ENVIRONMENTAL ATTITUDES OF PARTICIPANTS IN THE OKLAHOMA 4-H PHILMONT OUTDOOR ADVENTURE PROGRAM

By

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ENVIRONMENTAL ATTITUDES OF PARTICIPANTS

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"Man does not cease to play because he grows old;
Man grows old because he ceases to play"

Unknown

Throughout my short life history, the value and importance of a positive leisure ethic and a positive environmental attitude has been emphasized by my family, the citizens of my childhood community, and fellow professionals in the field of youth development and leisure education. For this, I am grateful.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

Maintaining the older youth enrollment (ages 13-19) in the 4-H program presents a challenge to volunteer leaders and extension staff in Oklahoma. One concern in particular is the decline in the number of older boys who participate in the 4-H program. On a national level, these concerns have created a recommendation that new and bold approaches be devoted to the expressed needs and interests of teenage youth (Oklahoma 4-H for Century III, 1982).

As a result of these concerns, the concept of a 4-H Outdoor Adventure Program has been developed and implemented in the Oklahoma 4-H Program. Although this type of program is certainly not new to some states, it is a new and bold non-traditional approach for the Oklahoma 4-H Program which offers a personal challenge to older teens and adults.

The mission of the 4-H program is to help youth acquire the knowledge and skills to become self-directing and contributing members of society. The "learn by doing" philosophy of the 4-H program has created practical, informal learning experiences in healthy, nurturing environments which allow youth to develop competency (knowledge and mastery), coping (dealing with stress), and

contributory (increasing sharing with others to overcome situation personal barriers) skills, resulting in the development and maintenance of their high self-esteem (Weatherford, Jr., 1988).

The Oklahoma 4-H Outdoor Adventure Program is designed to offer a unique and challenging non-competitive, group-oriented experience for teenage boys and girls, ages 13-19. Two primary goals of the program are to 1) maintain and continue the involvement of these teens in the 4-H program, with 2) emphasis on reaching boys and male volunteer leaders. Educational objectives of the program include the following:

* Offer a challenge to participants to accomplish a high level of self-confidence, individual self-worth, personal growth, and achievement.

* Develop leadership life skills of teens and adults.

* Develop and strengthen the mental and physical skills of teens and adults.

* Strengthen interpersonal relationship skills.

* Develop an appreciation of and a respect for the outdoor environment. (Trotter, 1982).

Statement of the Problem

The problem to be investigated in this study is the determination of whether differences exist in personal demographic characteristics, outdoor environment attitudes,

and participation in the Oklahoma 4-H Outdoor Adventure Program.

There are no limitations to the number of times that a 4-H member can participate in the outdoor adventure program as long as the individual meets the age qualifications (13-19 years of age). Likewise, there are no limitations as to who may participate in regard to gender, place of residence, and family income.

The primary intent of this study was to determine if there were differences in outdoor attitudes of non-returning, returning, and first-time participants. A second intent of the study was to also determine if there were differences in personal demographic characteristics and participation in the program. A third intent of the study was to determine if the outdoor adventure program experience caused a difference in outdoor attitudes of returning and first-time participants. The results of this analysis will be of value to those who design outdoor adventure experiences intended to appeal to teens and adults.

Justification

An appreciation of and a respect for the outdoor environment is one of the five educational objectives of the Oklahoma 4-H Outdoor Adventure Program. It is also one of the seven components of the National 4-H Leisure Education Program. The outcome of the national program is to have an

individual who: 1) has developed a sense of responsibility for the preservation, care, and wise use of the environment; 2) uses the out-of-doors or an outdoor interest to develop himself and enhance the quality of his life; 3) is capable of recognizing alternatives in environmental usage and making decisions between alternatives; 4) is aware of others, accepts them as they are, and seeks to relate to them; and 5) seeks to increase his abilities and skills in a wide variety of outdoor activity areas (Leisure Education, 1980).

On a more global scale, The Belgrade Charter of 1975 specified a goal of environmental education: To develop a world population which is aware of, and concerned about, the environment and its associated problems and which has the knowledge, skills, attitudes, motivations, and commitment to work individually and collectively toward solutions of current problems, and the prevention of new ones (Bennett, 1976).

An outdoor environment attitude is established via a number of methods, including the environment in which people spend most of their lives. One study found that rural high school students were more aware of environmental issues than urban students. The researchers suggested that students who had "a greater opportunity to interact with the outdoors on a daily basis" would be more attuned to

negative changes in the natural environment (Leftridge and James, 1980).

Other methods in which an outdoor environment attitude can be established include the short-term wilderness trip (a few days to a few weeks) or a short-term residential outdoor education program. However, current studies have indicated that many influences counter the effects of a short-term trip regarding the development of an outdoor environmental ethic.

> The combined long-term impacts of family, peers, and formal schooling might not be altered by a two-week visit to the wilderness. Only regular contact with the natural environment will provide a collection of unique experiences upon which to develop an environmental ethic, and this would most likely occur if the experiences are those that can happen within a close distance from home (Simpson, 1985).

The Oklahoma 4-H Philmont Outdoor Adventure Program includes a series of three educational events that involve all participants in hands-on learning experiences. The first event, the Camper Rally, takes place in the spring, at which time both the participants and their parent(s) receive pertinent information regarding the program, including financial, logistical, and training data. In addition, demonstrations, exhibits, audio visual presentations, and socialization activities take place. The second event, Shakedown, is a three-day July campout in Oklahoma consisting of short-distance hikes, workshops on equipment selection, first-aid, low-impact camping

techniques, physical conditioning, environmental attitudes, and team-building.

The climax of the program is participation in the Philmont Scout Ranch High Adventure Program in Cimarron, New Mexico in early August. This is an eight-day trip, consisting of 6 days and 5 nights spent backpacking on the Philmont trails. Preparation for this trip includes the emphasis on attitudes -- toward oneself, toward others, toward the environment. The Philmont Guidebook to Adventure (1988) concludes with the following paragraph, which is the basic philosophy of the 4-H outdoor adventure program:

> Philmont means more than just a series of scenic mountain camps or a collection of exciting programs. It is more than just a physical challenge. It is an experience in living together and cooperating with others under sometimes difficult circumstances. It is learning to surmount the challenges of hiking and camping at high altitudes and learning to live in harmony with nature. You may get soaked to the skin in a torrential downpour. You will breathe harder and faster than ever before in climbing a ridge or mountain, and after that you may even burn your supper. But you will make it, even though there will be times when you feel as if you can go no further. In conquering these challenges you will gain confidence and a belief in your ability and go on to even greater achievements. Set your goals high and resolve to achieve them. You can do it. You will be better for it and your Philmont experience will become even more meaningful. It will never really end.

Over the course of eight years, the emphasis of the 4-H outdoor adventure program on attitudes has made an impression on the administrative and program staff members at

Philmont. Todd Conklin (1989), Director of Activities, has stated that:

> The attitudes of 4-H crews are most positive, often more so than many Scout crews, in that they are very appreciative of their surroundings, radiate enthusiasm and share a common concern for others. Rangers ask to be assigned to a 4-H crew and back-country staff look forward to a 4-H crew at their interpretive programs because of the refreshing attitude the crews bring with them.

Statement of the Hypothesis

The review of the literature (Chapter II) will show that extensive work has been done in the value and impact of the outdoor adventure experience. However, there is a void of knowledge of the outdoor adventure participant (Allen, 1987) and their attitudes toward the outdoor environment (Crompton and Sellar, 1981). Questions to be asked by the researcher center around: Who are the participants and where do they come from? What are their attitudes toward the outdoor environment? Does the Oklahoma 4-H Outdoor Adventure Program experience make a difference in their attitudes toward the outdoor environment? Does continued exposure to the program make a difference in their attitudes toward the outdoor environment?

Answers to these questions will establish a data base and working knowledge of the selected personal demographic characteristics of participants and their attitudes toward

the outdoor environment. The following hypotheses in the null format have been established for this study;

Hypothesis One. There is no significant difference in participation in the 4-H Philmont Outdoor Adventure Program by selected personal demographic characteristics (gender, age, place of residence, and family income) of non-returning, first-time, and returning participants.

Hypothesis Two. There is no significant difference in attitudes toward the outdoors by selected personal demographic characteristics (gender, age, place of residence, and family income) of participants in the 4-H Philmont Outdoor Adventure Program as shown by pre-test means.

Hypothesis Three. There is no significant difference in attitudes toward the outdoors by non-returning, first-time, and returning participants in the 4-H Philmont Outdoor Adventure Program as shown by pre-test means.

Hypothesis Four. There is no significant difference in attitudes toward the outdoors by selected personal demographic characteristics (gender, age, place of residence, and family income) of participants in the 4-H Philmont Outdoor Adventure Program as shown by post-test means.

Hypothesis Five. There is no significant difference in overall outdoor attitudes on a group or individual basis

as a result of participation in the 4-H Philmont Outdoor Adventure Program.

Delimitations

The study was delimited to the following:

1. The population sample consisted of 4-H members, volunteer adult leaders, and extension agents who participated in the 1988 and/or 1989 Oklahoma 4-H Outdoor Adventure Program.

2. Youth subjects' ages ranged from 13-19 years.

3. Adult subjects' ages ranged from 20 years of age and older.

Limitations

The study was limited to the following:

1. The assessment of outdoor environmental attitudes was constrained to a single technique.

2. The assessment of outdoor environmental attitudes was limited to one organization, the Oklahoma 4-H Program.

3. The assessment of outdoor environmental attitudes was limited to one camp setting, the Oklahoma 4-H Philmont Outdoor Adventure Program.

4. The assessment of outdoor environmental attitudes was limited to a small sample of youth and adults.

5. The teaching methods and techniques utilized by Shakedown workshop instructors and Philmont staff were

designed to be consistent with the goals of the program but no control was exercised over the instructors' presentations.

Assumptions

The following assumptions existed for this study:

1. The subjects have the ability to respond accurately to the questions included on the survey forms.

2. Subjects' responses were indeed their own responses and were not influenced by others.

Definitions

The following definitions existed for this study:

1. Outdoor adventure: an endeavor that takes place in a natural outdoor setting with activities that are emotionally and physically challenging and utilize apparent or real risk situations.

2. Environmental attitude: attitude toward animals, plants, nature and forests and the human relationship with the environment as measured by the Millward Ginter Outdoor Attitude Inventory.

3. Socialization attitude: attitude toward self and toward others as measured by the Millward Ginter Outdoor Attitude Inventory.

4. Education attitude: attitude toward the worth of outdoor subjects, the outdoor curriculum, and the effectiveness of letter writing for environmental improvement as measured by the Millward Ginter Outdoor Attitude Inventory.

5. Pollution attitude: attitude toward indiscriminate littering, pollution, and depletion of natural resources as measured by the Millward Ginter Outdoor Attitude Inventory.

6. Selected personal demographic characteristics: characteristics for this study included age, gender, place of residence, family income, and years of participation in the Oklahoma 4-H Philmont Outdoor Adventure Program.

CHAPTER II

REVIEW OF LITERATURE

The purpose of this study was to determine if differences existed in outdoor environment attitudes, personal demographic characteristics, and participation in the 4-H Philmont Outdoor Adventure Program. This review of literature centers on studies and related literature pertaining to outdoor adventure and outdoor environment attitudes.

Outdoor Adventure

Outdoor adventure can be defined as an endeavor that takes place in a natural outdoor setting with activities that are emotionally and physically challenging and utilize apparent or real risk situations. The outcome, while often uncertain, can be influenced by the actions of the participant and circumstances (Ewert, 1985a). In addition, some specific objectives of these activities include: increased awareness of one's self, others, and the environment, to provide opportunities to effect positive changes in locus-of-control and self-efficacy, and to develop emphathetic, compassionate individuals (Robb,

et.al., 1985). When adventure is used as a method of achieving the objectives of a particular program, the terms adventure-based programming or challenge program are used. Similarly, if outdoor adventure is a primary tool in an educational context, the terms outdoor adventure education or adventure-based teaching are used. Outdoor adventure includes, but is not limited to, rockclimbing, mountaineering, white-water canoeing, backpacking, caving, and scuba diving, and has become an important component in a growing number of recreational, educational, and commercial organizations (Darst and Armstrong, 1980; Donald and Swan, 1979; Ewert, 1985b).

There is research evidence that adventure-based programs are effective vehicles for education (Ewert, 1985c; Lida, 1975; Shore, 1977). As a result of conducting a review of literature pertaining to effective learning in the traditional classroom setting, Riggins (1987) identified several factors common to the adventure-based setting:

> 1) small learning group size, 2) cooperative as opposed to competitive learning environment, 3) communication of high expectations for students, 4) building on student success, and 5) creating an identifiable classroom culture reflecting positive, supportive values.

Our heritage is steeped in outdoor experiences, skills, and lore. Many Americans have been returning to the outdoors to experience satisfying forms of recreation in a natural environment. The outdoors has been, and will

always be, a laboratory for learning as well as a playground for having fun. It affords people a special kind of fulfillment not available in any other setting.

The use of the outdoors for their leisure activities has resulted in too frequent consequences, according to Ford (1981):

> Some people are injured, lost, or even killed because they lack knowledge, skills, and/or attitudes about and toward the outdoors; and the natural resources themselves are often destroyed or damaged irreparably. Streams are polluted with organic or pathogenic materials, forests and meadows are burned, and trails and hillsides are eroded beyond replacement. Because the typical American is an urban dweller, he or she cannot gain knowledge of outdoor recreation other than through education. Americans seek the outdoors in such great numbers as to 'love it to death'.

