingenuity, cooperation, and courage.

Initiatives are usually physical challenges which demand group participation and problem solving. A fantasy problem is presented and solutions will vary depending on the combined talents in the group. Initiatives are often used to develop decision-making, planning, teamwork, and leadership skills (Rohnke, 1977; Simpson, 1974).

Four specific character traits were studied in this research and their intended meanings should be understood as they were measured and defined in the Administrator's Guide of the California Psychological Inventory (Gough, 1987).

Responsibility (Re) - A person high in Re would be "responsible, reasonable, and take duties seriously." That person would not be "careless or lazy or overly concerned with obligations." Descriptives associated with this trait would be conscientious, dependable, and industrious (p. 6 & 60).

Self-acceptance (Sa) - A person high in Sa would have a "good opinion of self, would see self as talented, and as personally attractive." That person would "not readily assume blame when things went wrong or think of others as much better" than self. Descriptives associated with this trait would be self-confident, outgoing, talkative, assertive, and ambitious (p.6 & 57).

Socialization (So) - A person high in So would "comfortably accept ordinary rules and regulations and find it easy to conform." That person would not be rebellious, unreliable, or nonconventional. Descriptives associated with this trait would be organized, stable, moderate, and cooperative (p. 6 & 61).

Tolerance (To) - A person high in To would be "tolerant of others' beliefs and values, even when different from or counter to own beliefs." That person would not be prejudiced or suspicious of what others do or say. Descriptives associated with this trait would be reasonable, insightful, fair-minded, and intelligent (p. 6 & 66).

## Chapter 2

### Review of Literature

This review will take the reader through four general areas relevant to this study and end with a critique which will bring together all the information presented. It begins by taking a step back and exploring the concept of wilderness adventure and the history of public opinion and research on its character influencing nature. Next, contemporary adventure education programs will be covered. This section hopes to show how the rationale presented in the first section led to the development of adventure education programs. It will also depict the lineage of the adventure education program used in the experimental part of this research. In the third section the various types of adventure education programs found in higher education institutions will be highlighted. This section provides the reader with a better idea of the possible locations and organizational structures of college level adventure education programs. The fourth area to be reviewed is the current state of affairs in the college curriculum. Without regard to adventure education, this section will present the shortcomings and recommendations made for improving the college curriculum in order to enhance the character of the college graduate. The final section attempts to summarize the review and show a logical match between the curriculum needs of higher education and the fruits

of adventure education programs.

Much of the adventure education research was based on programs sponsored by Outward Bound Inc. and Project Adventure Inc.. These adventure programs were chosen because of the international reputations they have acquired as leaders in this field. Additional programs were cited if they were distinctive or representative of higher education's involvement in the adventure education area.

The research concerning the college curriculum reforms included reports from the Association of American Colleges and from the Carnegie Council on the Advancement of Teaching. These agencies are well respected for their research and reporting of issues in higher education and have recently published studies and recommendations on curriculum issues. These reports, along with other studies and recommendation from prominent leaders in the field, will be examined.

At the end of this literature review it is hoped that there will be a better understanding of the goals, purposes, and uses of adventure education programs. There should also be a better understanding of the recommended goals of the college curriculum in regard to character development. The final product of this descriptive analysis is to correlate the findings in these two areas and develop a theoretical rationale for using adventure education programs to enhance the curriculum in higher education.

### Wilderness Adventure

It has not been easy for the human race to survive. Through millions of years our ancestors have been challenged by all kinds of trials and tribulations: ice ages, saber-toothed tigers, droughts, and diseases. If we are still here, it is because they were able to develop a superb array of survival tools, some of these are well known: our complex brain, our nimble fingers, our ability to cooperate, and of course the various technologies these made possible, ranging from the taming of fire to the splicing of genes. But there is one advantage we know less about, even though it must have been indispensable to our ancestors in their long struggle to survive in a mysterious and dangerous environment. This advantage is the enjoyment we derive from exploring the unknown and confronting the unexpected....To survive in an unpredictable and dangerous environment, human beings must also enjoy a certain amount of novelty and danger.

(Mihaly & Isabella Csikszentmihalyi, 1990)

In ages past adventure and physical challenges were interwoven into the very fabric of life. Survival, safety, peace, and growth required one to deal with and overcome physical challenges. In the New World,

fears of wild animals, savages, and spirits prompted the pioneers to see it as their Christian duty to conquer the wilderness, tame the savages, and turn the wild land into fields and cities. It was the ecclesiastic purpose of the early American colleges to infuse God and civilization into the pagan lands of the New World. It was therefore not surprising to hear college personnel in the 1800's lamenting the fact that the pioneers were becoming depraved and degenerated as they went further into the wilderness (Nash, 1971).

Yet, as society was winning its victory over the "detested" wilderness, some individuals began preaching its value. Henry Thoreau saw the wilderness adventure as one that would sharpen the intellect, vitality, and toughness of individuals. He wanted to combine the physical and mental strength of the savage with the intellectual strength of the civilized. John Muir promoted the ability of the wilderness to inspire and refresh. "Thousands of tired, nerve-shaken, over-civilized people are beginning to find out that going to the mountains is going home" (Nash, 1971, p.140). Though this sounds as if it was written for the 1990's it was actually stated by Muir in 1898.

This change in public thinking, though not universal, could be construed as the beginning of the adventure education movement in this country. It was the expansion of civilization that altered the definition and concept of the wilderness adventure. It was easier to appreciate the dwindling wild land from the safety and security of the



city. Hindsight also made it easier to see the character traits that had developed in those who had wrestled with the wilderness. Contemporary researchers have shown the benefits that outdoor recreation has for emotional, social, physical, intellectual, and spiritual health (Breitenstein & Ewert, 1990).

Research by Cheryl Bertolami (1981) suggests that self-confidence is developed when one is forced to rely on oneself in demanding situations. Physically challenging life threatening situations and formalized rites of passages may have provided this in the past. Now they are difficult to find. Today's society has limited contact with the wilderness. The advanced technology and the emphasis on passive entertainment have all but eliminated natural adventure challenges. Nevertheless, they may still be necessary for some groups. Metcalfe (1976) proposes that subcultures, in their need for self-testing, develop their own "rites." This could include killing their first deer, athletic prowess, or experimentation with alcohol, drugs and crime. It is often said that participants in these activities have a death wish. It may in fact be a "life wish." That is, they may really be looking for "self definition through a greater involvement in existence" (Schreyer, White, McCool, 1978).

#### Development of Adventure Education Programs

It is in this setting that adventure education programs have been introduced and have been thriving. It was the concept that modern education was not preparing young people for the trials of life that prompted Kurt Hahn to develop the Outward Bound (OB) program. The OB program was among the first contemporary adventure education programs and today is probably the best known. Many current programs are simply adaptations on its designs. Because of OB's major influence on the field, it is important to understand its history and operating philosophy which is so often imitated in other adventure education programs.

Kurt Hahn, a German in exile, began a school in Wales emphasizing physical, emotional, and intellectual development. He had seen rich educated German people become depraved and evil due to Nazi propaganda. To keep this from recurring, he believed that education should "prepare critical minds, avoid dogma and never assist in indoctrination of the young" (Fletcher, 1971). During World War II there was concern over the frightening number of young sailors who were dying in sea disasters. They seemed to lack the resolution or persevering qualities of their older comrades. Hahn developed a specific program, Outward Bound (OB), to train these sailors and strengthen their mental toughness. After the war, the OB school was continued. It was successful and more schools were opened. Over thirty schools have developed internationally since then, attesting to

the effectiveness of the program (Fletcher, 1971). As it can be seen, OB was initiated as a survival training program and it retains some of that "charm." Its emphasis, however, is not on physical skills or strengths but on the mental stamina needed to persevere. This self-discovery is developed through experiences. Rhudy (1979) describes the program as placing people in a situation where survival is dependent on their ability to continue functioning mentally and physically, and to work together as a group.

OB courses in America are held in every conceivable wilderness condition. Sailing, kayaking, dogsledding, mountain climbing, and winter camping are just a few of the many offerings. In addition to OB's standard course, there are also special programs for executives, women, youth-at-risk, cancer patients, sexual assault victims, Vietnam veterans, and alcohol and drug abusers (Outward Bound, 1988).

