INFORMATION TO USERS

This material was produced from a microfilm copy of the original document. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the original submitted.

The following explanation of techniques is provided to help you understand markings or patterns which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting thru an image and duplicating adjacent pages to insure you complete continuity.

2. When an image on the film is obliterated with a large round black mark, it is an indication that the photographer suspected that the copy may have moved during exposure and thus cause a blurred image. You will find a good image of the page in the adjacent frame.

3. When a map, drawing or chart, etc., was part of the material being photographed the photographer followed a definite method in "sectioning" the material. It is customary to begin photoing at the upper left hand corner of a large sheet and to continue photoing from left to right in equal sections with a small overlap. If necessary, sectioning is continued again — beginning below the first row and continuing on until complete.

4. The majority of users indicate that the textual content is of greatest value, however, a somewhat higher quality reproduction could be made from "photographs" if essential to the understanding of the dissertation. Silver prints of "photographs" may be ordered at additional charge by writing the Order Department, giving the catalog number, title, author and specific pages you wish reproduced.

5. PLEASE NOTE: Some pages may have indistinct print. Filmed as received.

University Microfilms International
300 North Zeeb Road
Ann Arbor, Michigan 48106 USA
St. John's Road, Tyler's Green
High Wycombe, Bucks, England HP10 8HR

A Q-METHODOLOGICAL STUDY OF ENVIRONMENTAL ATTITUDES OF PARTICIPANTS IN THE 1975 MICHIGAN YOUTH CONSERVATION CORPS

By

Steven Frank Kinzel

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Fisheries and Wildlife

1977

ABSTRACT

A Q-METHODOLOGICAL STUDY OF ENVIRONMENTAL ATTITUDES OF PARTICIPANTS IN THE 1975 MICHIGAN YOUTH CONSERVATION CORPS

By

Steven Frank Kinzel

The residential, state-sponsored, Youth Conservation Corps in Michigan, during the summer of 1975, was operated with two five-week sessions. Camps were located at Yankee Springs and Headquarters Lake in the Lower Peninsula and Alberta in the Upper Peninsula.

The purpose of this investigation was to: (1) identify attitudes of members of the 1975 Michigan Youth Conservation Corps toward the environment and related areas; (2) determine if there was any shift in attitudes after members had been involved in the program and (3) find any relationship between attitude "types" and age, sex, education, family income, religious orientation, participation in clubs, summer camps, and various outdoor activities.

In order to determine attitudes toward the environment and any possible attitudinal shifts, Q-methodology was used. Interviews were conducted with enrollees involved in the first five-week session to sample attitudes about the environment. Interviews yielded sixty statements about the environment which were used to construct the Q-sample. It was administered

on a pre and post basis to camp participants and members of a church youth group. Data analysis revealed four attitudinal types. These "types" were named: Proponents of Social Control, Want Satisfiers (Hedonists), Proponents of Personal Involvement, and Disbelievers: There Is No Problem.

The Proponents of Social Control view people as being responsible for our environmental problems. They believe people are too materialistic and should know better than to do the things they do. Changing people's values, even if it means legislative action, is their solution.

The Want Satisfiers (Hedonists) do not feel limits should be imposed on them or that they need to personally change their habits in order to bring about a solution to the problem. They have a hands-on approach to Mother Nature and feel that technology, which helps to satisfy their wants, will also get them out of their environmental problems.

The Proponents of Personal Involvement are not anxious to place the blame for environmental problems, but they do believe that others, as well as themselves, are ready to get involved to solve the problems at hand.

The Disbelievers: There Is No Problem do not seem to recognize the problems the other types do. Generally, they feel people who create problems should be and are concerned with taking care of the problems they create.

The consensus statements indicated that subjects agreed that we are a wasteful nation with most people being part of the problem. Subjects also saw industry as an untrustworthy

culprit who must be forced to stop polluting. Finally, subjects were in general agreement that we should consume less, recycle more, and have a greater respect for life and the environment. Factors such as sex, education, grade average, mechanized sports activities, and other outdoor related activities appear to be important when describing the various attitudinal types found in this study.