In considering the advantages of being part of an organized society, the unfulfilled needs of the inner person are often overlooked. As the emphasis shifts from people to things, relationships suffer and creativity and self-expression take a backseat to productivity. The growth of recreation is evidence that Americans have perceived this dilemma and are willing to allow personalities to develop and co-exist with vocation. Outdoor adventure programming can provide opportunities for personal growth in several areas commonly neglected by our mechanistic society (Zook, 1987).

People are becoming more quality-conscious in their leisure time. This means that individuals are turning from

a quantity orientation (i.e., materials goods) and moving toward greater emphasis on quality concerns, such as self-improvement or family/community activities (Kelly, 1982). This movement away from material-based leisure pursuits is reflected in outdoor adventure statistics with an increase in participation rates. Limited research has been conducted regarding the demographic variables that influence outdoor adventure participation. However, Klein (1986) believes that American recreational attitudes and preferences are class dependent. Lower class values, favoring instant mastery coupled with an inability to forecast consequences, lead to participation in sports having short learning curves (i.e., snowmobiling). Middle class ability to delay gratification permits participation in activities having long learning curves and in which small increments in experience and ability are rewarding (i.e., backpacking).

Christy (1970) has suggested five elements which can have an impact on the popularity of outdoor adventure activities: 1) the ease of participation in the activity, 2) the image associated with the activity, 3) the ability to identify with the activity, 4) the opportunities for demonstrating skills to others, and 5) a perception of the activity being a legitimate use of leisure time.

It has been reported that high risk participants have parents that rewarded childhood risk-taking such as tree climbing, crossing streams alone, refusal to be bullied

(Allen, 1987). In addition, having friends or respected peers (including parents) who participate in risk recreation probably encourages one's own involvement. Although their study was not designed to investigate it, the researchers discussed a well noted and recurring factor: that Outward Bound participants are, for the most part, self-selecting and consequently may differ from their age group norms in many dimensions (Ewert, 1982). A noted expert in the field of wilderness survival, Hood (1977) has reported that most adults he teaches "sign up for a wilderness survival course because of a need to be self-sufficient".

The challenge of being in a new atmosphere and facing different obstacles and unfamiliar tasks can reawaken and enliven inner resources, such as creativity, resourcefulness, and endurance. When people are stretched up to and beyond what they think their limits are, they respond and cope with the difficulty or challenge. This fosters self-awareness and self-esteem. This is the basis of life-changing growth.

Being involved in an intense outdoor experience allows individuals to be themselves -- certain traits and idiosyncrasies rise to the surface more readily under stress. Outdoor adventure programs are leveling experiences -- regardless of race, background, or genders, the experiences are intense and generally new. Group success depends on trust and communication. Small group living is a

simple and direct social situation, which provides the opportunity for the development of vital techniques of group interaction, invaluable for those who have difficulty coping with complex social interaction. The participant must rely on others and, in turn, have them rely on him, sometimes in life-and limb-threatening circumstances (Golins, 1978; Lowenstein, 1975).

Wright (1987) designed an outdoor adventure program model consisting of several components, two of which are critical components of a successful life.

> The development of a self-empowered individual who feels good about herself or himself and can take personal responsibility for behaviors and personal goals is one component. The second component, which should be a part of each outdoor adventure program experience, is that of the individual acquiring a set of rational thinking skills that can be used to tackle any problem (Wright, 1987).

Outdoor adventure programs offer excitement about simple things, pride about survival, uncertainty about the future, or how participant's capabilities will measure up against unfamiliar situations and the exhilaration that comes with effort. Programs of supervised adventure activities in which participants are given a high degree of perceived risk and as much responsibility as possible are effectively being used in the treatment of juvenile delinquency (Kelly and Baer, 1968).

Why do people participate in outdoor adventure experiences? People are often motivated to participate in

adventure experiences because their lives are rationalized, controlled, packaged, and extrinsically rewarding. Their everyday existence lacks the intrinsic benefits which outdoor adventure provides (Mitchell, 1983). Many become involved because their friends do it, others because they hear people talk about it. Most seek the fun and enjoyment of being on the trail, while vigorous exercise and becoming physically fit reward others. Peace of mind, serenity, and meditation fulfill some. A difficult challenge is met head-on and overcome by others. Many want to learn new skills and gain further knowledge. There are those who want to test themselves, to explore the unknown in both the inner-self as well as the external world. Groups enjoy new friendships and improve communication through interactions. There are those who appreciate a misty sunrise, a glimpse of wildlife drinking at a pond, or a breathtaking timberline view. Others want to find out about themselves in the midst of an environment so proportionately large (Mentis, 1986; Miles, 1987).

Outdoor Environment Attitudes

McGuire (1969) identified three entities of which an attitude is composed, including the cognitive, affective, and conative components. Briefly, the cognitive component of an attitude involves the ideas, thoughts, or knowledge that an individual has about the attitude object. The

affective component of the attitude is the feeling or emotionality associated with the attitude object. The conative component refers to the action or behavioral tendencies of an individual regarding the object.

Utilization of the outdoors to broaden the participant's understanding of their relationship with the elements and systems of nature is one of the values of the outdoor adventure program. It teaches one to be aware of self by being aware of what is around one (Miner and Bolt, 1981). Confrontation with the elements of nature is direct, usually physical, and often painful, for the environment is uncompromising and unyielding. Those experiences cast aside the delusion that the person is in control and is often a humbling experience (Bunting, 1987). The outdoor adventure is an opportunity for participants to see clearly the part of themselves that is a creature of the earth and to experience in all its simplicity and cruelty the natural struggle for survival (Zook, 1987).

Life in the wilderness consists of finding food, water, and shelter. People carry what they need on their backs. As people become aware of what their true needs are and are not, constant striving for the material wants can be replaced with a desire for authenticity and an emphasis on people instead of things. A cool drink of water after hiking a hot trail is an appreciated need. Deep breaths on the ascent to the summits are an exhilarating need. The

warmth of a campfire on a brisk night is savored and the meal at the end of the day is satisfying (Wiltens, 1986). Participants in the outdoor adventure program gain a perspective on what it means to be alive and to be human in the twentieth century. The knowledge of one's mortality and limitations can lead to a sense of solidarity with the world, of oneness with all nature (Miles, 1987).

Wilderness survival program studies often have outdoor education as a common base. Wilton (1977) has reported that "survival training may be a tool for cultivating a deeper understanding of nature than the traditional forms of nature education." In more recent years, Wilton (1987) wrote,

> This view holds that traditional outdoor education programs are only cognitively oriented while survival studies are both cognitive and experiential since the participant is required to live within nature's rules rather than in spite of nature.

Accepting a challenge and courageously following through with it is an attitude. Like all attitudes, it is learned. Courage is an attitude. Like all attitudes, it can be taught. The wilderness can act as the teacher (Wiltens, 1986).

Results from a 10-year study (Talbot and Kaplan, 1986) indicate that wilderness program participants experienced the development of greater concern for others, increased self-sufficiency, and more realistic self-assessments.

Participants' feelings of control over the environment were not evident, rather feelings of being "at one with the environment" were reported. The study also found that as the participants' knowledge of the environment increased, so did their perceived levels of self-knowledge.

Another study (Perdue and Warder, 1981), attempted to ascertain attitude change toward the environment following a 17-day wilderness experience. Their conclusions were that attitudes toward the environment did not improve immediately following the trip, but did improve significantly six weeks afterwards. Their explanation for this was that the recollection phase of the recreational experience tends to discount the negative aspects and accentuate the positive aspects of the experience.

Crompton and Sellar (1981), in an evaluative review of literature, were tentative in supporting the findings of some studies that tended to lean toward a conclusion that outdoor education programs can cause long-term changes in attitudes because of the testing procedures utilized in the studies.

Other researchers (McRae, 1986, and Simpson, 1985) looked at the impact of the short-term wilderness experience on environment attitude development and seriously questioned the effect of these experiences on the development of an environmental ethic.

> The development of environmental attitudes is unlikely to be fully achieved as a result of a single, short-term wilderness trip or a camping program in a wilderness area, but there is no doubt that such experiences can make a worthwhile contribution providing that appropriate environmental goals and activities are given strong emphasis in the planning and execution of the trips or camps (McRae, 1986).

Simpson (1985) stated that "in spite of the intentions and enthusiasm of the instructors, the short-term wilderness trip may not be a means of creating a positive environmental ethic in the value systems of participants." There are limitations of the wilderness experience in promoting environmental ethics.

Case studies in Australia consisted of a series of wilderness trips, short-term outdoor education experiences and longer-term outdoor educational experiences offered in educational institutes.

> A surprising effect of the wilderness trips was significant growth of interest in environmental concerns and issues generally. Crucial elements of the program, which are factors affecting the outcomes of the experience, would seem to be the knowledge, enthusiasm, energy, and creativity of the teacher (McRae, 1986).

As data were collected for his dissertation, Marolf (1987) observed,

> Those whose parents and family do not hunt, fish, hike, camp, and canoe -- those who have had no personal, ethical relationship with their environment -- simply are not willing to take responsibility for their environmental ethics and needs.

An analysis and synthesis of 128 different studies (Hines, et.al., 1986) pertaining to responsible environment behavior included demographic characteristics as factors contributing to people engaging in responsible behavior related to the environment.

> There was a weak relationship between income and responsible behavior, with those with higher incomes only slightly more likely to report engaging in environmentally responsible behaviors. There were questionable and unclear relationships between age and responsible behavior. There appears to be no relationship between gender and responsible environmental behavior, based on the studies analyzed and synthesized.

Outdoor adventure programs and environmental attitudes have shared characteristics. To strengthen the development of outdoor environment attitudes, the ideal outdoor education program would not be restricted to a single wilderness trip or to the study of natural environments or urban environments alone, but would include all these elements (McRae, 1986). There is a need to develop an environmental ethic which includes the spectrum of natural areas, rather than just the emphasis in experiences in the wilderness and rural settings (Simpson, 1985). Environmental ethics education in adventure recreation programs should demonstrate a concern for the natural environment in the sense of living in harmony with nature, rather than as the natural environment being a foe which must be conquered by the participant in order to survive the experience (Dickey, 1978, and Dick, 1971).

In addressing the topic of a curriculum model for environmental values education, Knapp (1983) stated

> The aim of environmental values education is to develop individual value systems related to the interaction between people and natural systems and processes. The application of these value systems to environmental issues leads to societal decisions that purify, improve and maintain components of natural and built ecosystems.

In support of this concept, Caduto (1983) stated "environmental values education must be a continuous, lifelong process that involves all major influences on learner values -- educational activities, the home, church, and peers."

The design of an outdoor adventure program should include activities that are appropriate for the needs and expectations of the individuals in the group as well as the group itself. As a result, the program will "flow" or have a sense of natural timing allowing the participants to get the most from the experience. To achieve this timing, it is essential that instructors understand the characteristics of the population they are working with, the program's goals, and the nature of their activities. In the past, leaders have often relied on 'what our program has done in the past' and the 'magic' of the group to reach their intended goal (Gass, 1987).

CHAPTER III

METHODS

The purpose of this study was to determine whether differences existed in personal demographic characteristics, outdoor environment attitudes, and participation in the Oklahoma 4-H Outdoor Adventure Program. Chapter III concerns the methods used in conducting the study and is divided into six sections. These sections include: hypotheses, subjects, instruments, data collection, research design, and data analysis. The following research hypotheses were established for this study:

Hypothesis One. There is no significant difference in participation in the 4-H Philmont Outdoor Adventure Program by selected personal demographic characteristics (gender, age, place of residence, and family income) of non-returning, first-time, and returning participants.

Hypothesis Two. There is no significant difference in attitudes toward the outdoors by selected personal demographic characteristics (gender, age, place of residence, and family income) of participants in the 4-H Philmont Outdoor Adventure Program as shown by pretest means.

Hypothesis Three. There is no significant difference in attitudes toward the outdoors by non-returning, first-time, and returning participants in the 4-H Philmont Outdoor Adventure Program as shown by pretest means.

Hypothesis Four. There is no significant difference in attitudes toward the outdoors by selected personal demographic characteristics (gender, age, place of residence, and family income) of participants in the 4-H Philmont Outdoor Adventure Program as shown by posttest means.

Hypothesis Five. There is no significant difference in overall outdoor attitudes on a group or individual basis as a result of participation in the 4-H Philmont Outdoor Adventure Program.

Subjects

Subjects in the study included 4-H members, adult volunteer leaders, and extension agents who participated in the 1988 and/or 1989 Oklahoma 4-H Philmont Outdoor Adventure Program. A total of 94 subjects were involved in the study. The youth subjects (n = 68) ranged in age from 13 to 19 years of age while the adult subjects (n = 26) ranged in age from 20 years of age and older. Both male (n = 58) and female (n = 36) subjects were involved in the study.

Subjects were placed in three categories by the researcher, based upon their level of participation in the

program. Group I Non-Returning Subjects consisted of those individuals who participated in the 1988 program but did not participate in the 1989 program (n = 31). Group II First-Time Participants consisted of those individuals who had not previously participated in the program (n = 24). Initially, a total of 26 participants were included in this group and took the pretest. Prior to the Philmont Outdoor Adventure experience, two participants dropped out from the program due to financial and family reasons. Group III Returning Subjects consisted of those individuals who participated in both the 1988 and the 1989 programs (n = 39).