In accordance with Hahn's educational philosophy some enduring OB principles or guidelines have developed. They are summarized below:

1. Schools must be open to all
2. Students must be given the opportunity to discover self
3. Self-discipline, team work, adventure, physical hardship, and some risk must be presented to the student
4. Develop character through practical interest
5. Emphasize responsibility and compassion (Fletcher, 1971)

Also, all OB courses, regardless of environment or population, believe in four fundamental theories. These theories are important because they can form a foundation for development of any adventure education program.

1. People can come to greater knowledge of themselves through a direct encounter with a wilderness setting.
2. When people are forced to deal with an environment of understandable stress, they come to grips with elements in themselves that they may be able to tap at a later time.
3. Close involvement with other people through the interaction that the Outward Bound small group structure provides is an effective means for learning to deal with a variety of different behaviors in oneself and in others.
4. Excitement and challenge are as much a part of the human experience as are routine and ritual. In a world which is becoming increasingly more complex, there is a definite need for opportunities to experience adventure and challenge in a fundamental, almost visceral manner (Outward Bound, 1984).

In order to satisfy these principles and theories OB courses utilize a number of techniques. These techniques have become essential elements in most courses and include: a new environment for the participant, group living experience, stressful conditions, success as a

member of a group and as an individual, and a separate individual experience or solo (Rhudy,1979). The positive effects of the OB programs have been repeatedly documented.

Studies of participants in OB programs showed positive changes in their self-esteem, self-confidence, and personal control (Fletcher, 1971; Dickey, 1978; Burton,1981; Bertolami, 1981). Winkie, (1977), also found increased levels of moral judgement. These changes were attributed to the individual's "successful accomplishment of difficult activities, supportive group environment and intense personal interactions, wilderness environment, and increased self-awareness which included recognition of both strengths and weaknesses leading to a more realistic self-image" (Bertolami, 1981). In other words, individuals forced to test their courage or resourcefulness in a challenging yet supportive environment quickly become aware of their abilities. They can then have confidence in their strengths. They cannot develop confidence in something they have not known. Participants of adventure programs such as OB have often expressed increased faith and courage in their own actions, more than they ever imagined possible (Fletcher,1971; Koepke,1973; Miles,1978; Miles, 1986-87). It would seem that these programs are providing the needed opportunity for young adults to test themselves in a positive fashion and experience the rite of passage.

Participation in adventure education programs have produced many other positive results. Research indicates that effects include

"humility, a sense of wonder, maturity, connectedness with nature, and a sense of personal, social, and natural history" (Miles, 1986-87, p.27). Improved physical fitness is also an outcome of the experience (Miles, 1978; Fletcher 1971). Demanding physical challenges prompt individuals to stretch to their full physical potential. Adventure education experiences are usually conducted with a small group and the intense experiences in this setting break down social and psychological barriers and encourage cooperation, trust, and socialization (Raiola, 1984).

The success of OB prompted the development of a prolific number of adventure programs. To follow the lineage to the type of program used in this research project (adventure education programs located in the traditional college curriculum), the development of the Project Adventure (PA) program must be reviewed. This program started in 1971 at a Massachusetts high school with grant money from Title III of the Elementary and Secondary Education Act. The proposal called for the development of a program which could incorporate "some of the educational concepts of Outward Bound to public education in ways which were economically feasible and which included an academic component" (Rohnke, 1977, p 149). To accomplish this objective they developed the "ropes course" (see definition of terms). The program became very popular, grew far beyond the local school district and also became involved with teacher training and curriculum development.

Many colleges initiated ropes courses as part of their physical education offerings when enthusiastic professors returned from PA workshops. In 1982, PA incorporated as a national non-profit organization. PA now publishes books, offers many instructional workshops, and its recommendations on rope course construction and safety standards are highly regarded in the field. There are now many other groups and companies that operate in this market. However, project adventure has become almost "a generic term to describe an experiential learning program using a Challenge Ropes Course, initiative problems, and a philosophy of group cooperation and individual challenge" (Project Adventure, 1987, p.2).

Project Adventure's self-description is noticeably similar to Outward Bound. The following quote is taken from PA's promotional brochure: "learning programs that challenge people to go beyond their perceived boundaries, to work with others to solve problems and to experience success. Over 1 million people have used our approach to realize increased self-confidence, develop leadership skills, discover the power of group cooperation, and learn to view obstacles as opportunities for growth." Their unique mission is to incorporate enjoyable, supportive, and challenging adventures into as many settings as possible. To "Bring the Adventure Home" (Project Adventure, 1988).

The evidence indicates that adventure education programs have the potentially powerful ability to improve self-concepts and personal

efficacy or self-actualization. Simpson, (1991) quotes others when he sets forth that the development of these traits should be one of the most important goals of education. Students need to have a positive self-concept and a realistic awareness of their true abilities.

### Adventure Education Programs in Higher Education

...let him learn to hold himself easily and steadily in any position, let him practice jumping and leaping, climbing trees and walls. Let him always find his balance, and let his every movement and gesture be regulated by the laws of weight, long before he learns to explain them by the science of statics....Teach your scholar to observe the phenomena of nature; you will soon rouse his curiosity, but if you would have it grow, do not be in too great a hurry to satisfy his curiosity. Put the problems before him and let him solve them himself. Let him know nothing because you have told him, but because he has learned it for himself. Let him not be taught science, let him discover it. If ever you substitute authority for reason he will cease to reason, he will be a mere plaything of other people's thoughts.  
(Rousseau, 1762/1957)



Some individuals in higher education are no longer lamenting the degenerative effects of the wilderness on character, as they did in the 1800,s, but are instead utilizing the wilderness in adventure education programs designed to meet their specific needs. This section will briefly review where adventure education programs are currently being utilized in higher education curriculums. There are basically three different areas where adventure education programs are found. These will be labeled: off campus contract courses, traditional curriculums, and student life departments.

With contract courses, schools allow students to receive independent study or field credit for participation in an approved adventure education program which is operating independently of the institution. Outward Bound is a major recipient of these students as over 150 educational institutions have given academic credit for various OB courses. One worthy of note is the course, "A Second Chance: Recharging for Re-entry into Higher Education," which is designed especially for the college dropout. The course includes adventure activities and underscores issues such as values clarification and stress management. Three college credits are available through Northeastern University (OB,1988). Programs such as Outward Bound and Project Adventure also provide professional training courses to instruct future teachers, social workers, probation officers, and counselors in the use of outdoor adventure challenges in their particular field of study

(OB,1988; PA,1988). These training workshops have also educated many instructors who have returned to their institutions and introduced an adventure education program.

In the traditional curriculum adventure education programs are most often found in Recreation or Kinesiology departments. The therapeutic recreation area may offer classes in the use of adventure education or adventure based counseling. The kinesiology department may offer adventure activities such as backpacking, rockclimbing, ropes courses, and camping and concentrate not only on skills but on adventure education principles. The same department may also provide a more involved outdoor leadership or adventure programing course and there are a few which offer an emphasis in outdoor education (Northern Illinois & Texas A&M).

The third area, the student life department, has made the greatest use of adventure education programs. Adventure based freshmen orientation programs have been the most visible. The Chronicle of Higher Education (Collison, 1989) reported on the accomplishments of the University of Puget Sound's outdoor adventure freshmen orientation and noted the success of similar programs at such places as Dartmouth and the University of California at Santa Cruz. Earlham College, a Quaker affiliated college in Richmond, Indiana, also has a notable freshmen orientation program called the "Pre-term." In 1970, armed with a \$100,000 grant from the Reader's Digest

Foundation, administrators at Earlham College studied Outward Bound, the National Outdoor Leadership school, and Prescott College and developed their own month-long orientation program. The president of the college at the time, Dr. Bolling, who later became the President of the Council on Foundations, gave his support to the project and thought the program demonstrated its value and ability to fit into a college curriculum (Miner & Boldt, 1981).