Of particular interest to this study was the shift in attitudes that could be seen between the pre and posttests. While Factor I (Proponents of Social Control) and Factor II (Want Satisfiers) had several people with significant factor loadings on both the pre and posttest, Factor III (Proponents of Personal Involvement) represented a type of attitude found mainly on the pretest while Factor IV (Disbelievers: There Is No Problem) represented another type of attitude found only on the posttest.

YCC has provided the opportunity Proponents of Personal Involvement have sought. After involvement in the YCC program, their attitudes toward the environment have changed.

Factor IV (Disbelievers: There Is No Problem) represents a coalescing of unidentifiable types of people into an identifiable one. After several weeks in the YCC program, Disbelievers did form recognizable attitudes toward the environment.

From all evidences, it seems that the YCC program has accomplished some measurable objectives.

ACKNOWLEDGMENTS

The completion of this study would not have been possible had it not been for the support and guidance of a number of individuals.

In his role as chairman of my graduate committee, Dr. Gilbert Mouser has provided ceaseless guidance, patience and encouragement. He has also been a model of personal integrity, and the special friendship he has extended has been greatly valued and will long be remembered. My thanks is also extended to the other members of my guidance committee: Dr. Eugene Roelofs, Dr. Milton Steinmueller, and Dr. Henry Foth.

For the enthusiasm and cooperation of Celia Denny, YCC program coordinator, in allowing this study to be conducted, and the support and help of the YCC camp staff (Appendix A), enrollees, and members of the church youth group, I am sincerely grateful.

I am also greatly indebted to Dr. Charles Mauldin for his time, energy, support, and helpful suggestions while guiding me through the intricacies of Q-methodology.

My appreciation is extended to others who have shared in roles of guidance, help, and encouragement: Dave Johnson, Bob Hinkle, Paul Risk, Richard Kasul, John Craig, and Jackie Church.

Finally, I would like to thank my wife, Lynn, for her support in a multitude of ways.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

The Youth Conservation Corps

On August 13, 1970, federal legislation (Public Law 91-375) established the Youth Conservation Corps as a pilot program for the Departments of Agriculture and Interior. Public Law 92-597, which was enacted on October 27, 1972, enabled non-federal environmental agencies to participate in the YCC program beginning the summer of 1974. House Resolution 14897, which set annual appropriation authorizations of $60 million, passed the House and was signed into law by the president on September 3, 1974. This resolution, in conjunction with Public Law 92-597, expanded and made permanent the Youth Conservation Corps.

The policy and purpose of the Youth Conservation Corps can best be seen in Section 1 of Public Law 92-597, which states:

> The Congress finds that the gainful employment during the summer months of American youth, representing all segments of society in the healthful outdoor atmosphere afforded in the national park system, the national forest system, the national wildlife refuge system, and other public land and water areas of the United States creates an opportunity for understanding and appreciation of the Nation's natural environment and heritage. Accordingly, it is the purpose of this Act to further the development and maintenance of the natural resources of the United States by the youth, upon

> whom will fall the ultimate responsibility for maintaining and managing these resources for the American people.

The Act further states that the Corps will be open to youth of both sexes from fifteen to eighteen years of age and will not discriminate due to any social, economic, or racial classifications, but the youth must be permanent residents of the United States, its territories, possessions, or trust territories.

Thus, federal funds were made available not only to federal YCC programs but to state and locally sponsored programs as well. Programs may be either residential or non-residential in nature depending on the goals and funds available to the administering agency. During the summer of 1975, the Division of Information and Education, under the Department of Natural Resources of Michigan, administered three seven-day residential programs as well as two non-residential programs. The non-residential programs were headquartered in Washtenaw County and Alpena. It is the purpose of this study to take an in-depth look at the state's residential camps.

The Ford Forestry Center in Alberta, Michigan, which is eight miles south of L'Anse, was the headquarters for the residential camp situated in the Upper Peninsula. The two residential camps in the Lower Peninsula were located at Headquarters Lake, which is nineteen miles north of Cadillac, and at Chief Noonday Outdoor Center located in Yankee Springs.

The residential, state-sponsored program in Michigan employed a total of 249 youths with 70 working out of Alberta,

81 working out of Headquarters Lake, and 98 working out of Yankee Springs. Forty-two staff personnel (Appendix A) were hired to take care of the various administrative and logistical needs of the camps. The three camps were operated for two five-week sessions so that a maximum number of youths could be given the opportunity to participate in the program.