Instruments

Two self-administered surveys were used to measure demographic characteristics and outdoor environment attitudes.

Personal Data and Experiences. This survey was utilized to collect selected demographic characteristics and degree of involvement in the 4-H Outdoor Adventure Program. Collected data was limited to age, gender, place of residence, family income, and years of participation in the Outdoor Adventure Program. In addition, data were collected which identified reason(s) for participation/non-participation in the Outdoor Adventure Program. These data were collected for future research projects and not for the current research project.

The Millward Ginter Outdoor Attitude Inventory (MGOAI) was selected as the instrument to measure the outdoor environmental attitudes of the subjects in this study. The researcher received written permission from the author of the instrument for the modification and use of the instrument in this study.

The MGOAI is a 43-item Likert-type scale designed specifically for use to measure attitude change relating the natural environment and degradation of the natural environment (Millward, 1973b). The Likert scale was selected by Millward (1973b) as the measurement of attitudes for the following reasons: a) attitude change from pretest to posttest could be detected; b) no expert panel of judges was needed; c) the scale was easily administered; and d) the scale could be divided into sub-categories that would allow the measurement of attitudes related to specific outdoor topics which could then be analyzed separately or in conjunction with one or more of the other sub-categories.

The MGOAI is divided into four sub-categories; each sub-category can be scored separately. This division enables an investigator to determine which attitudinal concepts are most prominent among subjects in the study and makes possible five separate attitude scores: a total outdoor attitude score and four sub-category scores. The sub-categories were developed in order to compare specific

attitudinal concepts in the areas of general environment, education, pollution, and socialization.

Statements (n = 16) contained in the general environment sub-category related to attitudes about plants, animals, nature, forests, astronomy, and aesthetics. The worth of outdoor subjects, outdoor curriculum, and the value of writing letters to public officials regarding environmental improvement were focal points for statements (n = 8)) contained in the education sub-category. Statements (n = 10) related to environmental degradation such as sewage, litter, and depletion of natural resources were placed in the pollution sub-category. The socialization sub-category contained statements (n = 9) related to camp life, group planning, perception of adult leaders, making friends, and camp meals.

Scoring the MGOAI. Each of the 43 statements contained a Likert-type scale with five response categories. The pretest survey utilized a Likert-type scale ranging from A (agree) to TA (tend to agree) to TD (tend to disagree) to D (disagree) to DK (don't know). The score range for each statement was from 1 to 4. A score of 4 on an individual attitude statement indicated a most positive attitude whereas a score of 1 indicated a most negative attitude. A score of 2.5 was assigned to the DK (don't know) response and was considered a neutral or noncommitted response.

The posttest survey included the same format of questions as the pretest but utilized a different Likert-type scale ranging from SA (strongly agree) to A (agree) to DK (don't know) to D (disagree) to SD (strongly disagree). The score range for each statement was from 1 to 4, with a score of 4 on an individual attitude statement indicating a most positive attitude and a score of 1 indicating a most negative attitude. A score of 2.5 was assigned to the DK (don't know) response and was considered a noncommitted response.

The intent was to utilize the same Likert-type scale of responses for both pre and post tests in the study. Due to an oversight, the set of surveys prepared and administered for the posttest were not identical in descriptors for responses as the pretest. However, the Likert-type scales on both pre and post tests are considered to be very similar in that the subjects' response is either positive or negative with the option of a noncommitted response for each statement.

Numerical scores assigned to response categories were reversed for negatively worded statements. Twenty-one statements were phrased positively whereas twenty-two statements were phrased negatively.

Reliability. Previous studies which used the MGOAI reported reliability estimates exceeding r = .80 (Millward, 1973b; Myers, 1978; Christy, 1982). Although reliability

estimates had been established by these previous investigations, the researcher conducted a pilot study to estimate the reliability of the instrument with a small sample of subjects which were similar to the subjects in the research project. The pilot study yielded an estimate of reliability coefficient of .69 using Hoyt's Method. Hoyt's Method (Crocker and Algina, 1986) was designed to obtain identical results to those obtained from coefficient alpha, but was based on the analysis of variance, treating persons and items as sources of variation. It can be applied to instruments which have a scaled response as opposed to a true/false response. This result was achieved by administering the instrument via mail to a group (n = 27) of former participants in the Oklahoma 4-H Philmont Outdoor Adventure Program. A total of 21 instruments were returned to the investigator, resulting in a 78% rate of return. None of the individuals involved in the pilot study participated as subjects in the research project.

Data Collection

Procedures for data collection in this study are explained in this section. Two different methods were utilized to collect pretest data for the three groups (I, II, III). One method was utilized to collect posttest data for two groups (II and III). Approval was given by the IRB Review for the research project, surveys, and the "Consent

Form to Participate in a Research Project." Because this was a state-wide program and subjects represented a number of counties, a courtesy copy of the cover letter was mailed to the County Extension Agent in each county.

Pretest Data Collection

GROUP I -- Non-Returning Subjects. Along with a cover letter explaining the purpose of the research project and the value of their participation in the study, each subject received by mail in late March, two (2) copies of the "Consent Form to Participate in a Research Project," instructions on how to complete the Personal Data Survey and MGOAI Survey, and the actual survey form. Each subject was to sign both copies of the consent form and to return one copy of the consent form with the completed survey in the enclosed pre-addressed stamped envelope. The second copy of the consent form was for their use. Thirty-one (31) of the forty (40) subjects responded to the survey. All responses were usable by the investigator. A rate of return of 78% was obtained for Group I.

GROUP II and GROUP III -- First-Time and Returning. The surveys were administered to Group II (First-Time Subjects, n = 26) and Group III (Returning Subjects, n = 39) at the Camper Rally (late March/early April). Each subject received two (2) copies of the "Consent Form to Participate

in a Research Project," written and verbal instructions on how to complete the Personal Data and MGOAI surveys, and the actual survey forms. Verbal instructions were given by a trained representative of the investigator. Each subject signed both copies of the consent form, kept one copy, and returned the second copy with the completed survey to the representative. The same materials were mailed with an enclosed stamped, pre-addressed envelope to absentee subjects (n = 11), requesting the return of the required materials within two weeks. A 100% rate of return of instruments was obtained for Groups II and III.

Posttest Data Collection

GROUPS II and III. Upon completion of their 7-day backpacking experience at the Philmont Scout Ranch in New Mexico, posttest surveys were administered to subjects in Groups II (First-Time, n = 24) and III (Returning, n = 39). This procedure took place at base camp and was administered by one trained adult for each of the six crews.

4-H Philmont Outdoor Adventure Experience

The 4-H Philmont Outdoor Adventure Program consisted of a series of educational hands-on learning experiences for the participants. The pretest was administered to subjects in Groups II and III at the initial event, known as the

Camper Rally, prior to any exposure of the day's agenda of workshops, displays, presentations, get-acquainted mixers, and social activities. The Camper Rally took place on March 25th and April 11th, at two different sites in Oklahoma. Subjects were to attend one of the Rally sessions. As noted earlier, absentee subjects received their pretest packet of materials by mail.

The next experience, known as the Crew Leadership Training Workshop, involved a small number of youth (n = 12) and all adults. Participating youth were those who had made application for the position of crew leader. The agenda for the 2-day workshop on June 9-10th included the utilization of the Oklahoma State University Ropes Course, counselor training, and human relations skill training as well as the selection of crew leaders (1 youth per crew) and designation of crew advisors (2 adults per crew) for each of the six crews.

On July 7-9th, a 3-day campout known as the Shakedown took place at Camp Redlands, near Stillwater, Oklahoma. Workshops on attitudes, first-aid, equipment, map and compass, and basic outdoor living skills were taught by outdoor adventure instructors and/or past participants in the 4-H outdoor adventure program. Short hikes between workshop sites allowed subjects the opportunity to "shakedown" their gear and hiking techniques. Six coed crews were formed within the group, consisting of 8-10 youth

and 2-3 adults. In preparation for the Philmont trip, each crew selected program options and sites which they wished to experience at Philmont.

Upon arrival at the Philmont Scout Ranch near Cimarron, New Mexico on August 5th, each crew was greeted by its Ranger. Each Ranger had received intensive training by Philmont Staff and Outdoor Adventure Specialists at the beginning of the summer camping season. The Ranger guided the crew through base camp procedures and stayed with the crew for 2 days and 2 nights on the trail. The Ranger's role was to teach Philmont's low impact camping techniques, first- aid, map and compass, and to assure that each crew was capable and prepared to handle the remaining portion of its wilderness trek on its own. The Philmont trek was 7 days in length, with 6 days and 5 nights spent in the backcountry. Upon arrival back at base camp, each crew was "de-processed," which included the cleaning and return of equipment issued to the crew by Philmont, retrieval of personal gear stored in lockers and valuables from the administrative office, picking up mail, crew photos, and medical forms. Once these tasks were completed, crew members had free time until the evening meal. Hot showers, ice cream cones, pizza, and socializing with friends were priority items for the subjects. The posttest was administered to the subjects after the evening meal by one

adult advisor for each crew. The adult advisor collected and returned the posttest survey forms to the investigator.

Statistical Design

This study was an ex post facto study in which no variables were manipulated experimentally by the investigator. The independent variables in the study for H1, H2, H3, and H4 included age, gender, family income, place of residence, and years of participation in the 4-H Philmont Outdoor Adventure Program. The dependent variable for H1 was the years of participation in the program. Dependent variables for H2, H3, and H4 hypotheses were outdoor environmental attitudes, as measured by the MGOAI.

The independent variable for hypothesis five was the 1989 4-H Philmont Outdoor Adventure Program experience. The dependent variable for the hypothesis was outdoor environmental attitudes, as measured by the MGOAI.

Data Analysis

The SPSSX (1988) computer program was utilized to carry out the parametric statistical computations. Analysis of variance was employed on H1, H2, H3, and H4 to determine if significant differences existed in the participation, demographic characteristics, and attitudes on either the pretest or posttest means. Multiple Regression was employed to validate that the instrument did indeed measure

different types of attitudes and identified the contribution of each variable to the prediction of the criterion variable.

Because the descriptors for the responses utilized on the pretest and posttest were similar, yet different, the means of the adjusted scores were tested on Hypothesis Five. To obtain the adjusted scores, the investigator collapsed the scale from five scores to three scores, with a score of one being positive, .5 being uncommitted, and 0 being negative.

Pretest	Agree(4), Tend to Agree(3)	Score of 1
Posttest	Strongly Agree(4), Agree(3)	Positive
Pretest	Tend to Disagree(2), Disagree(1)	Score of 0
Posttest	Disagree(2), Strongly Disagree(1)	Negative
Pretest	Don't Know(2.5)	Score of .5
Posttest	Undecided or Don't Know(2.5)	Uncommitted

A matched pair t-test on pre and post test scores was employed to determine if significant differences existed as a result of the 4-H Philmont Outdoor Program experience.

CHAPTER IV

RESULTS

The purpose of this study was to determine whether differences existed in personal demographic characteristics, outdoor environment attitudes, and participation in the Oklahoma 4-H Outdoor Adventure Program. Chapter IV contains the statistical analysis of the findings of this investigation. It is divided into four sections. Part one presents the demographic characteristics of the subjects. The second section describes the statistical procedures used in the analyses of the data. The third section presents the results of testing the study's null hypotheses. The final section contains a discussion of the findings.

Demographic Characteristics

Table I is a frequency table showing the demographic characteristics of subjects in each of the three groups: non-returning, first-time, and returning. Those characteristics included gender, age, place of residence, and family income.

TABLE I

DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS IN 4-H PHILMONT OUTDOOR ADVENTURE PROGRAM BY GROUPS

Characteristic	Group I Non-Returning		Group II First-Time		Group III Returning		Combined	
AGE								
Youth	18	58.1%	17	70.8%	33	84.6%	68	72.3%
Adult	13	41.9%	7	29.2%	6	15.4%	26	27.7%
Total	31	100.0%	24	100.0%	39	100.0%	94	100.0%
GENDER								
Male	18	58.1%	16	66.7%	24	61.5%	58	61.7%
Female	13	41.9%	8	33.3%	15	38.5%	36	38.3%
Total	31	100.0%	24	100.0%	39	100.0%	94	100.0%
RESIDENCE								
Farm	9	29.0%	6	25.0%	14	35.9%	29	30.9%
Rural	4	12.0%	5	20.8%	6	15.4%	15	16.0%
Small Town	11	35.5%	7	29.2%	7	17.9%	25	26.6%
Suburb	7	22.6%	6	25.0%	12	30.8%	25	26.6%
Total	31	100.0%	24	100.0%	39	100.0%	94	100.0%
INCOME								
Under 15,000	2	6.5%	2	8.3%	4	10.3%	8	8.5%
15,001-35,000	9	29.0%	8	33.3%	13	33.3%	30	31.9%
35,001-45,000	9	29.0%	5	20.8%	3	7.7%	17	18.1%
45,001-55,000	4	12.9%	0	00.0%	3	7.7%	7	7.4%
55,001-65,000	2	6.5%	0	00.0%	1	2.6%	3	3.2%
65,001 & over	2	6.5%	2	8.3%	2	5.1%	6	6.4%
Don't Know	3	9.7%	7	29.2%	13	33.3%	23	24.5%
Total	31	100.0%	24	100.0%	39	100.0%	94	100.0%

Over two-thirds (72.3%) of the subjects in the study were youth, ages 13-19 years, with the Group II (returning) having the highest (84.6%) percentage of youth subjects. Group I (non-returning) had the highest percentage of adults (41.9%) in the study.