Martha O'Keefe (1989) conducted a study assessing the various wilderness orientation programs around the country. This study indicated that these programs had goals and objectives very similar to those that had been recommended in recent studies on higher education curriculums. Other studies done on various wilderness adventure orientation programs indicated that these programs enhanced decision-making skills and goal setting abilities. They encouraged freshmen to assume responsibility for themselves and their decisions. They also helped freshmen understand their strengths and weaknesses in dealing with stress (Bertolami, 1981; Gass, 1983, 1987; Raiola, 1984; Smith, 1984). It would seem that wilderness orientation programs for freshmen have the potential to become a major area of involvement for adventure programming in higher education.

Prescott College is covered briefly now because it is an extraordinary model of a college which has integrated adventure education into every area of its curriculum. It was founded in 1966, on

the belief that "through the medium of the mountains, the sea, canyons and rivers, the qualities of style, compassion, integrity, responsibility, and leadership can be fostered and encouraged" (Miner & Boldt, 1981). The college president, a trustee, and the Physical Education director had all been involved with Outward Bound. There is no doubt that this program greatly influenced the college's development, largely shaping its famous Physical Education and freshmen wilderness orientation programs. The college went through some difficult financial times. It has emerged smaller and reorganized but maintains its reputation for experiential learning and its concentration on environmental issues. It has been said that Prescott College is most appealing to the students because it is adventurous (Magner, 1991).

#### Current State of Affairs in the College Curriculum

We like to say that we send children to school to teach them to think. What we do, all too often, is teach them to think badly, to give up a natural and powerful way of thinking in favor of a method that does not work well for them and that we rarely use ourselves .... instead they learn how to get out of things...[this is] the real failure that takes place in schools. (Holt, 1967, foreword)

In a study sponsored by the Carnegie Foundation for the Advancement of Teaching, Boyer (1987, p.283) found that what the colleges seemed to excel at teaching was - "competence." However, it was "competence in meeting schedules, in gathering information, in responding well on tests, in mastering the details of a special field....Students come to campus at a time of high expectancy. And yet, all too often they become enmeshed in routines that are deadening and distracting." Jencks and Riesman (1967, p.63) stated that "the most important thing learned in college may not be physics or history but the importance of credentials and the art of acquiring them." Students then pursue certification instead of knowledge. Instruction and learning become limited to quantifiable domains.

Boyer (1987, p.91, 280) encourages the use of active teaching by faculty and active learning by the student. He also sees room for improvement in the articulation between the college curriculum and the student's responsibility to society. Boyer states, "To deny our relationship with one another and with our common home, Earth, is to deny the realities of existence... What we need today are groups of well-informed, caring individuals who ban together in the spirit of community to learn from one another, to participate, as citizens, in the democratic process." Boyer supported a general education requirement that would increase a student's concern for humanity. Three of the seven areas in his recommended general education component are

pertinent to this review. One proposed area was "Identity" which dealt with understanding self, developing judgement, determining life's purpose, and accepting obligations. "Work" was another area and it covered the value of work and leisure time. "Nature" was an area which stressed the relationships between science, technology, and ecology. The areas of identity and work are not traditionally covered in the college curriculum and though the sciences are well accounted for there is little emphasis on their relationships. A broad, more interdisciplinary approach is needed to satisfy these components if they are accepted.

The Association of American Colleges released a report in 1985 entitled "Integrity in the College Curriculum: A Report to the Academic Community." The report listed nine educational requirements that were seen as essential for developing good "life-time" learning skills and recommended that they be provided through the college curriculum. The following three "educational requirements" are pertinent to this review:

1. To reason well, to recognize when reason and evidence are not enough, to discover the legitimacy of intuition...
2. They must make real choices, assume responsibility for their decisions, be comfortable with their own behavior and know why. They must embody the values of a democratic society in order to fulfill the responsibilities of citizenship...

3. Any subject, if presented liberally, will take students into a world beyond themselves, make them again and again outsiders, so that they may return and know themselves better.

These recommendations call for more than just certification. They advocate changes in teaching methods and objectives. Students must be taught to think, to make decisions, and to become socially responsible. They need to learn about themselves, what do they truly value and why? Rudolph, (1977) has said that interest in character and value development in college has risen and fallen over the years but that it has always remained somewhere in the curriculum. It would seem that at the present it is on an ascending tract. Are colleges instituting programs to address this issue?

There is a growing demand for colleges to prepare graduates who have more than technical expertise. It has been noted that various socialization and integration skills have been missing from the repertoire of most college graduates (Bok, 1986; Boyer, 1987). Lynton and Elman (1987) see the need for colleges to encourage moral development and to increase the student's understanding of the ethical and human issues involved. They promote experiential education as one method to accomplish this task. It provides students (and professors) with a concrete link to the realities of the world. It also

allows for adaptation and flexibility in the curriculum (Witucke, 1986; Wartgow, 1986). More importantly, it provides an excellent learning medium. When compared with traditional passive learning methods, vivid experiences are far easier to remember (Holt, 1967).

One final area that will be briefly mentioned in this review is Weathersby's (1981) theory of ego development. Her premise is that higher stages of ego development allow for increasingly sophisticated frames of reference in which to understand and respond to experiences. She encourages supportive but challenging teaching methods which force students to develop alternative thought processes. Exposure to new people, new environments, or challenging situations would increase students' tolerance for ambiguity and decrease their stereotyping behavior. Validation or acceptance from others at higher stages would also promote advancement. This would support the need for developing courage and community as part of the curriculum in higher education. The similarity between her suggestions and the process of adventure education mentioned earlier in this paper is striking. Could one not support the other?

### Summary

The previous review, while not exhaustive, covers the basic areas of concern to this study and stimulates the desire for further research.



The research conducted and the continuity of adventure education programs with distinctive character building goals supports the premise that they are indeed fulfilling their mission. The overwhelming positive comments from students, instructors, and those associated with adventure programs, both in and out of higher education, are also good indicators of program effectiveness and positive character development. Outward Bound and Project Adventure are two well respected programs very committed to the principles and objectives of adventure education. Their amazing growth and popularity attests to the effectiveness of their curriculum and the demand for their type of training.

Research on the curriculum needs of higher education indicate many objectives that are identical to those of adventure education programs. Boyer's (1987) call for active learning, group and community experiences that encourage responsibility, and his general education areas (identity, work, and nature) all seem tailor made for fulfillment in adventure programs. The recommendations from the Association of American Colleges which concern decision-making, assuming responsibility, self-awareness, and thinking skills also seem plainly evident in adventure education programs. Interest in Weathersby's ego development theory (1981) and its implication on character development is yet another area where there are ties between the recommended curriculum and the outcomes of adventure education

programs. It seems logical to propose that if adventure education programs effectively develop particular character traits, and colleges are being asked to produce graduates who have these particular character traits, then colleges should consider incorporate adventure education programs into their curriculum.

The key word is "if." Research is needed in order to erase the "if." Studies on adventure education programs located in the traditional curriculum of higher education are limited due to a lack of researchers in this area and the limitation of documenting results in the affective domain. It is the intention of this researcher to cut away a small part of the "if." The remainder of study will target four specific personality characteristics that are both recommended for inclusion in a college's curriculum objectives and shown to be influenced by adventure education programs. It will attempt to answer the fourth research question and prove whether or not a college level adventure education course, located in the traditional curriculum, influences the character development of the student participants.

## Chapter 3

### Procedures

The ultimate purpose of this study was to determine whether adventure education programs could provide an effective alternative for enhancing the college undergraduate experience? This chapter presents a description of the procedures or methods used in this study. The research presented in this dissertation followed two lines of procedures. Both a descriptive and an experimental model were employed.

First, a theoretical basis was established for proposing adventure education as an alternative solution to some of the problems of the higher education curriculum. Initial research consisted of performing an indepth study of higher education's curriculum reform literature and studies published on adventure education programs. The second line of research focused on an experimental study designed to see if an adventure program located in the traditional college curriculum was, in fact, affecting the character of the participants.

The product of the initial extensive study was included in the literature review and was utilized to answer the first three research questions,

1. What recommendations are being made concerning the affective domain in the higher education curriculum?

2. What affective components do adventure education programs claim to develop?

3. Do the recommendations concerning the affective components in the higher education curriculum correlate with the affective components that adventure education programs encourage?