The youths worked thirty hours a week and participated in environmental education related studies another ten hours each week. The youths worked on a variety of projects from trail planning and building to bank stabilization on streams. While not working or studying, the youths were given the opportunity to participate in various athletic activities or various crafts or hobbies of their choice.

An alternate life-style was stressed throughout the time the youths were in the camps. This alternate life-style was practiced by stressing conservation practices and an appreciation for life as it exists in all forms. Mechanized forms of entertainment such as snowmobiles and motorcycles ridden on trails were played down so that the youths could hopefully slow down and appreciate natural aspects of their environment. Observations indicated that actions changed as the youths were involved in the camps. An example of changed actions occurred with regard to litter in the camps. At the beginning of camp many youths carelessly discarded litter on the ground. As the weeks progressed, the same youths could be observed voluntarily picking up any litter they found. Actions indicate a real change in

attitude as demonstrated by the youths becoming almost incensed by the sight of litter wherever they went.

Definitions of Terms Used

Q-Methodology. Kerlinger (1964) says that, "Q-methodology is a general name used by William Stephenson to express a group of psychometric and statistical procedures he developed."

Q-Technique. Schlinger (1969) defines Q-technique as "a set of procedures for classifying respondents into groups or types on the basis of their attitudes toward a subject under investigation."

Structured Q-Sort. In writing about a structured Q-sort, Kerlinger (1964) says, "In a structured Q-sort, the variables of a 'theory,' or of a hypothesis or set of hypotheses, are built into a set of items along Fisherian experimental and analysis of variance design principles."

Q-Sample. A selected number of statements about a given topic which make up the statement deck in a particular study using Q-methodology.

Q-Sort. An individual's specific distribution of statements in a particular study using Q-methodology.

Factor-Arrays. Stephenson (1953) has the following to say concerning factor-arrays:

> Factor-arrays consist of all the statements or the like of a Q-technique sample, arrayed in rank order of their factor scores. The statement which gains the highest score for a factor is placed at the head of the list and that scoring least is placed at the bottom. In this way all statements

> are laid out before us; we can then look them over, much as we might look down a list of names of students who have been ranked in order of their achievement at school.

Kerlinger (1964) adds, "A factor array is a Q sort constructed from factor analytic results."

Consensus Statement. A statement from the Q-sample about which people on all factors feel essentially the same. It is operationally defined as a statement whose factor scores differ by less than 1.0 standard score across the four factors (Mauldin, 1970).

Discriminating Statement. A statement from the Q-sample about which the people on a particular factor feel a great deal more positively or negatively than people on the other factors. In this study, a discriminating statement is one which rated ±.80 z-scores from the average of the other three factors.

Enrollee or Camper. These terms are used interchangeably in this study to designate the youth participating in the Youth Conservation Corps.

Statement of the Problem

For quite some time educators have wanted to instill certain attitudes as well as knowledge into the population in order to make the world a better place in which to live. It has been thought and felt, as well as taught, by many that the best way to instill or change attitudes and feelings is through experiential learning. Others have felt that if the youth can be reached, attitudes, feelings and ideas can

be transformed within a generation. One need only look at countries at war to see the reality of this statement.

With the importance of reaching the young in order to change attitudes, feelings and ideas, as well as the effect it is believed that experiential learning has on any member of our population, it should be no small wonder as to the potential effectiveness of the Youth Conservation Corps in instilling certain responsibilities, feelings, attitudes and ideas in the youths of today.

Living in an age in which decisions concerning the environment will have such a profound effect for generations to come, we need to have a populace aware of and sensitive to the needs of a stable environment in which they and future generations are to live.

It is the purpose of this investigation to (1) identify attitudes of members of the 1975 Michigan Youth Conservation Corps toward the environment and related areas; (2) determine if there is any shift in attitudes after members have been involved in the program for approximately five weeks; and (3) find any relationship between attitude "types" and such factors as age, sex, education, family income, religious orientation, participation in clubs, summer camps, and various outdoor activities.