Nearly two-thirds (61.7%) of the subjects in the study were males with Group II having the highest percentage of males (66.7%). Consistently, over one-third of the subjects in all three groups were females.

Overall, over half of the subjects in the study (53.2%) identified their place of residence as being small town or suburb. Group II subjects had a fairly even distribution of residences, ranging from 20.8% in rural residences to 29.2% in small town residences. A greater spread of frequencies of residences was found in Group III, from 15.4% in rural settings to 35.9% in farm residences.

Almost one-third (31.9%) of subjects in the study were found in the $15,001 to $35,000 family income bracket. Nearly one-quarter (24.5%) of the subjects did not know their family income, which was especially true of Group II and Group III participants.

A different perspective on frequencies found in the demographic characteristics is shown in Table II. The age of the subject was the basis of this analysis. The age of the subjects consisted of youth (ages 13-19 years) and adult (20 years and older).

TABLE II

DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS IN 4-H PHILMONT OUTDOOR ADVENTURE PROGRAM BY AGE

Characteristic	Youth		Adult		Total	
	n	f	n	f	n	f
AGE						
Youth	-	-	-	-	68	72.3%
Adult	-	-	-	-	26	27.7%
Total					94	100.0%
GENDER						
Male	5	62.2%	13	50.0%	58	61.7%
Female	23	33.8%	13	50.0%	36	38.3%
Total	68	100.0%	26	100.0%	94	100.0%
RESIDENCE						
Farm	24	35.3%	5	19.2%	29	30.9%
Rural	12	17.6%	3	11.5%	15	16.0%
Small Town	14	20.6%	11	42.3%	25	26.6%
Suburb	18	26.5%	7	26.9%	25	26.6%
Total	68	100.0%	26	100.0%	94	100.0%
INCOME						
Under 15,000	5	7.4%	3	11.5%	8	8.5%
15,001-35,000	10	29.4%	10	38.5%	30	31.9%
35,001-45,000	9	13.2%	8	30.8%	17	18.1%
45,001-55,000	4	5.9%	3	11.5%	7	7.4%
55,001-65,000	3	4.4%	-	-	3	3.2%
65,001 & over	5	7.4%	1	3.8%	6	6.4%
Don't Know	22	32.4%	1	3.8%	23	24.5%
Total	68	100.0%	26	100.0%	94	100.0%

Two-thirds (66.2%) of the youth were males whereas half (50%) of the adults were male. The greatest percentage of youth lived on farms (35.3%) whereas the greatest percentage of adults lived in small towns. Nearly one-third (32.4%) of the youth did not know their family income, although 29.4% of the subjects identified their family income in the $15,001 to $35,000 income bracket. Over two-thirds (69.3%) of the adults placed their family income in the $15,001 to $45,000 income brackets. Only 3.8% of the adults did not know their family income.

A third frequency table of demographic characteristics of male and female subjects is shown on Table III. For both male and female subjects, the highest percentage of subjects were youth (77.5% and 63.9% respectively). The farm was identified as the place of residence for 41.4% of the male subjects as compared to only 13.9% for female subjects. The highest percentage of female subjects (33.3%) live in a suburban residence. Family income of $15,001 to $35,000 accounted for 37.9% of the male subjects. Taking into consideration that 19% of the males did not know their family income, the next highest frequency (15.5%) for family income was the $35,001 to $45,000 bracket. One-third of the female subjects did not know their family income. Two income brackets drew the next two highest frequencies -- 22.2% in the $15,001 to $35,000 bracket and 22.2% in the $35,001 to $45,000 bracket.

TABLE III

DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS IN 4-H PHILMONT OUTDOOR ADVENTURE PROGRAM BY GENDER

Characteristic	Male		Female		Total	
	n	f	n	f	n	f
GENDER						
Male	-	-	-	-	58	61.7%
Female	-	-	-	-	36	38.3%
Total					94	100.0%
AGE						
Youth	45	77.6%	23	63.9%	68	72.3%
Adult	13	22.4%	13	36.1%	26	27.7%
Total	58	100.0%	36	100.0%	94	100.0%
RESIDENCE						
Farm	24	41.4%	5	13.9%	29	30.9%
Rural	7	12.1%	8	22.2%	15	16.0%
Small Town	14	24.1%	11	30.6%	25	26.6%
Suburb	13	22.4%	12	33.3%	25	26.6%
Total	58	100.0%	36	100.0%	94	100.0%
INCOME						
Under 15,000	5	8.6%	3	8.3%	8	8.5%
15,001-35,000	22	37.9%	8	22.2%	30	31.9%
35,001-45,000	9	15.5%	8	22.2%	17	18.1%
45,001-55,000	5	8.6%	2	5.6%	7	7.4%
55,001-65,000	2	3.4%	1	2.8%	3	3.2%
65,001 & over	4	6.9%	2	5.6%	6	6.4%
Don't Know	11	19.0%	12	33.3%	23	24.5%
Total	58	100.0%	36	100.0%	94	100.0%

Method of Analysis

Parametric statistical procedures were used to analyze the personal demographic characteristics data and the attitude inventory data. Analysis was performed at the Virginia Polytechnic Institute and State University's Computer Center using the SPSSX (1988) program. Analysis of variance was employed on H1, H2, H3, and H4. A matched pair t-test on pretest and posttest scores was conducted on H5.

Results of Testing Hypotheses

This section contains the presentation of the findings dealing with the hypotheses of this study. Discussion will focus on the statistical tests used, the results of these tests, and the interpretation of the findings. Hypotheses were tested in the null form.

Hypothesis One

There is no significant difference in participation in the 4-H Philmont Outdoor Adventure Program by selected personal demographic characteristics (gender, age, place of residence, and family income) of non-returning, first-time, and returning participants.

Results of the analysis of variance on participation in the program by the demographic characteristics are shown in Tables IV, V, VI, and VII. Table IV shows the analysis of

variance conducted to determine the difference between youth and adult subjects and participation in the program. The calculated F ratio of .013 was significant at the .05 level of significance. Therefore, hypothesis one was rejected: there is a significant difference in participation in the 4-H Philmont Outdoor Adventure Program by age of the subject.

Table V shows the analysis of variance conducted to determine the difference between male and female subjects and participation in the program. The calculated F ratio .795 was not significant at the .05 level of significance.

Likewise, the F ratio of .429 was not significant at the .05 level of significance of the difference in place of residence of subjects and their participation in the program (Table VI). Analysis of variance on family income and participation in the program is shown on Table VII. The calculated F ratio of .129 was not significant at the .05 level of significance.

Analysis of variance was employed to test the level of significance between the demographic characteristics of male and female subjects and participation in the program. Findings of this statistical procedure are presented in Tables VIII-XIII.

Table VIII shows the finding of the F ratio of .391 not to be significant at the .05 level of significance for the age of the male subject. The residence of the male subject

was found not to be significant, indicated by the F ratio of .69 at the .05 level of significance (Table IX). However, the family income of the male subject was found to be significant at the F ratio of .008, at the .05 level of significance (Table X). Thus, hypothesis one was rejected: there is a significant difference in participation in the 4-H Philmont Outdoor Adventure Program by income of the male participant.

The age of female subjects was found significant at the F ratio of .007, at the .05 level of significance (Table XI). Table XII shows that the F ratio of .169 for the residence of the female subject not to be significant. Likewise, the income level of female subjects was found not to be of significance, with the F ratio of .626, at the .05 level of significance (Table XIII).

In summary, because of the findings of the significance of the age of the subjects (.013, Table VI), the family income of male subjects (.008, Table X), and the age of the female subjects (.007, Table XI), hypothesis one was rejected.

TABLE IV

ANOVA
PARTICIPATION IN 4-H PHILMONT OUTDOOR
ADVENTURE PROGRAM BY AGE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups (Youth & Adults)	1	4.51	4.51	6.406	.013 *
Within groups	92	64.81	.70		
Total	93	69.32	.75		

* alpha = 0.05; p < or equal to .013

TABLE V

ANOVA
PARTICIPATION IN 4-H PHILMONT OUTDOOR
ADVENTURE PROGRAM BY GENDER

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups	1	.05	.05	.07	.795 *
Within Groups	92	69.27	.75		
Total	93	69.32	.75		

* alpha = 0.5; p < or equal to .795

TABLE VI

ANOVA
PARTICIPATION IN 4-H PHILMONT OUTDOOR
ADVENTURE PROGRAM BY RESIDENCE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups (Types of Residence)	3	2.09	.70	.93	.429 *
Within groups	90	67.23	.75		
Total	93	69.32	.75		

* alpha = 0.05; p < or equal to .429

TABLE VII

ANOVA
PARTICIPATION IN 4-H PHILMONT OUTDOOR
ADVENTURE PROGRAM BY INCOME

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups (Income Levels)	6	7.29	1.22	1.71	.129 *
Within Groups	87	62.03	.71		
Total	93	69.32	.75		

* alpha = 0.5; p < or equal to .129

TABLE VIII

ANOVA
PARTICIPATION OF MALES IN 4-H PHILMONT OUTDOOR ADVENTURE PROGRAM BY AGE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups (Youth & Adults)	1	.55	.55	.75	.391 *
Within groups	56	40.83	.73		
Total	57	41.38	.73		

* alpha = 0.05; p < or equal to .391

TABLE IX

ANOVA
PARTICIPATION OF MALES IN 4-H PHILMONT OUTDOOR ADVENTURE PROGRAM BY RESIDENCE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups	3	1.10	.37	.49	.69 *
Within Groups	54	40.28	.75		
Total	57	41.38	.73		

* alpha = 0.5; p < or equal to .69

TABLE X

ANOVA
PARTICIPATION OF MALES IN 4-H PHILMONT OUTDOOR ADVENTURE PROGRAM BY INCOME

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups (Income Levels)	6	11.56	1.93	3.29	.008 *
Within groups	51	29.82	.59		
Total	57	41.38	.73		

* alpha = 0.05; p < or equal to .008

TABLE XI

ANOVA
PARTICIPATION OF FEMALES IN 4-H PHILMONT OUTDOOR ADVENTURE PROGRAM BY AGE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups (Youth & Adult)	1	5.44	5.44	8.24	.007 *
Within Groups	34	22.45	.66		
Total	35	27.89	.80		

* alpha = 0.5; p < or equal to .007

TABLE XII

ANOVA
PARTICIPATION OF FEMALES IN 4-H PHILMONT OUTDOOR ADVENTURE PROGRAM BY RESIDENCE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups	3	4.00	1.33	1.79	.169 *
Within groups	32	23.89	.75		
Total	35	27.89	.80		

* alpha = 0.05; p < or equal to .169

TABLE XIII

ANOVA
PARTICIPATION OF FEMALES IN 4-H PHILMONT OUTDOOR ADVENTURE PROGRAM BY INCOME

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups (Income Levels)	6	3.68	.613	.735	.626 *
Within Groups	29	24.21	.84		
Total	35	27.89	.80		

* alpha = 0.5; p < or equal to .626

Hypothesis Two

There is no significant difference in attitudes toward the outdoors by selected personal demographic characteristics (gender, age, place of residence, and family income) of participants in the 4-H Philmont Outdoor Adventure Program as shown by pretest means.

Table XIV illustrates the pretest means of outdoor attitudes by gender, including the overall outdoor attitude and each of the four sub-categories of environment, socialization, education, and pollution attitudes. Attitudes tended to be very positive for both male and female subjects, indicated by a 3.48 mean for males and 3.55 mean for females with a mean of 4 being very positive. For both males and females, environment attitudes had the highest means of all sub-categories of attitudes for both male and female subjects.

Pretest outdoor attitudes by age are shown on Table XVI, including the means of scores and standard deviation for each of the sub-categories of environment, socialization, education, and pollution attitudes. Outdoor attitudes tended to be very positive for both youth and adult subjects, confirmed by the means of 3.47 (youth) and 3.61 (adult) on a scale of 4 being very positive. Of all categories and sub-categories of attitudes, the means of the

environment attitudes was the highest for both youth and adult subjects.

Analysis of variance was employed to test the difference in outdoor environment attitudes by gender, age, place of residence and family income of the subjects on the means of their pretest scores. By gender, no significant difference in attitudes was found with the F ratio of .267, on a .05 level of significance (Table XV). By age, the F ratio of .024 was found to be significant, on a level of .05 level of significance (Table XVI), meaning that the age of the subject did make a difference in their attitude toward the outdoors. Thus, hypothesis two was rejected: there is a significant difference in pretest attitudes toward the outdoors by age of the subjects.

By residence, the attitude toward the outdoors was not found to be significant, with the F ratio of .92, on a .05 level of significance (Table XVIII). The family income of the subject did not make a significant difference in outdoor attitudes, as shown on Table XIX, with the F ratio of .506 not found significant at the .05 level of significance.

Tables XX-XXV summarize the findings of the analysis of variance test on outdoor attitudes by male and female subjects. The age of the male subjects was found to be of significance, with an F ratio of .011 on a .05 level of significance (Table XX). Thus, hypothesis two was rejected:

there is a significant difference in pretest attitudes toward the outdoors by the age of the male subjects.

The residence of the male subjects and the income of the male subjects were found not to be of significance in outdoor attitudes, with the F ratio of .633 (residence) and F ratio of 4.66 (income) on a .05 level of significance, shown in Tables XXI and XXII respectively.