When studying the curriculum recommendations in the higher education area, the research focused on reports published by the Association of American Colleges, (1985, 1988) and books written by Bok, (1986), Boyer, (1987), and Lynton and Elman, (1987). Recommendations for higher education are a matter of speculation and the tradition of autonomy and the various missions in the higher education system assures that they will not be universally accepted. However, the above sources were cited and given validity because of the respected reputation and leadership they enjoy in the field of higher education. Reports on deficiencies and corresponding exhortations were reviewed. In keeping with the scope of this study, only those recommendations dealing with the need for character development in college graduates were included in this research.

Defining the scope of the character development of participants in adventure education programs was problematical. The programs have proliferated because of popular demand without the support of extensive scientific confirmation. There is no definitive work or authority in this area and the research conducted in the affective

domain is often denounced as ambiguous. Therefore, to establish validity, convergent research was utilized whenever possible. In all but three cases, attributes reported in this study were supported by the findings of two or more researchers.

The information that was gathered concerning the curriculum recommendations and adventure education programs was then synthesized. This information is presented in summary form in chapter 4, table 4.1 and 4.2. Common attributes associated with both areas were then correlated. Table 4.3 was developed to depict the interrelationship between both sets of attributes. This table can also be found in chapter 4.

Once the first three research questions were answered an experimental study was designed. Its purpose was to gather specific information on adventure education programs located in the traditional college curriculum. The product of this study was intended to answer the fourth research question.

4. Can an adventure education course, located in the traditional college curriculum, influence the character development of the college students involved?

The description of this experimental design is presented in this chapter and includes a discussion of (a) sample selection, (b) treatment, (c) instrumentation, (d) experimental design, and (e) ethical safeguards. A summary of all procedures will be included at the end of the chapter.

Sample

The research took place at a small, highly selective university in Virginia. The subjects in this experiment were students in two adventure education courses and one aerobic exercise course. These courses were taught by the same professor in the Kinesiology department during the spring semester of 1991. The control group consisted of forty-three students who participated in the aerobic exercise class. All were female, with an age range of 19-22 years old and a mean age of 21.5. The experimental group consisted of the forty-five participating students in the adventure education courses. There were 22 females and 23 males, with an age range of 18-25 years old and a mean age of 22.9.

Table 3.1  
Demographic Characteristics of Subjects

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Total Sample Size = 88

<u>Category</u>	<u>Control</u>	<u>Treatment</u>
<u>Course</u>	Aerobic Exercise	Adventure Games
<u>N on Return of CPI Instrument</u>	43	45
<u>Sex</u>	43 Females	22 Females 23 Males
<u>Age</u>	Range 19-22 Mean 21.5	Range 18-25 Mean 22.9
<u>N on Return of Qualitative Instrument</u>	37	37

### Treatment

The aerobic exercise class formed the control group. It was similar to the adventure education course in that it was an elective activity class which fulfilled one of the college's Kinesiology requirements. Course objectives include developing aerobic fitness and acquiring cognitive knowledge concerning healthy living habits, fitness evaluations, and exercise routines. The participants spent approximately 1 and 1/2 hours per week exercising to music, power walking outdoors, or lifting weights.

The adventure education course was considered the treatment group. The objectives for the class included development of communication skills, leadership, realistic self-appraisal, physical fitness, and positive attitudes. For two hours per week subjects in this course participated in challenging group initiative problems, played crazy nontraditional games, and went through the high and low elements of the ropes course.

### Instrumentation

The California Psychological Inventory (CPI) was used to assess the four character traits of the subjects. It was administered in a pretest-posttest design. As a measurement tool the CPI claims only to



predict how people may act in a given situation and to identify how others may evaluate or describe a particular subject's character traits. It makes no claim to define or assess character traits. The CPI is self-administering and generally requires one hour to complete the 462 questions. The instrument can be used to appraise 20 "folk concept" or character traits but for the purposes of this study only four: self-acceptance, responsibility, socialization, and tolerance, were evaluated. In a sample of 400 college students, reliability coefficients (alpha) for the four scales were found to be as follows: self-acceptance, 0.52; responsibility, 0.71; socialization, 0.71; and tolerance, 0.68. The long term reliability for the CPI is said to be below the optimal level but still adequate for stability. Validity research for the CPI conducted on college students under minimal motivation condition produced an invalidity rate of 4.2 percent for male students and 0.8 percent for female students. On large-scale ordinary testing the overall invalidity rate for the CPI was determined at 1.7 percent (Gough, 1987).

Due to questions concerning the CPI's possible lack of sensitivity to indicated changes in character over such a short period of time, an additional instrument was utilized to aid in the data collection. A questionnaire was formulated to gather anecdotal information concerning the subjects' perceived changes. The validity and reliability of this questionnaire was not tested, however, it was not utilized nor analyzed as a statistically significant instrument. Its purpose was only to

contribute qualitatively and descriptively to the analysis of the two groups. The questionnaire was administered with the posttest and included seven open-ended questions dealing with the subject's perceived expectations, memories, and sense of significance attached to the class experience. There were also eight directional scales which set up opposing behaviors that were related to the targeted personality characteristics. The subjects had three choices for each scale. They were asked to indicate if participation in the course had influenced their behavior towards one direction or the other on the scale or if they did not perceive a change. A sample of the questionnaire can be found in Table 3.2.

Table 3.2  
Posttest Questionnaire

Please answer the following questions to the best of your ability.

1. What did you expect to learn in this class?

---

2. Did you learn anything you did not expect, if "yes" what was it?

---

3. Did you learn anything in this course which has helped you in other areas of your life, if "yes" what was it?

---

4. What do you think you will remember about this course two years from now?

---

5. If you could repeat any experience, emotion, or feeling what would it be, why?

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6. Do you think this course was a significant part of your college experience, why or why not?

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7. Do you think this course has changed you? If yes, in what way? If no, why not?

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Table 3.2 (continued)

In order to evaluate your perception of any personality change that might have occurred as a result of participation in this class, would you please rate yourself on the following items. If you feel you have moved in one direction or the other on the scale please indicate it by circling the appropriate character description. If you feel you have not changed substantially in either direction circle "No Change."

<b>Confident</b>	<b>No Change</b>	<b>Unassuming</b>
<b>Prefers to keep in the background</b>	<b>No Change</b>	<b>Likes to be with people</b>
<b>Shy</b>	<b>No Change</b>	<b>Sociable</b>
<b>Sees self as talented</b>	<b>No Change</b>	<b>Often thinks others are better</b>
<b>Responsible</b>	<b>No Change</b>	<b>Less concerned with obligations / duties</b>
<b>Resists rules and regulations</b>	<b>No Change</b>	<b>Accepting of rules and regulations</b>
<b>Finds it easy to conform</b>	<b>No Change</b>	<b>Finds it hard to conform</b>
<b>Intolerant of different values and beliefs</b>	<b>No Change</b>	<b>Tolerant of other's values and beliefs</b>

### Experimental Design

In an attempt to show the effect that an adventure education course might have on the character traits of college students as compared to an aerobic exercise class, a pretest-posttest design was applied. It was administered during the first week of classes in January and again a week and a half before classes ended in April. In order to further increase internal validity, courses were chosen which allowed the same professor to instruct all participants. The instructor encouraged the student's participation in the study but no positive or negative incentives were offered. The subjects were informed that they were under no obligation to volunteer for this study and that they could withdraw from the study at any time. The subjects were told that the CPI instrument was identifying personality characteristics but were not informed as to which characteristics were being targeted. The answer sheets were collected anonymously using a personal code in order to match the pretest with the posttest.

A class period was devoted to explaining and administering the pretest. The posttest interval was less formal and students were allowed to work on the instruments during class or take them home to complete. While not ideal, this method of administering the posttests was employed in order to avoid the loss of another class period.

Each CPI answer sheet was scored and pretest and posttest

scores were matched for each subject. The homogeneity of regression was calculated within an acceptable range. A 2 x 2 repeated measures analysis of covariance (ANCOVA) was then computed for each of the four dependent variables, self-acceptance, socialization, tolerance, and responsibility. An ANCOVA was utilized in order to adjust for the initial differences in scores that may have existed between the subjects electing the adventure games course and the subjects electing the aerobic exercise course. The alpha level for the analysis was set at .05.