General Plan of the Investigation

In order to determine attitudes toward the environment, any possible attitudinal shifts, and possible relationships of attitudinal types to biographic data, Q-methodology was

used in this study. An interview schedule was constructed so that differing opinions about various aspects of the environment could be sampled from campers in the first five-week session. Attitudinal statements were pulled from the interviews so that a Q-sample could be constructed. After the instrument was checked for polarity and discriminating statements, it was administered to participants in the second session of the YCC program as well as to members of a church youth group on a pre and post basis. Biographic data were gathered during the posttest.

Data from the Q-sorts were coded, keypunched, and factor analyzed using the SPSS program for factor analysis on the CDC 6500 computer at Michigan State University. Pre and posttest results were run through QUANAL to give statement arrays and discriminating statements for the various types (those with similar Q-sorts) of people found. Since the pre and posttest results appeared similar, a third factor analysis and run through the QUANAL program was employed to yield the final results used for interpretation. The statement arrays and discriminating statements for each type, as well as biographic data, were used for interpreting each of the types found in this study.

Literature Review

Luag (1960), Whiteman (1965), and George (1966) conducted studies in which they showed significant attitude change on a pre and post basis. Laug (1960) investigated conservation attitude changes with a college biology class

and found that a combination of a two week conservation unit and additional field experiences provided for a significant change in conservation attitudes.

Whiteman (1965) conducted a study of students in the Freshman biology class at Spring Arbor College in which he looked at the effectiveness of course content in changing conservation attitudes and found there was a significant positive conservation attitude change in his experimental group. He found that growing up in a rural environment as opposed to suburban and urban environments provided for a significant change in attitudes between the pre and posttests. Whiteman (1965) also found that students with 4-H training as well as those with summer camp experience scored significantly higher on the pretest than those without the experiences.

George (1966) found that in the analysis of "special" conservation educational experiences, changes in attitude do take place and are associated with interest motivation and exposure to conservation knowledge. He found that age and education were the most significant characteristics associated with differences in attitudes toward conservation among high school students. George (1966) also found that activities in which conservation was emphasized had the greatest effect on the development of conservation attitudes. Conservation clubs, nature camps, summer camps, and hike club activities were related significantly to high scores on the Linkert-type attitude scale.

Appendix B contains the first chapter of the Youth Conservation Corps Source Book for Environmental Awareness which deals with the definition of environmental education and the objectives of the program including purpose, general environmental education objectives (knowledge and attitudes), and specific environmental education objectives for YCC environmental education and work goals.

In order to evaluate the 1973 YCC Program, Johnston, Lingwood, Morris, and Marans (1974) used the following procedure for the collection of primary data:

> The data for this report were collected in self-completed tests and questionnaires designed and printed by the Institute and administered to groups of enrollees in each camp by the camp staff. There were three separate sessions. (1) A pretest of environmental knowledge was given within the first three days of camp. (2) During the first part of the second week of camp, a questionnaire on staff-camper relations and camper participation in camp governance plus a short test of verbal skills were given. Finally, (3) during the last week of camp two instruments were filled out by enrollees: a post-test of environmental knowledge and a questionnaire asking for their assessment of camp quality and their self-assessment of how much they had learned in the several learning areas.

It is not the purpose of this study to evaluate in any way the knowledge objectives which have been studied by the Institute for Social Research of the University of Michigan. It is, however, important to look at the general attitudinal objectives that have not been sufficiently evaluated to date. In the 1973 YCC evaluation by Johnston, Lingwood, Morris, and Marans, the authors feel that the attitudinal objectives should really be dealt with as behavioral disposition toward the use of natural resources. They further state that the

disposition is made up of two components--knowledge and the predisposition to behave--"choosing the 'environmentally sound' type of resource use in any given situation..." The authors go on to state, "We could think of no way to assess these predispositions to behave using a paper-and-pencil instrument administered to the enrollees."

The authors further mention that enrollees would probably endorse ecologically sound practices in camp if they could understand the necessary distinctions, even though they (the enrollees) may not act the part at home. Due to these reasons the authors finally state, "For these reasons, it was decided that the attainment of these 'attitude' objectives could not be properly measured, although some attempt could be made to see if enrollees knew the seven distinctions thought to be important."