The findings of the analysis of variance on attitudes of female subjects show that none of the variables were of significance on a .05 level of significance: by age, the F ratio was .903; by residence, the F ratio was .961; and by income, the F ratio was 4.13.

In summary, hypothesis two was rejected because the independent variables (age of subjects and age of male subjects) did make a significant difference in attitudes toward the outdoors. This decision was based on information confirmed in Tables XVII and XX.

TABLE XIV

PRETEST MEANS
ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY GENDER

Attitude		Male n = 58	Female n = 36
Overall Outdoor	mean	3.48	3.55
	sd	.305	.231
Environment	mean	3.56	3.63
	sd	.30	.21
Socialization	mean	3.48	3.55
	sd	.37	.31
Education	mean	3.40	3.48
	sd	.48	.45
Pollution	mean	3.43	3.50
	sd	.38	.32

TABLE XV

ANOVA - PRETEST
OVERALL OUTDOOR ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE PARTICIPANTS BY GENDER

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups (by gender)	1	.097	.097	1.25	.267 *
Within groups	92	7.17	.078		
Total	93	7.27	.078		

* alpha = 0.05; p < or equal to .267

TABLE XVI

PRETEST MEANS
ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY AGE

Attitude		Youth n = 68	Adult n = 26
Overall Outdoor	mean	3.47	3.61
	sd	.30	.20
Environment	mean	3.56	3.67
	sd	.29	.19
Socialization	mean	3.50	3.58
	sd	.34	.35
Education	mean	3.36	3.62
	sd	.51	.28
Pollution	mean	3.41	3.56
	sd	.38	.30

TABLE XVII

ANOVA-PRETEST
OVERALL OUTDOOR ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE PARTICIPANTS BY AGE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups (Youth & Adult)	1	.392	.392	5.246	.024 *
Within groups	92	6.877	.075		
Total	93	7.269	.078		

* alpha = 0.05; p < or equal to .024

TABLE XVIII

ANOVA-PRETEST
OVERALL OUTDOOR ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE PARTICIPANTS BY RESIDENCE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups	3	.04	.01	.16	.92 *
Within Groups	90	7.23	.08		
Total	93	7.27	.08		

* alpha = 0.5; p < or equal to .92

TABLE XIX

ANOVA-PRETEST
OVERALL OUTDOOR ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE PARTICIPANTS BY INCOME

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups	3	.16	.05	.79	.506 *
Within groups	58	4.02	.07		
Total	61	4.18	.07		

* alpha = 0.05; p < or equal to .506

TABLE XX

ANOVA-PRETEST
OVERALL OUTDOOR ATTITUDES OF MALE 4-H PHILMONT OUTDOOR ADVENTURE PARTICIPANTS BY AGE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups (Youth & Adult)	1	.59	.59	6.96	.011 *
Within Groups	56	4.72	.08		
Total	57	5.31	.09		

* alpha = 0.5; p < or equal to .011

TABLE XXI

ANOVA-PRETEST
OVERALL OUTDOOR ATTITUDES OF MALE 4-H PHILMONT
OUTDOOR ADVENTURE PARTICIPANTS BY RESIDENCE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups	3	.14	.05	.50	.633 *
Within groups	54	5.16	.10		
Total	57	5.30	.09		

* alpha = 0.05; p < or equal to .633

TABLE XXII

ANOVA-PRETEST
OVERALL OUTDOOR ATTITUDES OF MALE 4-H PHILMONT
OUTDOOR ADVENTURE PARTICIPANTS BY INCOME

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups	3	.23	.08	.87	4.66 *
Within Groups	37	3.28	.09		
Total	40	3.51	.09		

* alpha = 0.5; p < or equal to 4.66

TABLE XXIII

ANOVA-PRETEST
OVERALL OUTDOOR ATTITUDES OF FEMALE 4-H PHILMONT
OUTDOOR ADVENTURE PARTICIPANTS BY AGE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups	1	.001	.001	.015	.903 *
Within groups	34	1.87	.06		
Total	35	1.87	.05		

* alpha = 0.05; p < or equal to .903

TABLE XXIV

ANOVA-PRETEST
OVERALL OUTDOOR ATTITUDES OF FEMALE 4-H PHILMONT
OUTDOOR ADVENTURE PARTICIPANTS BY RESIDENCE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups	3	.02	.006	.097	.961 *
Within Groups	32	1.85	.058		
Total	35	1.87	.053		

* alpha = 0.5; p < or equal to .961

TABLE XXV

ANOVA-PRETEST
OVERALL OUTDOOR ATTITUDES OF FEMALE 4-H PHILMONT
OUTDOOR ADVENTURE PARTICIPANTS BY INCOME

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups	3	.101	.034	1.008	.413 *
Within groups	17	.569	.033		
Total	20	.670	.034		

* alpha = 0.05; p < or equal to .413

Hypothesis Three

There is no significant difference in attitudes toward the outdoors by non-returning, first-time, and returning participants in the 4-H Philmont Outdoor Adventure Program as shown by pretest means.

A set of five pretest means for each group, including the means of the overall outdoor attitude as well as environment, socialization, education, and pollution atttitudes, is illustrated in Table XXVI. The combined mean of all three groups is included in the last column of the table. Environment attitudes had the highest means for all three groups as well as for the combination of groups. Socialization attitudes had the greatest range of means, from 3.35 for Group II to 3.48 for Group III, on a scale of 4 being a very positive attitude. Outdoor attitudes for all groups were very positive for the major overall outdoor category as well as for the four sub-categories.

Analysis of variance was utilized to test the hypothesis (Table XXVII). The results indicated that of the five different attitudes being measured for each of the three groups, only the F ratio of the socialization attitude (.035) was of significance, at the .05 level of significance. The means for the socialization attitudes ranged from 3.35 for Group II (first-time) to 3.58 for Group III (returning) was the greatest range of means for all five attitude

categories. Therefore, hypothesis three was rejected: there was a significant difference in pretest attitudes of subjects in relationship to their level of participation in the 4-H Philmont Outdoor Adventure Program.

TABLE XXVI

PRETEST MEANS
ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY GROUP

Attitude		Group I n = 31	Group II n = 24	Group III n = 39	Combine n = 94
Overall	mean	3.53	3.44	3.53	3.51
	sd	.271	.302	.272	.280
Environment	mean	3.60	3.52	3.62	3.59
	sd	.26	.274	.269	.267
Socialization	mean	3.54	3.35	3.58	3.51
	sd	.300	.355	.351	.345
Education	mean	3.47	3.37	3.44	3.43
	sd	.408	.481	.511	.468
Pollution	mean	3.48	3.42	3.46	3.45
	sd	.356	.418	.329	.359

TABLE XXVII

ANOVA-PRETEST
ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY GROUP

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Overall Outdoor					
Between groups	2	.164	.082	1.05	.355
Within groups	91	7.11	.078		
Total	92	7.269	.078		
Environment					
Between groups	2	.133	.066	.931	.398
Within groups	91	6.50	.071		
Total	92	6.63	.071		
Socialization					
Between groups	2	.790	.395	3.499	.034 *
Within groups	91	10.28	.113		
Total	92	11.07	.119		
Education					
Between groups	2	.139	.070	.313	.732
Within groups	91	20.24	.222		
Total	93	20.38	.219		
Pollution					
Between groups	2	.040	.022	.153	.859
Within groups	91	11.94	.131		
Total	93	11.98	.129		

alpha = .05
p < or equal to .355
p < or equal to .398
p < or equal to .034 *
p < or equal to .732
p < or equal to .859

Hypothesis Four

There is no significant difference in attitudes toward the outdoors by selected demographic characteristics (gender, age, place of residence, and family income) of participants in the 4-H Philmont Outdoor Adventure Program as shown by posttest means.

The independent variables (gender, age, place of residence, and family income) were tested by analysis of variance at the .05 level of significance. Results are shown in Tables XXX-XXXVI. Means of posttest attitudes by gender are illustrated in Table XXVIII. Means for both males and females tended to be most positive and showed a minute range of means, from a difference of .01 (overall outdoor attitude) to .10 (pollution). Means of posttest attitudes by age (Table XXIX) tended to be positive, with the range of the means from 3.26 to 3.43 on a scale of 4 being very positive.

The outdoor attitudes of youth and adults did not prove to be significantly different on the posttest, with an F ratio .949 (Table XXX). By gender, outdoor attitudes were found not to be significantly different with an F ratio of .947 (Table XXXI).

Likewise, there was no significant difference in outdoor attitudes of subjects by the two remaining variables, place of residence and family income, on a .05

level of significance. Table XXXII shows the findings of analysis of variance by residence, with an F ratio of .835. Table XXXIII illustrates the findings on family income, with an F ratio of .973. Therefore, because no significance was found on any of the four major variables, hypothesis four was not rejected.

Further analysis of the gender variable found that the age, place of residence, and family income and the outdoor attitudes of male subjects were not significantly different. Table XXXIV shows the F ratio of .241 on attitudes of male subjects by age not to be of significance, at the .05 level of significance. Table XXXV indicates the findings of the testing of attitudes of male subjects by place of residence, with a resulting F ratio of .536. Outdoor attitudes of male subjects by family income were found to not be significantly different, with an F ratio of .972.

Likewise, analysis of variance conducted on the age, place of residence, and family income of the female subjects and their outdoor attitudes showed no significance. The age (F ratio of .248), family income (F ratio of .732), and place of residence (F ratio of .378) were found not to be significantly different on a .05 level of significance. Information pertaining to these variables is illustrated in Tables XXXVII, XXXVIII, and XXXIX.

In conclusion, hypothesis four was not rejected because no significant differences in posttest outdoor attitudes by selected demographic characteristics were found.

TABLE XXVIII

POSTTEST MEANS
ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY GENDER

Attitude		Male n = 40	Female n = 23
Overall Outdoor	mean	3.33	3.32
	sd	.322	.383
Environment	mean	3.42	3.41
	sd	.383	.273
Socialization	mean	3.24	3.29
	sd	.386	.463
Education	mean	3.26	3.32
	sd	.486	.442
Pollution	mean	3.28	3.38
	sd	.366	.382

TABLE XXIV

POSTTEST MEANS
ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY AGE

Attitude		Youth n = 50	Adult n = 13
Overall Outdoor	mean	3.33	3.33
	sd	.350	.322
Environment	mean	3.43	3.38
	sd	.344	.357
Socialization	mean	3.26	3.26
	sd	.427	.366
Education	mean	3.28	3.26
	sd	.501	.325
Pollution	mean	3.30	3.38
	sd	.370	.386

TABLE XXX

ANOVA-POSTTEST
ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY AGE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups	1	.000	.000	.004	.949 *
Within groups	61	7.251	.119		
Total	62	7.251	.117		

* alpha = 0.05; p < or equal to .949

TABLE XXXI

ANOVA-POSTTEST
ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY GENDER

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups	1	.001	.001	.005	.947 *
Within Groups	61	7.251	.119		
Total	62	7.251	.117		

* alpha = 0.5; p < or equal to .947

TABLE XXXII

ANOVA-POSTTEST
ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY RESIDENCE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups	3	.104	.035	.286	.835 *
Within groups	59	7.147	.121		
Total	62	7.251	.117		

* alpha = 0.05; p < or equal to .835

TABLE XXXIII

ANOVA-POSTTEST
ATTITUDES OF 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY INCOME

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups	3	.031	.010	.76	.973 *
Within Groups	34	4.673	.137		
Total	37	4.705	.127		

* alpha = 0.5; p < or equal to .973

TABLE XXXIV

ANOVA-POSTTEST
ATTITUDES OF MALE 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY AGE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups	1	.145	.145	1.42	.241 *
Within groups	38	3.89	.102		
Total	39	4.032	.103		

* alpha = 0.05; p < or equal to .241

TABLE XXXV

ANOVA-POSTTEST
ATTITUDES OF MALE 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY RESIDENCE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups	3	.234	.078	.739	.536 *
Within Groups	36	3.80	.105		
Total	39	4.03	.103		

* alpha = 0.5; p < or equal to .536

TABLE XXXVI

ANOVA-POSTTEST
ATTITUDES OF MALE 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY INCOME

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups	3	.027	.009	.077	.972 *
Within groups	23	2.69	.117		
Total	26	2.72	.105		

* alpha = 0.05; p < or equal to .972

TABLE XXXVII

ANOVA-POSTTEST
ATTITUDES OF FEMALE 4-H PHILMONT OUTDOOR ADVENTURE
PARTICIPANTS BY AGE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups	1	.203	.203	1.412	.248 *
Within Groups	21	3.02	.144		
Total	22	3.22	.146		

* alpha = 0.5; p < or equal to .248

TABLE XXXVIII

ANOVA-POSTTEST
ATTITUDES OF FEMALE 4-H PHILMONT OUTDOOR ADVENTURE PARTICIPANTS BY INCOME

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between groups	3	.291	.097	.440	.732 *
Within groups	7	1.54	.220		
Total	10	1.83	.183		

* alpha = 0.05; p < or equal to .732

TABLE XXXIX

ANOVA-POSTTEST
ATTITUDES OF FEMALE 4-H PHILMONT OUTDOOR ADVENTURE PARTICIPANTS BY RESIDENCE

Source	Degree of Freedom	SS	MS	F-Value	Significance of F
Between Groups	3	.472	.157	1.088	.378 *
Within Groups	19	2.75	.145		
Total	22	3.22	.146		

* alpha = 0.5; p < or equal to .378

Hypothesis Five

There is no significant difference in outdoor attitudes on a group or individual basis as a result of participation in the 4-H Philmont Outdoor Adventure Program.