There was some concern that the CPI would not be sensitive enough to measure changes in character over such a short period of time. Since qualitative information is often used to capture subtle influences that are lost in quantitative measures, a questionnaire was designed and administered along with the posttest. This qualitative questionnaire consisted of seven open-ended questions and eight items on a directional scale. It was hoped that these questionnaires, completed by all the subjects, would expose any self-perceived effects of participation in the course. The questionnaires were qualitatively analyzed. Reasonable speculations were then made based on the information compiled and anecdotes, taken from the survey, were included in the results in order to help describe the perceived responsiveness of the subjects to the course content.

### Ethical Safeguards

The nature of this research was not very intrusive. However, since it did involve working with human subjects, there were some ethical safeguards to consider. Participation in a research study should not impose any undue physical or psychological risk for the subjects. While it could be argued that the treatment or course content involved a certain amount of risk for the subjects, it was a risk that the subjects had freely elected to assume by initially registering for the course. Participation in this research project did not heighten or lessen this inherent risk. Any additional risk to the subjects caused from participating in this study were diminished by adhering to the following guidelines.

1. The research proposal was submitted to the School of Education's Human Subjects Research Committee. Their approval was received before any data was gathered.

2. Participation in the study was completely voluntary with no sanctions being imposed on those who did not wish to participate. The instructor encouraged participation but did not in any way record who did or did not complete the testing instruments.

3. Subjects could withdraw from the study at any time without fear of repercussions. Some subjects did not complete the posttest instrument or the qualitative survey form. During the course of the

semester, some subjects elected to withdraw from the class completely. In either case, their pretest scores were dropped and not computed with the results.

4. Confidentiality was maintained throughout the data gathering and reporting process. All data was gathered anonymously and individuals were not singled out, as only group summary data was used. A personal code was used only so that the pretest could be matched to the posttest.

5. The data gathering techniques did not involve any physically or psychologically threatening procedures. The California Psychological Inventory and the survey questionnaire were not overly intrusive or stressful.

#### Summary of Procedures

In summary, both a descriptive and an experimental model were employed. Initial research consisted of performing an indepth study of higher education's curriculum reform literature and studies published on adventure education programs. This research correlated specific components of curriculum reform in higher education with attributes of adventure education programs. This was done in order to establish a theoretical rationale for utilizing adventure education programs to enhance the higher education curriculum.



The second line of research consisted of an experimental study designed to determine if an adventure education program located in the traditional college curriculum was affecting the character development of the participants. Socialization, tolerance, responsibility, and self-acceptance were targeted.

Research was conducted at a small highly selective Virginian university during the spring of 1991. The experimental group consisted of students in adventure education courses. Students in the aerobic exercise class made up the control group. The California Psychological Inventory was administered to the students during the first week of classes and again thirteen weeks later to detect character changes. Scores on four scales were studied using the ANCOVA method. A qualitative questionnaire was also administered along with the posttest to uncover perceived character changes of the subjects.

## Chapter 4

### Analysis of Results

This chapter will compile the results from the descriptive studies on curriculum reform in higher education and the effect of adventure education programs on the character traits of participants. It will also present the results of the statistical analysis of data and the anecdotal information obtained from the study of an adventure education program located in the traditional college curriculum. The results will be reported as they apply to the research questions stated in the first chapter.

#### Research Question One

What recommendations are being made concerning the development of student character in the higher education curriculum?

Research question one related to curriculum reform. The research indicated that there is concern with the character development of college students. A study of recent reports, documents, and books revealed specific recommendations for the reform or improvement of college curriculums and provided the answer to the first question. There is a desire for colleges to do more than train

professionally competent technicians. Reformers have asked for active learning with group experiences that encourage social responsibility, ethical development, and interpersonal skills. Graduates need self-confidence, they must develop a realistic and healthy self-image. They must learn how to think, develop alternate thought processes, and be challenged to go beyond their set tolerance levels. Table 4.1 provides a summary of the recommendations and the individuals or agencies who proposed them.

Table 4.1

Character Traits Recommended  
For Development Through The Higher Education Curriculum

Advocates of Reform

Recommendations

Lynton & Elman, 1987  
Assoc. of American Colleges (AAC), 1985

Reasoning / Thinking Skills  
Decision Making Skills  
Responsibility  
Moral and Ethical Development

Lynton & Elman, 1987  
Weathersby, 1981

Self-Confidence  
Self-Esteem

Weathersby, 1981  
AAC 1985  
Boyer, 1987

Realistic Self-Image  
Self-Testing  
Identity

AAC, 1985  
Boyer, 1987  
Bok, 1986

Socialization  
Social Responsibility  
Integration Into Society

Boyer, 1987  
Holt, 1987  
Wartgow, 1986  
Witucka, 1986

Active Experiential Education

Boyer, 1987

Relationship Between:  
Work / Leisure and  
Science / Technology / Ecology

Research Question Two

What character traits do adventure education programs claim to develop?

Research question two dealt with the claims of adventure education programs to positively affect the character traits of their participants. In studying the accumulated research in this area it was evident that the experience of an adventure education program was powerful enough to affect the character traits of a significant number of participants. In answer to research question two, a number of specific character traits have been identified which seem to be positively influenced by participation in an adventure education program. Participants overwhelmingly developed an increased self-confidence, a more realistic self-image, improved decision making skills, and a greater sense of responsibility. Trust, cooperation, and ethical development were enhanced which relates to improved socialization skills. Table 4.2 provides a summary of the main researchers in this area and the character traits that were found to be positively influenced by participation in an adventure education program.

Table 4.2

Character Traits Developed In  
Participants Of Adventure Education Programs

<u>Researchers</u>	<u>Traits Developed</u>
Bartalomi, 1981; Gass, 1988 & 1987; Raiola, 1984; Smith, 1984	Reasoning / Thinking Skills Decision Making Skills Responsibility Goal Setting
Bartalomi, 1981; Barton 1981; Dickey, 1978; Fletcher, 1971; Koopke, 1978, Miles, 1978 & 1987	Self-Confidence Self-Esteem
Bartalomi, 1981; Gass, 1988 & 1987 Metcalfe, 1987; Raiola, 1984; Smith, 1984	Realistic Self-Image (Identity) Self Testing
Miles, 1987; Fletcher, 1971	Active Experiential Education Physical Education
Miles, 1987	Appreciation of Relationship Between Science/Technology/Ecology Sense of Wonder/Humility/Maturity
Raiola, 1984	Interpersonal Skills (Trust & Cooperation) Socialisation Skills
Winkie, 1977	Moral & Ethical Development

Research Question Three

Do the recommendations concerning the character development in the higher education curriculum correlate with the character traits that adventure education programs encourage?

Research question three dealt with developing the interrelationship between the reforms being advocated for the curriculum in higher education in regard to character development and the positive changes in the character of participants in adventure education programs. Research on the curriculum needs of higher education indicated many objectives that were identical to those of adventure education programs. By comparing the research generated by both areas many correlations were established which lent support to a theoretical rationale which proposes that there are many areas where an adventure education program could enhance the recommended college curriculum. Table 4.3 summarizes the common components.

Table 4.3

Correlation Of College Curriculum Recommendations  
With Character Traits Attributed to Adventure Education

<u>Curriculum Reformers</u>	<u>Common Character Traits</u>	<u>Adventure Educators</u>
Lynton & Elman, 1987 Assoc. of American Colleges (AAC), 1985	Reasoning / Thinking Skills Decision Making Skills Responsibility Moral and Ethical Develcp.	Bertalomi, 1981; Gass, 1983,87 Raiola, 1984; Smith, 1984  Winkie, 1977
Lynton & Elman, 1987 Weathersby, 1981	Self-Confidence Self-Esteem	Bertalomi, 1981; Burton, 1981; Dickey, 1978; Fletcher, 1971; Koopke, 1978; Miles, 1978, 1987;
Chickering, 1969 Weathersby, 1981 AAC 1985 Boyer, 1987	Realistic Self-Image Self-Testing Identity	Bertalomi, 1981; Gass, 1983, 1987; Metcalfe, 1987; Raiola, 1984 Smith, 1984
AAC, 1985 Boyer, 1987 Bok, 1986	Socialization Interpersonal Skills Social Responsibility	Raiola, 1984  Fletcher, 1971
Boyer, 1987 Holt, 1967 Wartgow, 1986 Witucke, 1986	Active Experiential Education	Fletcher, 1971 Miles, 1987
Boyer, 1987	Relationship Between Science/Technology/ Ecology	Miles, 1987



#### Research Question Four

Can an adventure education course, located in the traditional college curriculum, influence the character development of the college students involved?