In another portion of the 1973 evaluation concerning ecological learnings that were not measured by the tests, Johnston, Lingwood, Morris, and Marans (1974) write, "We noted another type of learning which had occurred which we feel is equally important, but which simply cannot be quantified." In relation to this aspect of learning the authors mention four instances in which observation indicated that something had happened: (1) a girl in California who acquired a new sensitivity toward a clean environment; (2) a boy's appreciation for a whooping crane as it flew overhead; (3) enrollees in Utah voting to shut off the electricity in camp to conserve an energy resource; and (4) efforts of

enrollees in a camp in the East to "raise the consciousness" of people living in a nearby town.

In respect to the above examples, the authors (Johnston, Lingwood, Morris, Marans, 1974) state, "All of these examples demonstrate that enrollees in YCC can learn an appreciation for an unspoiled natural environment and they frequently acquire a new sensitivity to man's impact which fits perfectly the sense of the legislation that created the YCC..." In conclusion of this section of the 1973 YCC evaluation, the authors point out, "It is learnings such as these which paper-and-pencil tests cannot measure, but which we observed in many of the camps we visited."

The evaluation of the 1973 Youth Conservation Corps by the University of Michigan, while gathering valuable information which has been useful in improving the YCC program, has not been able or even sought to identify attitudes and feelings of YCC participants toward the environment and related areas. George (1966) states in his study that investigations using a knowledge test and investigations using an attitude test have been used to evaluate conservation education. Of those works using a knowledge test, George (1966) says, "While each work has made a contribution to the need for effective evaluation, only a few have been effective in focusing on the real objective of conservation education--the changing of attitudes based upon knowledgeable understanding."

It is the purpose of this study, using Q-technique, to identify environmental attitudes and attempt to recognize

significant attitudinal shifts which relate to the Environmental Attitude Objectives of the Youth Conservation Corps.

Many studies have used Q-technique to identify types of attitudes in a given population. Mauldin (1970) used it in a study in which he identified five types of members in the American Angus Association. In classifying golfers into types, Zimmerman (1974) used Q-technique to find six types of golfers who play the game for one reason or another. A Q-study on attitudes toward water resources was conducted by Kahle and Lee (1974) which identified four types of attitudes toward water resources. Hinkle (1976), using another Q-study as a prototype, identified four types of interpretive naturalists in southern Michigan. Thus, Q-technique can be used on a variety of topics, and on using Q-technique, Schlinger (1969) states, "It can be used to study advertisements, slogans, themes, products, brands, company images, magazines, television programs--almost any stimuli about which consumers might have ideas."

Advantages of Using Q-Methodology

Several reasons can be given for choosing Q-methodology for this study on environmental attitudes. With Q-methodology insight is gained of environmental attitudes subjects possess; subjects can be classified into types with similar profiles, independent of demographic variables; and Q is quantitative (Schlinger, 1969). Identifying more positive aspects of Q, Schlinger (1969) states:

> Q-technique, like depth interviews, elicits intensive, in-depth data about individual respondents. But unlike depth interviews, the data of Q-technique are structured and are readily adapted to statistical analysis. Using correlation and factor analysis, each respondent's evaluation of a set of stimuli is compared with every other respondent's rankings of the same stimuli, and types of respondents are objectively and mathematically defined.

Kerlinger (1964) mentions several other aspects of Q that can be viewed as strengths. He finds that Q-sorting is somewhat enjoyable to subjects since it is perhaps challenging and realistic. Kerlinger also expresses that with Q-methodology the verbal expressions of those things common to many subjects are laid out to be viewed and interpreted. Lastly, Kerlinger finds structured Q-sorts to be theoretically oriented and the methodology a valuable tool in exploratory research.

Stephenson (1967) finds the structure of Q-samples important because they allow for repetition of any Q-sample. In another positive note, Stephenson (1967) views Q-methodology as being important because it is subjective to any person performing the sorting routine. In a comparison of Q and R methodologies, Stephenson (1967), in relation to self-referent sorts, states:

> The importance of this becomes clear when it is realized that in all measurement along sampling (R) lines this self-reference is everywhere overlooked. The concern in Q-method is with a person's ideas, attitudes, opinions, beliefs, as these are modeled by the individual as such. A profound and basic error is made in R-method to achieve its objectivity: it measures ideas, attitudes, beliefs, opinions, and so on categorically--that is, as abstractions--oblivious of the self-reference which attaches to all such matters. In Q-method this

> mistake is remedied and all measurements retain self-reference.