A matched pair t-test was utilized to test the adjusted scores on the pretest and posttest for subjects in Group II (first-time) and Group III (returning). Resulting data are illustrated in Tables XXXX-XXXXV for the two groups as well as a combined score for both groups.

The pretest and posttest means of adjusted scores for both Group II and Group III on their overall outdoor, environment, socialization, education, and pollution attitudes are shown in Tables XXX-XXXXII. Adjusted scores were derived by collapsing the responses on the Likert-type scale from 5 responses to 3, with a 1.0 assigned to a positive response, 0.5 assigned to an uncommitted response, and 0.0 assigned to a negative response. Attitudes tended to be most positive for both groups of subjects on both pretest and posttest adjusted scores.

No significance in overall outdoor attitudes was noted for the combined scores as well as for each of the two groups. Table XXXXIII shows none of the t values to be of significance for any of the three, Combined, Group II, and Group III.

It was further noted that environment attitudes, education attitudes, socialization attitudes, and pollution attitudes of the subjects were not significantly different as a result of participation in the 4-H Philmont Outdoor Adventure Program. Table XXXXIV shows the findings of the matched pair t-test on environment scores, with none of the t values being of significance. Likewise, Table XXXXV presents data on socialization attitudes, Table XXXXVI illustrates the findings on education attitudes, and Table XXXXVII confirms data on pollution attitudes. Therefore, hypothesis five was not rejected by the researcher.

TABLE XXXX

MGOAI PRETEST AND POSTTEST MEAN ADJUSTED SCORES OF OUTDOOR ATTITUDES

Condition	#	Test	Overall Outdoor	Environment	Socialization	Education	Pollution
Possible Score			43	16	9	8	10
Group I	31	Pre	38.89	14.68	8.24	7.21	8.76
Group II	24	Pre	37.44	14.10	7.58	7.04	8.71
		Post	37.65	14.21	7.75	7.00	8.77
Group III	39	Pre	38.46	14.63	8.28	6.94	8.62
		Post	39.21	14.89	8.17	7.15	8.97

TABLE XXXXI

MGOAI PRETEST MEAN ADJUSTED SCORES
OF OUTDOOR ATTITUDES

Attitude		Group I n = 31	Group II n = 24	Group III n = 39	Combine n = 94
Overall Outdoor	mean	38.89	37.44	38.46	38.34
	sd	3.69	4.12	3.65	3.79
Environment	mean	14.68	14.10	14.63	14.51
	sd	1.33	1.68	1.39	1.46
Socialization	mean	8.24	7.58	8.28	8.09
	sd	.90	.93	.95	.97
Education	mean	7.21	7.04	6.94	7.05
	sd	1.19	1.22	1.47	1.32
Pollution	mean	8.76	8.71	8.62	8.69
	sd	1.19	1.39	1.20	1.23

TABLE XXXXII

MGOAI POSTTEST MEAN ADJUSTED SCORES
OF OUTDOOR ATTITUDES

Attitude		Group I n = 31	Group II n = 24	Group III n = 39	Combine n = 94
Overall Outdoor	mean	-	37.65	39.21	38.61
	sd	-	4.43	2.48	3.41
Environment	mean	-	14.21	14.89	14.63
	sd	-	1.58	1.12	1.34
Socialization	mean	-	7.75	8.17	8.00
	sd	-	1.38	.87	1.10
Education	mean	-	7.00	7.15	7.10
	sd	-	1.25	.95	1.07
Pollution	mean	-	8.77	8.97	8.90
	sd	-	1.15	.84	.97

TABLE XXXXIII

PAIRED T-TEST FOR PRETEST AND POSTTEST
OVERALL OUTDOOR ATTITUDE SCORES

Condition	Number	Test	Mean	SD	DF	t	t-tailed probability
Combined II & III	63	Pre	38.07	3.84	62	-1.37	0.177
		Post	38.61	3.41			
Group II	24	Pre	37.44	4.12	23	-0.30	0.768
		Post	37.65	4.43			
Group III	39	Pre	38.46	3.65	38	-1.56	0.127
		Post	39.21	2.48			

alpha = .05
t = + 3.15 (63)
t = + 4.28 (23)
t = + 4.10 (38)

TABLE XXXXIV

PAIRED T-TEST FOR PRETEST AND POSTTEST
ENVIRONMENT ATTITUDE SCORES

Condition	Number	Test	Mean	SD	DF	t	t-tailed probability
Combined II & III	63	Pre	14.43	1.51	62	-1.03	0.306
		Post	14.63	1.34			
Group II	24	Pre	14.10	1.68	23	-.027	0.792
		Post	14.21	1.58			
Group III	39	Pre	14.63	1.39	38	-1.28	0.210
		Post	14.88	1.12			

alpha = .05
t = + 3.15 (62)
t = + 4.28 (23)
t = + 4.10 (38)

TABLE XXXXV

PAIRED T-TEST FOR PRETEST AND POSTTEST
SOCIALIZATION ATTITUDE SCORES

Condition	Number	Test	Mean	SD	DF	t	t-tailed probability
Combined II & III	63	Pre	8.02	1.00	62	.06	0.954
		Post	8.01	1.10			
Group II	24	Pre	7.58	.93	23	-0.65	0.522
		Post	7.75	1.38			
Group III	39	Pre	8.28	.95	38	0.73	0.471
		Post	8.17	.87			

alpha = .05
t = + 3.15 (62)
t = + 4.28 (23)
t = + 4.10 (38)

TABLE XXXXVI

PAIRED T-TEST FOR PRETEST AND POSTTEST
EDUCATION ATTITUDE SCORES

Condition	Number	Test	Mean	SD	DF	t	t-tailed probability
Combined II & III	63	Pre	6.98	1.38	62	-.92	0.361
		Post	7.10	1.07			
Group II	24	Pre	7.04	1.22	23	0.19	0.849
		Post	7.00	1.25			
Group III	39	Pre	6.94	1.48	38	-1.35	0.184
		Post	7.15	0.95			

alpha = .05
t = + 3.15 (62)
t = + 4.28 (23)
t = + 4.10 (38)

TABLE XXXXVII

PAIRED T-TEST FOR PRETEST AND POSTTEST
POLLUTION ATTITUDE SCORES

Condition	Number	Test	Mean	SD	DF	t	t-tailed probability
Combined II & III	63	Pre	8.65	1.26	62	-1.73	0.089
		Post	8.90	.97			
Group II	24	Pre	8.71	1.39	23	-0.27	0.786
		Post	8.77	1.15			
Group III	39	Pre	8.62	1.20	38	-1.96	0.057
		Post	8.97	.84			

alpha = .05
t = + 3.15 (62)
t = + 4.28 (23)
t = + 4.10 (38)

Discussion of Findings

The findings of this study indicated that demographic characteristics of the subjects did differ, to some extent, in the participation of subjects in the 4-H Philmont Outdoor Adventure Program. Because of the design of the program, there was a much higher frequency of youth subjects than adult subjects for all three groups, including non-returning, first-time, and returning groups. The age of the subject was found to be of significance, which was attributed to the higher frequency of youth participants in the program. Likewise, the age of the female subject was found to be of significance; once again, this was attributed to a higher frequency of female youth participating in the program as compared to female adults.

Findings of the study established that, indeed, a higher frequency of males participated in the 1988 and 1989 program as compared to female participants. This finding supports one of the program goals, that of reaching and involving teen-aged boys in the outdoor adventure program.

Another finding in the study of demographic characteristics and their relationship to participation of the subjects in the program indicated that there was a significant difference in the family income of the male subjects.

This was attributed to a high frequency of male subjects found in the $15,001 to $35,000 family income bracket.

Baseline data established by the pretest, prior to the 1989 4-H Philmont Outdoor Adventure Program experience, indicated that attitudes toward the outdoors were found to be significantly different based upon the age of the subject, in particular the age of the male subject. Although all attitudes toward the outdoors were positive, the adult subjects tended to have a more positive attitude toward the outdoors. The maturity of the adult and previous life experiences were considered as two of the possible contributing factors to influence the adult subjects' positive attitudes.

Prior to the 1989 4-H Philmont Outdoor Adventure Program experience, outdoor attitudes were found to be most positive, regardless of the subject's past participation or non-participation in the program. Those with previous experiences in the 4-H Philmont Outdoor Adventure Program (Groups I and III) tended to have a slightly more positive outdoor attitude than the first-time subjects. The findings of the study indicated that of all the sub-categories of outdoor attitudes (environment, socialization, education, and pollution), the socialization attitudes were significantly different based upon prior participation in the program. The first-time participant tended to not have as strong a positive attitude toward self and toward others as

compared with the non-returning and returning participant. Although it cannot be identified as the sole reason for the difference in socialization attitudes, previous 4-H Philmont Outdoor Program experiences can be considered as a contributing factor in the more positive socialization attitudes of returning and non-returning participants.

No significant difference was noted in the posttest outdoor attitudes by the gender, age, place of residence, or family income of the subjects as a result of participation in the 4-H Philmont Outdoor Adventure program. Attitudes toward the outdoors were most positive, regardless of the demographic variable. Because there was no significant difference in the attitudes of youth and adults after the program experience, the lack of significance may be attributed to the influence the program exerted on the attitude of the youth. The attitudes of youth participants were strengthened and became more positive as a result of participation in the 4-H Philmont Outdoor Adventure Program.

The findings of the study established that participants in the program had a high mean on positive attitudes toward the outdoors, both at the entry level and completion of the outdoor adventure experience. These findings concur with those of Ewert (1982) regarding the recurring and well noted factor that Outward Bound participants are, for the most

part, self-selecting individuals and may consequently differ from their age group norms in many dimensions.

Findings of this study also established that a significant change in attitudes toward the outdoors did not occur as a result of participation in the 4-H Philmont Outdoor program. Attitudes tended to be very positive prior to the experience and became somewhat more positive after the experience, but of no statistical significance. These findings concurred with those of Perdue and Warder (1981), Talbot and Kaplan (1986), Simpson (1985), and McRae (1986) regarding the impact of a short-term wilderness experience on outdoor environment attitudes. The outcome of these studies proposed that the development of a positive outdoor attitude will more likely be the result of a series of outdoor experiences in a variety of settings and situations rather than as the result of a one-time wilderness experience.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The design of an outdoor adventure program should be one that includes a series of learning experiences that are appropriate for the needs and expectations of the individuals in the group as well as the group itself. To be more effective, the learning experiences should support the educational objectives of the program. The development of an appreciation and respect for the outdoor environment is one of the educational objectives of the Oklahoma 4-H Outdoor Adventure Program.

This study was conducted to determine if differences existed in outdoor environmental attitudes of current and past participants in the Oklahoma 4-H Philmont Outdoor Adventure Program. The primary intent of this study was to determine if there were differences in outdoor attitudes of non-returning, first-time, and returning participants. A second intent of the study was to also determine if there were differences in personal demographic characteristics and participation in the program. A third intent of the study was to determine if the 4-H Philmont Outdoor Adventure

program caused a difference in outdoor attitudes of first-time and returning participants.

Ninety-four (94) subjects comprised the sample for this study, including sixty-eight (68) Oklahoma 4-H members and twenty-six (26) adults. Thirty-one (31) of the subjects participated in the 1988 4-H Outdoor Adventure Program but did not participate in the 1989 program. The twenty-four (24) first-time subjects participated only in the 1989 program. A total of thirty-nine (39) subjects participated in the 1988 program and returned to participate in the 1989 program.

To test the reliability, readability, and understanding of the surveys utilized in the study, a pilot test was conducted involving former participants in the program. The surveys were administered by mail to twenty-seven (27) subjects and a total of 21 responses were returned to the investigator, resulting in a 78% rate of return.

The Millward-Ginter Outdoor Attitude Inventory was utilized as the instrument to measure outdoor environmental attitudes of the subjects in this study. The MGOAI is a 43-item Likert-type scale designed for use to measure attitude change relating the natural environment and degradation of the natural environment. Personal demographic characteristics were collected on a second survey form, including age, gender, place of residence, family income,

and years of participation in the 4-H Outdoor Adventure Program.

All subjects were pretested with the MGOAI and Personal Data survey prior to any learning experiences associated with the 1989 program. Group I was tested by mail, with a 78% rate of return. The surveys were administered at the Camper Rally or by mail for subjects in Group II and Group III, with a 100% rate of return. Posttests were administered to subjects in Group II (first-time) and Group III (returning) upon completion of their 1989 4-H Philmont Outdoor Adventure program experience.

Independent variables in the study for hypotheses one, two, three, and four included the age, gender, family income, place of residence, and years of participation in the 4-H Philmont Outdoor Adventure Program. The dependent variable for H1 was years of participation in the program. The dependent variable for H2, H3, and H4 were the outdoor environmental attitudes, including overall outdoor attitudes and sub-categories of environment, socialization, education, and pollution attitudes. The independent variable for the fifth hypothesis was the 1989 4-H Philmont Outdoor Adventure Program experience, with the dependent variable for the hypothesis being the outdoor environmental attitudes.

Statistical analysis was performed at the Virginia Polytechnic Institute and State University's Computer Center

using the SPSSX (1988) program. Statistical techniques used in analyzing the data included analysis of variance and a matched pair t-test. Significance was determined at the .05 level of significance.