Research question four was addressed through an experimental study conducted on specific courses located in the traditional college curriculum. The treatment group consisted of 45 students in an adventure education course and the control group consisted of 43 students in an aerobic exercise course. A pretest / posttest design was used and four scales of the California Psychological Inventory (self acceptance, responsibility, socialization, and tolerance), were targeted. An open ended questionnaire was also administered with the posttest to assist in capturing self-perceived changes. The basic statistical description of these two groups in regard to the four scales can be found in Table 4.4 and Table 4.5. An analysis of covariance (ANCOVA) was then conducted on each trait. Four null hypotheses were constructed to test whether there was a significant difference ( $p = .05$ ) in the development of the four traits between the treatment adventure education class and the control aerobic exercise class.

The first null hypothesis stated:

There will be no significant difference ( $p = .05$ ) between the two groups on the development of responsibility as measured by the California Psychological Inventory.

An analysis of the data, summarized in Table 4.6, indicated that there was no significant difference between the groups at the .05 level of significance. The significance of  $F$  was .137. The null hypothesis was not rejected.

The second null hypothesis stated:

There will be no significant difference ( $p = .05$ ) between the two groups on the development of self-acceptance as measured by the California Psychological Inventory.

An analysis of the data, summarized in Table 4.6, indicated that there was no significant difference between the groups at the .05 level of significance. The significance of  $F$  was .124. The null hypothesis was not rejected.

The third null hypothesis stated:

There will be no significant difference ( $p = .05$ ) between the two groups on the development of socialization as measured by the California Psychological Inventory.

An analysis of the data, summarized in Table 4.6, indicated that there was no significant difference between the groups at the .05 level

of significance. The significance of  $F$  was .67. The null hypothesis was not rejected.

The fourth null hypothesis stated:

There will be no significant difference ( $p = .05$ ) between the two groups on the development of tolerance as measured by the California Psychological Inventory.

An analysis of the data, summarized in Table 4.6, indicated that there was no significant difference between the groups at the .05 level of significance. The significance of  $F$  was .63. The null hypothesis was not rejected.

Statistical analysis of the quantitative data indicated no significant difference ( $p=.05$ ) to exist between the two groups on any of the four specified character traits. These results, however, did not conclusively answer the fourth research question. The statistical product of this limited experiment cannot be relied upon to completely answer whether or not an adventure education course in the traditional college curriculum was influencing the character development of the college students involved. The CPI instrument may simply not have been sensitive enough to pick up changes in character over such a short period of time. Therefore, in order to more completely and accurately answer the research question, the analysis of the posttest questionnaire

was also considered with question four in mind. The anecdotal information it contained contributed to a more complete understanding of the experimental effects on character development. The analysis can be found immediately following Table 4.6 in this chapter.

Table 4.4

Statistical Description Of The Scores From The California Psychological  
Inventory On The Aerobic Exercise Group

	<u>N</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>SD</u>
Re 1*	43	20	32	25.65	3.13
Re 2**	43	19	32	25.90	3.46
Sa 1	43	11	26	19.72	3.34
Sa 2	43	13	27	19.84	3.74
So 1	43	19	43	31.21	5.69
So 2	43	15	40	31.58	5.63
To 1	43	10	30	22.28	4.23
To 2	43	10	29	22.35	4.24

\* 1 represents the pretest

\*\* 2 represents the posttest

Table 4.5

Statistical Description Of The Scores From The California Psychological  
Inventory On The Adventure Education Group

	<u>N</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>SD</u>
Re 1*	45	17	33	26.40	4.03
Re 2**	45	16	35	25.73	4.40
Sa 1	45	15	27	21.09	3.15
Sa 2	45	13	27	21.69	3.07
So 1	45	16	41	31.40	5.22
So 2	45	16	41	31.33	5.90
To 1	45	16	31	24.00	3.55
To 2	45	15	31	23.40	3.42

\* 1 represents the pretest

\*\* 2 represents the posttest

Table 4.6

Summary Of The Analysis of Covariance On The  
Character Traits From The California Psychological Inventory

Source of Variation	Sum of Square	Degrees of Freedom	Mean Square	F	P
Responsibility	14.32	1	14.32	2.25	0.137
Error	541.38	85	6.37		
Self-Acceptance	12.36	1	12.36	2.42	0.124
Error	434.55	85	5.112		
Socialization	3.28	1	3.28	0.183	0.670
Error	1523.00	85	17.92		
Tolerance	1.43	1	1.43	0.237	0.628
Error	512.00	85	6.024		

### Analysis of Posttest Questionnaire

An open ended questionnaire was given to both the adventure education group and the aerobic exercise group at the end of the treatment period. Thirty-seven from each group were returned. The purpose of this questionnaire was to see if the responses would indicate any perceived changes by the subjects. Each questionnaire was examined and answers for each question were recorded and put into similar categories or set apart as singular ideas. The results of the aerobic exercise group were then compared to the adventure education group. Summaries of these comparisons will be covered in the remaining section of this chapter. Speculations formulated to account for the different responses will be discussed in Chapter Five.

#### Question One: What did you expect to learn in this class?

A close study of the responses to this question revealed the subjects' expectations to be as follows:

**Aerobic Exercise Group** - This group had fairly uniform expectations, to learn physical and technical skills (hard skills) related to dance routines, fitness programs, and anatomy.

**Adventure Education Group** - This group's expectations varied widely but the notion of learning hard skills was noticeably absent. They expected to learn abstract concepts (soft skills) and experience



physical adventure or psychological challenges. Answers included learning fun new things; overcoming fears; developing trust, confidence, and teamwork; and learning more about self.

Question Two: Did you learn anything you did not expect, if "yes" what was it?

A close study of the responses to this question revealed the following patterns:

**Aerobic Exercise Group** - The majority of the comments indicated that the "unexpected" learning continued to take place in the hard skills domain. Calculation of resting and training heart rates, new exercise routines, and cardiovascular fitness levels were mentioned. However, seven of the 25 comments concerned abstract concepts such as seeing the value of exercise and the enjoyment or dislike of exercise.

**Adventure Education Group** - Forty-two comments were recorded in this group as compared to only 25 in the aerobic group. Only two comments dealt with the hard skills of belaying and rappelling, the rest commented on development in the affective domain. Many did not expect to learn such a range of interpersonal skills, from how to develop trust and confidence to how to handle and overcome fears. Five subjects stated that they learned they were able to extend their previously self-imposed physical limits.

Question Three: Did you learn anything in this course which has helped you in other areas of your life, if "yes" what was it?

A close study of the responses to this question revealed the following patterns:

**Aerobic Exercise Group** - Twelve subjects indicated receiving no extraneous benefits from this class. Of the 25 comments made on this question the majority indicated that the course also helped them realize that exercise and self-discipline increased their overall positive feelings about themselves. Some developed a personal exercise program and many realized that exercise decreased their stress levels.

**Adventure Education Group** - This group made many comments (50) most of which were restatements of earlier answers. Their increase in self-confidence, confidence in taking risks, and effective interpersonal skills were all skills they learned and found useful in other areas of their life. Learning how to push themselves beyond their preconceived limits, how to handle failure, and how to cooperate and trust other individuals were also repeatedly mentioned.

Question Four: What do you think you will remember about this course two years from now?

A close study of the responses to this question revealed the following patterns:

**Aerobic Exercise Group** - The majority of the comments were

split between remembering the hard skills and exercise techniques versus the importance of exercise and the enjoyment they had in the class.

Adventure Education Group - Hard skills were not listed as something anyone would remember. The three most often mentioned memories in this group were categorized as: going beyond their fears, the interaction and work shared with the other members of the class, and just the fun and crazy times they experienced. Some listed the experience of completing particular elements or activities and a few mentioned the thrill, excitement, and sense of achievement they had experienced.