Where R-methodology would look at test relationships, Q-methodology looks at relationships between individuals taking the tests (Stephenson, 1953).

Finally, Stephenson (1953) and Kerlinger (1964) see a major strength of Q resting with its close affinity to theory. Stephenson (1953) states that theory is present throughout a Q-study in that:

> 1. It indicates what the sample of statements will be initially; it defines the 'population' of statements for us in Q-methodology.
> 2. From the theory certain propositions are ordinarily derived, and, in turn, the variates are chosen which will put these propositions to test.
> 3. The theory is used to guide us in the factor solution, telling us what sort of facts to look for.

With theory and practicality in mind, Kerlinger (1964) believes Q is a flexible and useful tool when looking into attitudinal changes and evaluating various educational programs.

With these positive aspects of Q-methodology in mind, and the need to identify environmental attitudes as well as any possible attitudinal changes that took place with participants in the YCC program, it was decided that Q was not only the most sensitive instrument available, but the best mechanism for this study.

Limitations

A study such as this would not be complete unless a frank appraisal was given concerning limitations that are

present when Q-methodology is used. Since Q-methodology involves small samples, due to computer capacity limitations (Schlinger, 1969), projections of results, including relative proportions of the factors or image types, cannot be made onto the population (Stephenson, 1967; Mauldin, 1970; Kahle and Lee, 1974). Kerlinger (1964) also feels that one cannot escape the necessity for testing theory on larger numbers of individuals. This may seem to be more of a limitation than it actually is since Mauldin (1972) found in his research that a large random sample confirmed results he had earlier found in a small Q-study of the American Angus Association.

Another limitation of Q-methodology is that it does not find all the attitudinal types in a given population. Even though all the attitudinal types are not found, Q does not claim to find all the types (Mauldin, 1970). If more sorts were collected, it is assumed that more types would be found, but it is also assumed that the major types would again be found if the study were repeated and similar subjects were used for the interviews (Schlinger, 1969).

A criticism of Q-methodology that is viewed by many as a limitation is that it forces subjects to conform to a flattened normal distribution by making subjects place the cards in an already prescribed manner (Kahle and Lee, 1974). Kerlinger (1964) does not feel this is a valid criticism. He believes that most complaints about the forced procedure come from critics who think it constrains the individuals being studied. In actuality, Kerlinger and his students

have found very few individuals who complain about the forced procedure (Kerlinger, 1964). Kerlinger (1972) cites Block in defending the forced sorting procedure:

> Block (1956) compared forced and unforced Q sorting procedures with personality descriptions. His unforced procedure was not completely 'free'; he used an upper limit of nine categories. Stability and discriminating power were used as criteria. He found the correlations between the two procedures to be high, generally over .90. And the forced procedure with a quasi-normal distribution provided greater stability and more discriminations. He concluded that the forced Q-sort method appeared to be equal or superior to the unforced procedure.

It is important to force people to make discriminations that they would otherwise not make unless required (Kerlinger, 1964).

It is often said that the interpretation of Q-data is subjective. Mauldin (1970) counters this argument to a degree by stating that the data, the factor arrays of statements representing the factors, and the combinatorial activity involved in producing the Q-factors are objective. The researcher has no idea or control of what the factors will turn out to be. As can be easily seen, the only subjective part of interpreting Q-data is the explaining of the combinations of statements (Mauldin, 1970).

Other publics might have been used in such a study as this, but only those considered most important were used. Publics not sampled, but of interest to those involved in the YCC program, would be those involving YCC members in non-residential camps in various urban to rural environments as well as other YCC members in other residential camps in Michigan and other states.

CHAPTER II

METHODOLOGY

The residential, state-sponsored, Youth Conservation Corps in Michigan, during the summer of 1975, was operated with two five-week sessions so that a maximum of high school youths could participate. Camps were located at Yankee Springs and Headquarters Lake in the Lower Peninsula and at Alberta in the Upper Peninsula.