Analysis of variance was conducted to determine if significant differences existed in selected demographic characteristics of subjects (age, gender, place of residence, and family income) and their participation in the program. In addition, analysis of variance was employed to determine if significant differences existed in the pretest outdoor attitudes of the subjects in relationship to their participation in the program.

Analysis of variance was utilized to determine if differences existed in the pretest as well as the posttest outdoor attitudes of subjects in relationship to selected demographic characteristics. A matched pair t-test on adjusted pretest and posttest scores was used to determine if significant differences existed as a result of the 4-H Philmont Outdoor Adventure program experience.

Conclusions

The following conclusions are stated in relation to the five pre-established hypotheses with due consideration for the evidence provided by this study.

Hypothesis One. There is no significant difference in participation in the 4-H Philmont Outdoor Adventure Program

by selected personal demographic characteristics (gender, age, place of residence, and family income) of non-returning, first-time, and returning participants.

The age of the subject was found to be of significance, with an F ratio of .013, in relationship to participation in the program. The age of the female subject was found to be of significance as well, with an F ratio of .007. The income of the male subject was the third variable found to be of significance, with an F ratio of .008.

Because of the design of the program, there were significantly more youth participants than adult participants. More of the male participants reported a family income in the $15,001 to $35,000 range than other income brackets. There was a higher frequency of boys participating in the 1988 and 1989 program as compared to girls, indicating that the program is indeed reaching and involving teen boys. Hypothesis one was rejected.

Hypothesis Two. There is no significant difference in attitudes toward the outdoors by selected personal demographic characteristics (gender, age, place of residence, and family income) of participants in the 4-H Philmont Outdoor Adventure Program as shown by pretest means.

Overall, attitudes toward the outdoors were very positive as shown by pretest means. Environment attitudes tended to be strongest of all the sub-categories, which

included environment, education, socialization, and pollution.

The age of the subject and their attitudes toward the outdoors was found to be of significance, with an F ratio of .024. Likewise, the difference in attitudes toward the outdoors by the age of the male subjects was found to be of significance, with an F ratio of .011.

The age of the subject did indeed make a difference in their pretest attitudes toward the outdoor environment. Therefore, hypothesis two was rejected.

Hypothesis Three. There is no significant difference in attitudes toward the outdoors by non-returning, first-time, and returning participants in the 4-H Philmont Outdoor Adventure Program as shown by pretest means.

Attitudes being measured included overall outdoor attitudes and sub-categories of environment, socialization, education, and pollution attitudes. Attitudes were found to be very positive for the entire sample. Of those five categories, a difference in socialization attitudes was found to be significant, with an F ratio of .035. The first-time participant had the lowest means of all three groups in socialization attitudes, indicating that their self-concept and perceived ability to relate to and work with others was not as positive as the returning and non-returning participant. Thus, hypothesis three was rejected.

Hypothesis Four. There is no significant difference in attitudes toward the outdoors by selected demographic characteristics (gender, age, place of residence, and family income) by participants in the 4-H Philmont Outdoor Adventure Program as shown by posttest means.

Posttest attitudes toward the outdoors were found to be most positive, regardless of the independent variable being tested. No significant differences in attitudes were found for any variable, including gender, age, place of residence, and family income. Therefore, hypothesis four was not rejected.

Because the age of the subject was found to be of significance in pretest outdoor attitudes and of no significance in posttest attitudes, the 4-H Philmont Outdoor Program experience did have a positive effect on outdoor attitudes of youth participants.

Hypothesis Five. There is no significant difference in outdoor attitudes on a group or individual basis as a result of participation in the 4-H Philmont Outdoor Adventure Program.

Both pretest and posttest scores for subjects in all three groups were very positive, with posttest scores indicating a more positive attitude. However, these changes in attitudes were not of the magnitude to be of significance as tested by the MGOAI. Therefore, hypothesis five was not rejected.

Recommendations

As a result of this study the investigator recommends consideration of the following suggestions for further research:

1. That pretest and posttest survey forms utilize the same Likert-type responses so as to not confound the study. The preferred response scale of the investigator is the one utilized in the pretest, which tends to show more intensity of the subjects' response to a statement. The scale includes Agree, Tend to Agree, Tend to Disagree, Disagree, and Don't Know as responses.

2. The posttest of such a study be given on the morning following the return to base camp rather than during the evening meal on the day of the return to base camp. This recommendation is based on several factors: the atmosphere of the dining hall, excitement of eating "real food," and socializing with fellow participants is not conducive to completing a survey that requires the subject to think before responding. The preferred time would be the following morning, after the bus has departed from base camp.

3. A followup study should be conducted 6 months and 12 months following the outdoor adventure program experience in order to determine the long-range effects of the program on outdoor attitudes.

4. To enhance the robustness and generalization of implications of future studies of similiar nature to this study, a larger sample of subjects is strongly recommended.

5. A more sensitive instrument should be developed and utilized to evaluate outdoor environmental attitudes in outdoor adventure programs. Further study should be done to address the issue of attitude change and behavior change of participants during and following an outdoor adventure program experience.

6. Further study should be done to measure the effects of the 4-H outdoor adventure program on different variables such as self-esteem, interpersonal relationship skills, and leadership life skills. Program objectives should guide the direction of the study.

7. Further study should be conducted regarding motivation factors for participation in an outdoor adventure program utilizing data collected via this study.

8. A standardized 4-H curriculum should be developed for use in each 4-H outdoor adventure program implemented on a state or local level so that a larger study could be conducted incorporating comparable data from each program.

9. An outdoor adventure program should be designed so as to offer a greater variety of learning experiences, in particular on the local or county level, including explorations of backyards, small town parks, small group

outings, and nearby natural resources, in addition to wilderness settings.

As a result of this study, the investigator recommends consideration of the following suggestions and questions for the Oklahoma 4-H Philmont Outdoor Adventure Program:

1. Participation in the 4-H Philmont Outdoor Adventure Program is open to any 4-H member and adult, as long as they meet the age requirements. One of the original goals of the program was to offer a 4-H experience that would be of interest to teens, in particular the boys, so as to maintain their involvement in the 4-H program. The Philmont Outdoor Adventure Program has consistently reached that goal each year since its inception, with two-thirds of the participants being males. Questions need to be answered so as to provide program accountability: Has the Philmont Outdoor Adventure Program kept the youth enrolled in 4-H? More involved in 4-H? If so, where (local, district, state)? Do the participants serve in leadership roles in 4-H, school, and church as a result of their outdoor adventure experience?

2. Fifty percent of the participants in the study reported a family income of $15,000 to $45,000. Only 8.5% reported a family income of less than $15,000. Low income youth and adults tend not to participate in the 4-H Philmont Outdoor Adventure Program. The cost of the program and equipment may be prohibitive for potential interested 4-H

members. There is a need to design and offer a 4-H outdoor adventure program on a local level that would not be cost-prohibitive for any individual. The attainment of grants and donor monies for the state program should be pursued by those responsible for the program.

3. The outdoor attitudes of current and past participants in the 4-H Philmont Outdoor Adventure Program tend to be very positive. Do these attitudes bring about positive behavior? Are these attitudes transferred to the local community and every day world? Do the participants get involved in litter programs, local outdoor adventure outings, share their skills and knowledge with younger 4-H members? Is participating in the Philmont program worthwhile for 4-H?

4. Can the 4-H Philmont Outdoor Adventure Program more effectively provide leadership and management skill training so that youth and adult participants can serve in those roles on the local, county, or state level?

5. Finally, the investigator recommends that more time be given to leader training of adult participants, with the agenda including environmental education activities which can be taught and shared with the youth when hiking in the backcountry.

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APPENDIXES

APPENDIX A

OKLAHOMA STATE UNIVERSITY

CONSENT FORM

OKLAHOMA STATE UNIVERSITY

CONSENT FORM

I,_____, hereby authorize or direct Pat Trotter, or assistants of her choosing, to perform the following procedure:

I will be asked to complete a written questionnaire pertaining to outdoor environmental attitudes and personal demographic information. I will complete this questionnaire at the Camper Rally or by mail. I understand that this is not an experimental study. I should not experience any discomfort or be at any risk by responding to the questions. Completion of this questionnaire should take no more than 30 minutes.

I understand that all results will be kept confidential with respect to any written or verbal reports, therefore making it impossible to identify a subject individually.

As a participant in the 1988 and/or 1989 Oklahoma 4-H Outdoor Adventure Program, my involvement in this study will be of value to the program and to the benefit of future participants .

I understand that this is a doctoral dissertation research project entitled "Environmental Attitudes of Participants in the Oklahoma 4-H Outdoor Adventure Program". This project is being carried out by Pat Trotter, under the supervision of Dr. Lowell Caneday, Associate Professor, Health, Physical Education, and Leisure Sciences, Oklahoma State University.

The purpose of this project is to determine the differences in personal demographic data and outdoor environmental attitudes of non-returning, returning, and first-time participants in the Oklahoma 4-H Outdoor Adventure Program.

I understand that participation is voluntary, that there is no cost, that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time without penalty after notifying the project director.

I may contact Pat Trotter at 703/231-6371 should I wish further information about the research. I may also contact Terry Macuila, University Research Services, 001 Life Sciences East, Oklahoma State University, Stillwater, OK 74078; 405/744-5700.

I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

APPENDIX B

OUTDOOR ADVENTURE PARTICIPANT QUESTIONNAIRE

OUTDOOR ADVENTURE PARTICIPANT QUESTIONNAIRE

(Please circle or fill in the correct answer for these questions)

1. Age in years
   1. 13 - 19 years
   2. 20 years and older

2. Sex
   1. Male
   2. Female

3. Place of residence
   1. Farm
   2. Rural, non-farm
   3. Small town
   4. Suburb/city

4. Income for household last year:
   1. Under $15,000
   2. $15,001 to $35,000
   3. $35,001 to $45,000
   4. $45,001 to $55,000
   5. $55,001 to $65,000
   6. More than $65,000
   7. Don't know

5. Number of years as a 4-H member: _____ Years

6. Is this your first year to participate in the Oklahoma 4-H Philmont Outdoor Adventure Program?
   1. Yes
   2. No

7. If you answered "no" to question #6, please complete this statement: Including the 1989 program, please identify the total number of years that you have participated in the Oklahoma 4-H Philmont Outdoor Adventure Program:

   _____Years

8. Please mark with a ( ) check the reason(s) why you chose to participate in the Oklahoma 4-H Outdoor Adventure Program. You may mark more than one reason. Please indicate whether this was a high priority (HP), medium priority (MP), or low priority (LP) reason for your participation by circling the appropriate letters.

_____1.	To make new friends.	HP MP LP
_____2.	A friend or family member has participated in the program and encouraged me to sign up.	HP MP LP
_____3.	I like the outdoor environment.	HP MP LP
_____4.	The physical challenge.	HP MP LP
_____5.	To find out more about myself.	HP MP LP
_____6.	The desire for adventure.	HP MP LP
_____7.	I serve as a leader for a group/club in my county and want to strengthen my leadership skills.	HP MP LP

9. If you were a participant in the 1988 program but have not registered for the 1989 program, please complete the following statement:

   Please mark with a check ( ) the reason(s) why you chose not to participate in the Oklahoma 4-H Outdoor Adventure Program. You may mark more than one reason. Please indicate whether this was a high-priority (HP), middle-priority (MP), or low priority (LP) reason for your non-participation in the program.

_____1.	Graduated from high school.	HP MP LP
_____2.	Moved from the county/state.	HP MP LP
_____3.	Financial reasons.	HP MP LP
_____4.	Other activities had to take higher priority.	HP MP LP
_____5.	It was not what I expected	HP MP LP
_____6.	It was too much of a physical challenge	HP MP LP

APPENDIX C

MILLWARD-GINTER OUTDOOR ATTITUDE INVENTORY

MILLWARD-GINTER OUTDOOR ATTITUDE INVENTORY

Directions for Administering the Outdoor Attitude Inventory

1. Distribute the questionnaire to each individual.
2. Make certain each individual has a pencil for marking the questionnaire.
3. Then say: Print your name in the appropriate space along the top right-hand side of the questionnaire.
4. Then say: I am going to read the directions about what you are to do. You are to read the directions on the first page silently as I read them aloud. (Proceed to read the directions on the cover page).
5. Then say: Are there any questions about what you are to do? (Answer any questions they might have).
6. Then say: When I tell you to begin working you are to answer each statement according to how you feel. There are no right or wrong answers. This is not a test of speed. You are to answer all statements. When you finish, raise your hand and I will collect your questionnaire.
7. Then say: You may begin.

(Please do not interpret any of the statements for the individuals. Please try to avoid looking at their answers during and after the testing session).

MILLWARD-GINTER OUTDOOR ATTITUDE INVENTORY
Pretest

DIRECTIONS:

The following statements are about different things in the outdoors. The way you answer the statements will help leaders and extension agents know what you like and dislike about the outdoors. Here is an example of what you are to do.

	Agree	Tend to Agree	Tend to Disagree	Disagree	Don't Know
1. I enjoy going fishing.	A	TA	TD	D	DK

YOU SIMPLY CIRCLE ONE OF THE FIVE SIGNS ON THE SHEET AS SHOWN ABOVE.

The five signs mean this:

A = you AGREE or LIKE it.

TA = you TEND TO AGREE or TEND TO LIKE it.

TD = you TEND TO DISAGREE or TEND TO DISLIKE it.