Question Five: If you could repeat any experience, emotion, or feeling what would it be, why?

A close study of the responses to this question revealed the following patterns:

Aerobic Exercise Group - The majority of responses in this group dealt with feelings the subjects experienced after their work out. Twelve wanted to repeat the feeling of complete relaxation after the class. Some wanted to relive the feeling of pride, accomplishment, effort, and self-improvement. A few mentioned the enjoyment of being outdoors and appreciating the natural beauty while they exercised and one wanted to experience the enthusiasm of the instructor again.

**Adventure Education Group** - The majority of responses in this group were similar to the aerobic group in regard to the common desire to repeat the feeling experienced after completing a difficult activity, not necessarily the activity itself. Of course the feelings were different for both groups. The adventure group wanted to experience again the excitement of overcoming their fears, their relief at succeeding, and the pleasure or satisfaction of accomplishing something difficult, especially if it forced them to go beyond their preconceived limits. Some also named a thrilling element that they wanted to repeat and a few wanted to repeat the feeling of trust, confidence, and comradery they experienced with their classmates.

**Question Six:** Was this course a significant part of your college experience, why or why not?

A close study of the responses to this question revealed the following patterns:

**Aerobic Exercise Group** - Seven of the 37 respondents indicated that this course was not significant. They either did not care for the work involved or felt they already had a healthy exercise program in their life. Most responses indicated that the course was significant because they finally realized the benefits of exercise, it made them feel good about themselves, improved their appearance and self-confidence, and increased their enjoyment of life.

Adventure Education Group - Everyone in this group thought the course was significant. Many indicated strong affirmative reactions. Nine felt that it was one of the few, if not only, course in college that they enjoyed. They liked the active learning. There were many comments on the community experience and close relationships that were formed. Many thought the class was exciting and rewarding and they learned skills relevant to life. They learned how to relax and find the confidence to take chances. They learned about themselves. Unlike the aerobic group, this self-knowledge was not limited to the realization of the intrinsic values of a healthy physical activity. The adventure group gained self-knowledge on a broad spectrum of living skills. They dealt with the value of community, trust in interpersonal relationships, risk taking, and learning styles.

Question Seven: Do you think this course has changed you? If yes, in what way? If no, why not?

A close study of the responses to this question revealed the following patterns:

Aerobic Exercise Group - Six indicated no change because they always had an appreciation for the benefits of exercise. The majority, however, indicated that they were more aware of the importance of exercise and how it can reduce stress, be fun, and make them feel happier and better about themselves. Many indicated that they became

more health conscious or healthier and felt more in control of their body and their life.

Adventure Education Group - Every questionnaire in this group indicated that a positive change had taken place. An increase in confidence and willingness to take risks were changes most often mentioned. Many also mentioned an increase in self-knowledge, trust, and interpersonal skills as a result of participation in the course.

#### Scale of Character Changes

The second section of the questionnaire consisted of eight questions set up on a three point scale. Two opposing character descriptors were given along with a neutral midpoint option. Descriptors were selected which related to the four character traits being identified by the CPI instrument. The subjects were told to indicate whether they had perceived themselves to have changed in the direction of either one of the descriptors. If they felt they had not changed substantially in either direction they were to circle "No Change." The responses on this scale are summarized in Table 4.7. It should be noted that 13 subjects in the aerobic group indicated "No Change" for every single set of descriptor as compared to only 1 subject in the adventure group. The adventure group also indicated more changes towards the desirable descriptors.

Table 4.7

Tally Of Results For The Scale Of Perceived Character Changes  
From The Qualitative Questionnaire

Character Traits	Aerobic Group	Adventure Group
Confident *	17	31
No Change	18	5
Unassuming	2	1
Keep in Background	1	0
No Change	25	20
Likes To Be With People	11	17
Shy	1	0
No Change	28	19
Sociable *	8	18
See Self as Talented *	12	21
No Change	24	15
Others are Better	1	1
Responsible *	10	22
No Change	25	14
Less Concern with Duty	2	1
Resists Rules/Regulations	1	1
No Change	32	26
Accepts Rules/Regulations	4	10
Easy to Conform	3	5
No Change	32	28
Hard to Conform	2	4
Intolerant of Different Values	0	1
No Change	28	20
Tolerant of Different Values	9	16

\* Interesting Differences

## Chapter 5

### Summary, Conclusions, and Recommendations

The relationship between adventure education programs, character development, and recommendations for reforming the curriculum in higher education was investigated in this research. This chapter will present a brief summary of the investigation, a discussion of the conclusions drawn from the study, and provide recommendations for future research.

#### Summary

The main research question to be investigated in this study was if the utilization of adventure education programs could provide an effective alternative for enhancing the college undergraduate experience. Initial research consisted of performing an indepth study of higher education's curriculum reform literature and studies published on adventure education programs. The second line of research focused on an experimental study designed to see if an adventure education program located in the traditional college curriculum was, in fact, affecting the character of the students.

The development of adventure education and the proven effects of adventure education programs in various locations were studied and



recorded. Higher education curriculum needs and recommendations were also studied and recorded. Specific components discovered in the curriculum reform literature were then correlated with attributes discovered in the adventure education literature. The interrelationship that developed provided a theoretical rationale from which to propose the use of adventure education programs as an innovated alternative to address some of the curriculum concerns in higher education. The following components were those found to be both recommended for development in the college curriculum and those positively affected by participation in various adventure education programs: reasoning and thinking skills, decision making skills, responsibility, moral and ethical development, self-confidence, self-esteem, realistic self-image, self-testing, identity, socialization, interpersonal skills, social responsibility, active experiential education, and appreciating the relationship between science, technology, and ecology.

The next step in this research was the implementation of a quasi experimental study that would study the effects of a specific adventure education course currently operating in the traditional college curriculum. Would participation in an adventure education course affect the character development of the college student? Four specific character traits were targeted: responsibility, self-acceptance, socialization, and tolerance.

Research was conducted at a small highly selective Virginian

university during the spring of 1991. An experimental group consisted of the students in two adventure education courses. Students in an aerobic exercise class made up the control group. The California Psychological Inventory (CPI) was administered to the students during the first week of classes and again thirteen weeks later to detect character changes. Scores on four scales were studied using the ANCOVA method. None of the scores on the four character scales (responsibility, self-acceptance, socialization, and tolerance) were found to be significantly influenced by the treatment at the .05 level.

A qualitative questionnaire was also administered along with the posttest to uncover self-perceived character changes of the subjects. Each questionnaire was examined and answers for each question were recorded and put into similar categories or set apart as singular ideas. The results of the aerobic exercise group were compared to the adventure education group. The qualitative questionnaire revealed the following differences between the treatment and the control groups:

1. The expectations and actual learning that took place in the aerobic exercise class focused on hard or technical skills. The adventure education class expected and learned more soft or affective skills.

2. Everyone in the adventure education group as compared to two-thirds of the aerobic exercise group felt their class helped them in other areas of their life. The aerobic exercise group stated that

improved physical health, stress reduction, and positive self-concepts were extraneous benefits. The adventure education group learned more skills in the affective domain that were making a difference in other areas of their life. Their improved self-confidence and interpersonal skills benefited all their social relationships. Learning to go beyond their preconceived limits and their improved comfort with adventure and risk taking was said to affect career searches, graduate school decisions, and social relationships.

3. The components that each group would want to remember and repeat were similar only to the extent that 1/3 of the aerobic group, as compared to 4/5's of the adventure group, seemed to appreciate the euphoric state they experienced after completing a difficult activity. The majority of the aerobic exercise group again stated more concrete technical skills while the adventure group was more concerned with experiences in the affective domain and interpersonal support and development.

4. The two groups differed on whether or not they considered their course to be a significant part of their college experience and/or a life changing experience. In the aerobic group eight did not see it as significant and eleven did not think the course had changed them. Those who replied focused on the important benefits of an exercise program. Everyone in the adventure group perceived the course as significant and all but three indicated that they thought the course had

changed them. Replies from this group focused on personal discoveries, "community experience", confidence, risk taking, and enjoyment of active learning.

5. In regard to the subjects' perception of character changes as measured on the three point scale, thirteen of the aerobic exercise subjects and only one of the adventure education subjects indicated "no change" for all eight factors. That is to say that more people in the adventure education group perceived themselves to change, and to change towards the desirable character descriptor. The following four descriptors are worthy of note because of the overwhelmingly positive scores of the adventure education group in these directions: confident, responsible, sociable, and sees self as talented.

### Conclusions

The initial research in this investigation was based on an indepth study of the literature and relied heavily on qualitative analysis. The quasi-experimental study also provided qualitative information. This type of inductive research can establish conclusions only with some degree of probability. However, the expectation is that the consistency of the results in the various studies will be depicted as the convergence of independent lines and point the reader to the same conclusions as this researcher. It was concluded from the present study that the main

research question could be answered in the affirmative. Adventure education programs could provide an effective alternative for enhancement of the college undergraduate experience. However, the precise extent of that enhancement could not be quantitatively proven in this study.

Based on the literature study it was concluded that: (a) various adventure programs have demonstrated their ability to positively effect the character development of their participants, (b) The curriculum in higher education should be concerned with the development of student character, and (c) the recommendations concerning character development in higher education curriculums did correlate with the character traits that adventure education programs encourage. The above conclusions provided the basis for a theoretical rationale which proposed that adventure education programs could provide colleges with an effective and innovative alternative to enhance the college experience with regard to character development.

The second line of research, the quasi-experimental study, did not produce hard data in support of this rationale. The experimental study failed to indicated any statistically significant changes in the four targeted personality traits as measured by the California Psychological Inventory. However, there are a few factors which should be considered and could have contributed to the inconsistency in these results with the previously cited research. It should be remembered

that in quasi-experimental studies, where experimental units are not randomly assigned, an overlooked or uncontrollable variable may bias the results. Some possibilities include the teaching style of the professor as being an overriding influence shrouding the course content or subjects' haphazard completion of the CPI because of annoyance or lack of interest. There is also the concern that the CPI was not sensitive enough to detected changes in character over a short time span. A change in character may take some time to manifest itself as the individual may need to internalizes the new knowledge and once again be confronted with situations that support the decision or desire to change.

While no hard data was produced from the quasi-experimental study it did provide qualitative support. The qualitative questionnaire used in the research provided anecdotal information to support character development. The following are some quotes taken from the qualitative questionnaires of the adventure education group. They are presented in lieu of hard facts to help the reader better understand the basis for the the above speculations. Confidence, responsibility, interpersonal skills, and risk taking were traits most often perceived by the subjects in the adventure education group as being positively influenced by their participation in the course.

"Yes, I learned that fear doesn't go away, you just learn to deal with fear."

"Yes, (this has helped me in other areas of my life) I have learned to be more trusting of others and have more confidence in my own abilities."

"Yes,(this has helped me in other areas of my life) I think I'm more determined when something is hard for me."

"Yes, (this has helped me in other areas of my life) I learned how to instill trust in others and help them overcome their fears. I also learned how exciting it can be to just take a chance and go for something."

"Yes, (this course has changed me) I'm less afraid of people, more willing to try new things, and less afraid of new things."

"I've learned that fear is only part of the process, not the end of it!"

(In other areas of my life this course has helped me learn) "How to try even when you're afraid and how to encourage and work with others even when you'd prefer to do it alone.... I've become more determined to keep trying..."

(In other areas of my life this course has helped me learn) "Self-confidence and trust in others. And desire/ability to assist others. Also: could do things which made me feel good about myself when much else was going wrong."

"Yes. (I have changed) I'm more willing to push myself beyond my limits."

"I believe it was (a significant part of my college experience)

because it taught me things I never learned in my other classes - where sitting and studying was the norm. I learned more about myself and my capabilities."

"Yes, (it is a significant part of my college experience) this is the best P.E. class that I've had. I always wanted to go to class. The support and comradery of the group was also different from some of my other classes, which tend not to be as personal. I also learned skills that will have more relevance in my life."

At this point the difficulty of producing conclusive, statistically significant proof should be put into proper perspective. New or innovative courses are often asked to prove their impact or value before receiving acceptance in the curriculum. However, for the last five to ten years the assessment or accountability movement within higher education has had difficulty in isolating or proving the influence that traditional programs or courses have had on students. The literature cited in this research lamented the fact that the college experience was not building the character of the student, as it was assumed to do in the past. However, even with these facts against them, the incumbent liberal arts courses are accepted as part of the needed college experience.

The irony is that the reforms being called for are hard to implement because they deal with the abstract, development in the affective domain, and qualitative descriptors of the ideal graduate. Yet



the administrators in charge are products of the system and may be unable to deal with the abstract and want quantitative, concrete, technically significant proof of innovative programs. They may overlook possible solutions because they have been taught to accept only hard facts. Our inability to solve the problem may be a result of the problem. Statistically significant data is important but speculation encourages thinking skills and reasoning (Bogdan & Biklen, 1982), some of the very components recommended for development in the curriculum.

### Recommendations

The diversity of higher education institutions and the affective components involved guarantee that there will not be one curriculum that is clearly superior to all others or that fits the mission of all colleges. Also, despite their demand for data, curriculum decisions are usually dependent on judgement not proof (Carnegie Foundation, 1977). Therefore, the decision of which curriculum recommendations are important and the choice of an effective solution will remain open to interpretations. This research does not provide the final answers concerning the relative merits of adventure education programs in answering the curriculum needs of higher education. Further investigation in this area is recommended in order better understand the process of character development in both adventure education

programs and in higher education curriculums. College administrators need access to useful and pertinent information so that they can at least be well informed concerning the relative merits of adventure education programs when they are making their decisions.

The following recommendations are made based on the findings of this research:

1. It is recommended that this study be replicated with the addition of a longitudinal study to determine if character changes may have been latent or if perceived changes were enduring. Also, more character traits could be measured on the CPI to determine if the program was affecting any other characteristics.
2. It is recommended that this study be expanded to investigate the effectiveness of various locations of adventure programs in higher education. Do adventure orientation programs for freshmen and student sponsored recreational adventure trips provide the same affect on student character? Due to limited use, many in higher education may be ignorant of possible locations for different types of adventure programs and their relative impact.
3. It is recommended that all adventure education programs institute and/or maintain reliable evaluations on the effectiveness of their programs in order to contribute to the research data. Are character changes consistently taking place and what components are responsible for affecting this change? This research could

prove invaluable for designing effective programs.

4. The qualitative questionnaire used in this research should be refined and tested for reliability and validity. Or, another instrument should be developed in order to facilitate the analysis of the anecdotal material.
5. It is recommended that research be conducted to determine if various types of institutions, with particular missions/objectives, can utilize adventure programs to address their individual needs. Will an effective adventure program in a large research university be as effective if duplicated at a small liberal arts college?
6. It is recommended that research be conducted which utilizes psychological studies to determine what triggers character changes and influences the affective domain. How is reasoning, responsibility, and critical thinking actually developed? Does adventure education have the inherent ability to trip these triggers?
7. It is recommended that research be conducted on the instructors involved in adventure education. How much do their personalities detract or contribute to the experience? Do the instructors possess the positive character traits which they attempt to teach?
8. It is recommended that more research be conducted to explore other possible benefits of adventure education programs. Present research indicates benefits such as a higher GPA and a higher

retention rate. Could racial integration or lower suicide rates be conclusively attributed to the programs?

Change in institutions of higher education is notoriously slow and does not always follow logical conclusions. Kerr (1982) would say that while universities often change the world by their actions, they resist changing themselves. This researcher does not suffer from illusions of grandeur. The lethargic and irrational nature of college innovations are accepted. However, reforms occasionally slip through and maybe this research will make a difference.

As the old man walked the beach at dawn, he notice a young man ahead of him picking up starfish and flinging them into the sea.

Finally, catching up to the youth, he asked him why he was doing this. The answer was that the stranded starfish would die if left in the morning sun.

"But the beach goes on for miles and there are millions of starfish," countered the other. "How can your efforts make any difference?" The young man looked at the starfish in his hand and then threw him safely in the waves. "It makes a difference to this one," he said.

(Anonymous, cited in Schoel & Stratton, 1990)

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