D = you DISAGREE or DON'T LIKE it.

DK = you DON'T KNOW whether or not you agree or disagree or whether you like or dislike it.

In the example above, the person didn't know whether he liked or disliked fishing so he circled "DK". If the person enjoyed fishing, he probably would have circled "A". In other words, THERE ARE NO RIGHT OR WRONG ANSWERS. All you do is read each statement carefully and circle one of the five signs according to how you feel about the statement. Please answer all statements. It is very important to give a truthful answer for this is how we can tell which activities outdoor adventure participants like and dislike.

MILLWARD-GINTER OUTDOOR ATTITUDE INVENTORY
Posttest

DIRECTIONS:

The following statements are about different things in the outdoors. The way you answer the statements will help leaders and extension agents know what you like and dislike about the outdoors. Here is an example of what you are to do.

	Strongly Agree	Agree	Undecided or Don't Know	Disagree	Strongly Disagree
1. I enjoy going fishing.	SA	A	U	D	SD

YOU SIMPLY CIRCLE ONE OF THE FIVE SIGNS ON THE SHEET AS SHOWN ABOVE.

The five signs mean this:

SA = you STRONGLY AGREE or STRONGLY LIKE it.

A = you AGREE or LIKE it a little bit.

U = you are UNDECIDED or DON'T KNOW if you like or dislike it.

D = you DISAGREE or DON'T LIKE it.

SD = you STRONGLY DISAGREE or STRONGLY DISLIKE it.

In the example above, the person was undedcided about fishing so he circled "U". If the person enjoyed fishing, he probably would have circled "SA". In other words, THERE ARE NO RIGHT OR WRONG ANSWERS. All you do is read each statement carefully and circle one of the five signs according to how you feel about the statement. Please answer all statements. It is very important to give a truthful answer for this is how we can tell which activities outdoor adventure participants like and dislike.

		Agree	Tend to Agree	Tend to Disagree	Disagree	Don't Know
1.	If you live in the city, you do not have to be concerned with soil conservation.	A	TA	TD	D	DK
2.	Most wild animals are not dangerous if left alone.	A	TA	TD	D	DK
3.	No one should drop even one piece of paper outdoors.	A	TA	TD	D	DK
4.	Pollution is not really as bad as people say it is.	A	TA	TD	D	DK
5.	It would bother me to undress in front of other tentmates before going to bed.	A	TA	TD	D	DK
6.	We can get along without bees.	A	TA	TD	D	DK
7.	There are more interesting things to do than to learn about plants and animals in the outdoors.	A	TA	TD	D	DK
8.	I would enjoy living in the mountains.	A	TA	TD	D	DK
9.	My friends alone cannot do much to improve the environment.	A	TA	TD	D	DK
10.	Working with other people in the out-doors is fun.	A	TA	TD	D	DK
11.	I get along well with others in the out-of-doors.	A	TA	TD	D	DK
12.	Learning in the outdoors is fun.	A	TA	TD	D	DK
13.	Time spent studying in the outdoors is a waste of time.	A	TA	TD	D	DK

		Agree	Tend to Agree	Tend to Disagree	Disagree	Don't Know
14.	Protecting our forests is not important as we have other things to use in place of wood.	A	TA	TD	D	DK
15.	Snakes are helpful to the environment.	A	TA	TD	D	DK
16.	It is hard for a group of people to agree with one another when planning activities.	A	TA	TD	D	DK
17.	I enjoy working with a group of friends outdoors.	A	TA	TD	D	DK
18.	I enjoy being with adults in the outdoors.	A	TA	TD	D	DK
19.	I think it is exciting to be alone in the woods if you are not lost.	A	TA	TD	D	DK
20.	Schools should spend more time teaching conservation of our natural resources.	A	TA	TD	D	DK
21.	Litter is not a problem where I live.	A	TA	TD	D	DK
22.	People cause more pollution than industrial plants.	A	TA	TD	D	DK
23.	It is easy to make friends at camp during supper.	A	TA	TD	D	DK
24.	If I am not interested in the outdoors, I should not have to learn about it.	A	TA	TD	D	DK
25.	It is not easy to make new friends at camp.	A	TA	TD	D	DK

		Agree	Tend to Agree	Tend to Disagree	Disagree	Don't Know
26.	Animals that live in the water are not as important as animals that live on the land.	A	TA	TD	D	DK
27.	Outdoors is not a place for school but is a place for playing.	A	TA	TD	D	DK
28.	Since hawks kill rabbits, it is wise for man to kill hawks.	A	TA	TD	D	DK
29.	When natural resources are used up on the earth we can get them from another planet.	A	TA	TD	D	DK
30.	I can improve my environment by writing to my senator or representative.	A	TA	TD	D	DK
31.	Nature interests me.	A	TA	TD	D	DK
32.	I like to study outdoor subjects.	A	TA	TD	D	DK
33.	I like small streams in the woods.	A	TA	TD	D	DK
34.	We should give food to birds in the winter.	A	TA	TD	D	DK
35.	There is no harm in taking living plants home from the forest.	A	TA	TD	D	DK
36.	All kinds of plants are needed on earth.	A	TA	TD	D	DK
37.	Spiders are helpful to man.	A	TA	TD	D	DK
38.	Plants that live in the water are not as important as plants that live on the land.	A	TA	TD	D	DK
39.	Litter makes pollution.	A	TA	TD	D	DK
40.	Hunting should be a year-round sport.	A	TA	TD	D	DK

		Agree	Tend to Agree	Tend to Disagree	Disagree	Don't Know
41.	I like books about nature.	A	TA	TD	D	DK
42.	Nature hikes are not much fun.	A	TA	TD	D	DK
43.	There is little that I can do to stop pollution.	A	TA	TD	D	DK

MGOAI Environment Sub-Category

	Statement	Statement Number
1.	Most wild animals are not dangerous if left alone.	2
2.	We can get along without bees.	6
3.	I would enjoy living in the mountains.	8
4.	Protecting our forests is not as important as we have other things to use in place of wood.	14
5.	Snakes are helpful to the environment.	15
6.	Animals that live in the water are not as important as animals that live on the land.	26
7.	Since hawks kill rabbits, it is wise for man to kill hawks.	28
8.	Nature interests me.	31
9.	I like small streams in the woods.	33
10.	We should give food to the birds in the winter.	34
11.	There is no harm in taking living plants home from the forest.	35
12.	All kinds of plants are needed on earth.	36
13.	Spiders are helpful to man.	37
14.	Plants that live on the water are not as important as plants that live on land.	38
15.	Hunting should be a year-round sport.	40
16.	Nature hikes are not much fun.	42

MGOAI Education Sub-Category

	Statement	Statement Number
1.	There are more interesting things to do than to learn about plants and animals in the outdoors.	7
2.	Learning in the outdoors is fun.	12
3.	Time spent studying in the outdoors is a waste of time.	13
4.	Schools should spend more time teaching about conservation of natural resources.	20
5.	If I am not interested in the outdoors, I should not have to learn about it.	24
6.	Outdoors is not a place for school but is a place for playing.	27
7.	I like to study outdoor subjects.	32
8.	I like books about nature.	41

MGOAI Socialization Sub-Category

	Statement	Statement Number
1.	It would bother me to undress in front of other tentmates before going to bed.	5
2.	Working with other people in the outdoors is fun.	10
3.	I get along well with adults in the out-of-doors.	11
4.	It is hard for a group of people to agree with one another when planning activities.	16
5.	I enjoy working with my friends in the outdoors.	17
6.	I enjoy being with adults in the outdoors.	18
7.	I think it is exciting to be alone in the woods if you are not lost.	19
8.	It is easy to make friends at camp during supper.	23
9.	It is not easy to make new friends at camp.	25

MGOAI Pollution Sub-Category

	Statement	Statement Number
1.	If you live in the city, you do not have to be concerned with soil conservation.	1
2.	No one should drop even one piece of paper outdoors.	3
3.	Pollution is not really as bad as people say it is.	4
4.	My friends alone cannot do much to improve the environment.	9
5.	Litter is not a problem where I live.	21
6.	People cause more pollution than industrial plants.	22
7.	When natural resources are used up on the earth we can get them from another planet.	29
8.	I can improve my environment by writing to my senator or representative.	30
9.	Litter makes pollution.	39
10.	There is little that I can do to stop pollution.	43

APPENDIX D

CORRESPONDENCE

(Letter to Group I, non-returning subjects)

April - 1989

Dear ,

The Oklahoma 4-H Outdoor Adventure Program is entering its eighth year of existence. As a past participant in the program, your involvement in this research study is vital to the continuing success of the program.

We know a lot about the outdoor environment and we also know a lot about you, the participant. But, what we really don't know are your attitudes towards the outdoor environment and the factors that might make a difference in your attitude.

To help strengthen the purpose and design of the Outdoor Adventure Program, I would like to ask for your cooperation and involvement in a research study. It won't take much time, doesn't cost any money, and it will be of great benefit to the program!

Please complete and return the enclosed questionnaire and one consent form to me. For your convenience, please use the self-addressed and self-stamped envelope to mail the forms to me. In order for your input to be counted, I must hear from you by April 24th.

Thank you for your time in responding to my request. I look forward to hearing from you by April 24th. Please contact me at 703/231-6371 (work) or 703/951-2521 (home) if you should have any questions.

Sincerely,

Pat Trotter

Pat Trotter
Extension Specialist, 4-H
105 Hutcheson Hall, VPI
Blacksburg, VA 24061

(Letter to Group II and III, first-time and returning subjects)

April - 1989

Dear Outdoor Adventure Participant,

The Oklahoma 4-H Outdoor Adventure Program is entering its eighth year of existence. As a past or as a current participant, you are vital to the continuing success of the program.

We know a lot about the outdoor environment and we also know a lot about you, the participant. But, what we really don't know are your attitudes towards the outdoor environment and the factors that might make a difference in your attitude.

To help strengthen the purpose and design of the Outdoor Adventure Program, I would like to ask for your cooperation and involvement in a research study. It won't take much time, doesn't cost any money, and it will be of great benefit to the program!

Please complete the attached questionnaire and both consent forms. You are to keep one of the consent forms and return one form, along with your completed questionnaire, to Laura Trotter.

Thank you for your time in responding to my request. Please contact me at 703/231-6371 (work) or 703/951-2521 (home) if you should have any questions.

Sincerely,

Pat Trotter

Pat Trotter
Extension Specialist, 4-H
105 Hutcheson Hall, VPI
Blacksburg, VA 24061

(Letter to absentee Group II and III subjects)

April - 1989

Dear Outdoor Adventure Participant,

The Oklahoma 4-H Outdoor Adventure Program is entering its eighth year of existence. As a past or as a current participant, you are vital to the continuing success of the program.

We know a lot about the outdoor environment and we also know a lot about you, the participant. But, what we really don't know are your attitudes towards the outdoor environment and the factors that might make a difference in your attitude.

To help strengthen the purpose and design of the Outdoor Adventure Program, I would like to ask for your cooperation and involvement in a research study. It won't take much time, doesn't cost any money, and it will be of great benefit to the program!

Please complete and return the enclosed questionnaire and one consent form to me. For your convenience, please use the self-addressed and self-stamped envelope to mail the forms to me. In order for your input to be counted, I must hear from you by April 28th.

Thank you for your time in responding to my request. I look forward to hearing from you by April 28th. Please contact me at 703/231-6371 (work) or 703/951-2521 (home) if you should have any questions.

Sincerely,

Pat Trotter
Extension Specialist, 4-H
105 Hutcheson Hall, VPI
Blacksburg, VA 24061

DATE_____Time_____

Signed_____
(signature of subject)

"I certify that I have personally completed all blanks in this form and explained them to the subject before requesting the subject to sign it".

Signed Pat Trotter Date 3/1/89
(Project Director)

VITA 2

Patricia McNally Trotter

Candidate for the Degree of

Doctor of Education

Thesis: ENVIRONMENTAL ATTITUDES OF PARTICIPANTS IN THE OKLAHOMA 4-H OUTDOOR ADVENTURE PROGRAM

Major Field: Higher Education

Minor Field: Health, Physical Education and Recreation

Biographical:

Personal Data: Born in Alva, Oklahoma, June 5, 1947, daughter of Preston L. and Dorothy E. McNally. Two children, Laura Lyn and Brian Lee Trotter.

Education: Received Bachelor of Science Degree in Home Economics Education from Colorado State University in 1970; received Master of Science Degree in Home Economics Education from Oklahoma State University in 1980; completed requirements for the Doctor of Education degree at Oklahoma State University in December, 1989.

Professional Experience: Substitute Teacher, South Barber School District (Kansas) and American Dependent High School (Germany), 1970 to 1973; County Extension Home Economist, Oklahoma Cooperative Extension Service, Oklahoma State University, Alfalfa and Woodward counties, 1974 to 1979; Northwest District 4-H Agent, Oklahoma Cooperative Extension Service, Oklahoma State University, 1979 to 1983; State 4-H Program Specialist, Oklahoma State University, 1983 to 1988; Extension Specialist, 4-H, Virginia Polytechnic Institute and State University, 1988 to present.

Professional Organizations: Oklahoma Association of Extension 4-H Agents, Charter Member, 1975 to 1988, served as President, President-Elect, Vice-President, Treasurer, Chairman of Public Relations; National Association of Extension 4-H Agents, served as Past President, President, President-Elect, Vice-President, Southern Regional Director; Association for Experiential Education; Virginia Association for Outdoor Adventure Education.