Selection of the Q-Sample

In order to gather statements that would later be used in the Q-Sample, in-depth interviews were conducted with eighteen enrollees who were participating in the first five-week session at the various camp locations. The interviews varied in length from one-half hour to three and one-half hours. All the interviews were taped with the permission of the enrollees being interviewed. Eight interviews were conducted at Yankee Springs, six at Headquarters Lake, and four at Alberta. After the first ten interviews, the remaining interviews proved to be repetitious.

Enrollees were chosen to be interviewed in such a way as to give a diversity of responses, so that a wide variety of feelings and attitudes about the environment could be sampled. Interviews were conducted with subjects who were

either Mexican, Japanese, Negro, or Caucasian. Eleven females and seven males were interviewed with family incomes varying from under $5,000 to well over $15,000. The enrollees were from fifteen to seventeen years of age and came from rural to urban environments. Their grade averages ran from 2.0 to 3.8 out of a 4.0 possible. Subjects came from rather large families of five to eleven. Some of those interviewed would have rather been home while others thought the YCC experience was the best thing that could have happened to them. Please refer to Appendix C for the focus interview schedule.

Due to the desire to connect the environmental education in the YCC camps with the environmental education guidelines set forth by the State YCC Environmental Education Objectives Committee (Appendix D), twelve cards were used in the six initial interviews with one of the main topics from the basic objectives of the educational guidelines written on each card. Each of the first six enrollees at Yankee Springs were asked to comment on the cards they thought related to the environment and also on those they thought did not relate to the environment. The cards were labeled with the following topics:

Life Support System
Free Enterprise System
Industrialization
Production-Consumption
Environmental Problems - Cause & Effect
Biological Implications
Social Implications
Psychological Implications
Political Implications

Economic Implications
Technological Implications
Geographical Implications

After conducting the first six interviews it was thought by this researcher that the enrollees felt they were too confined by the cards to talk about other important aspects of the environment. The last twelve interviews were conducted using fifty cards listing various aspects of the twelve main topic areas. After talking to the enrollee for ten to fifteen minutes, he or she was given the fifty cards that had been shuffled prior to the interview and was asked to divide the cards into two groups--those that related to the environment and those that did not relate. After this task was completed the enrollee was asked to comment why each card was placed in its perspective pile. With this method the enrollees appeared to feel more at ease and were able to talk at some length concerning the sub-topics they were given. The twelve main topic areas and sub-topics that related to them follow:

LIFE SUPPORT SYSTEM
- Components of Life Support System

FREE ENTERPRISE SYSTEM
- Free Enterprise System & Energy Consumption
- Profit Motive
- Supply & Demand (prices)

INDUSTRIALIZATION
- Penalization of Industries for Not Cleaning Up the Environment
- Government Control of Industry
- Industry & Incentives to Clean Up the Environment
- Industry & Environmental Problems

Environmental Improvement
Do Industries Waste Natural Resources?

PRODUCTION-CONSUMPTION

Resources

ENVIRONMENTAL PROBLEMS - CAUSE & EFFECT

Trade-Offs in Cleaning Up an Environmental Problem

BIOLOGICAL IMPLICATIONS

Contamination Effects on Life Support System
Population Dynamics
Soil Depletion
Man's Manipulations of Biological Factors
Fertilizers
Food Supply & Demand

SOCIAL IMPLICATIONS

Where Our Society Is Headed
Quality of Life
Role of Values in Policy Choices
Ecological Way of Living
Environmental Problems - birth control, disease, services (garbage pick-up, etc.)
Society - Ecologically Sound?
Environmental Problems - crowding, congestion, jobs, poverty, education, crime, war

PSYCHOLOGICAL IMPLICATIONS

Luxuries & Necessities
Fast Pace of Life
Wilderness
Consumer Habits and Advertising
Life Style
Popularity of a Sound Ecological Life Style
Needs vs. Wants
Off-the-Road Vehicles

POLITICAL IMPLICATIONS

Jurisdiction & State, Local, & Federal Powers
Legislation
Government Agencies Working Together
Decision Making

ECONOMIC IMPLICATIONS

Support of Our Population
Economics of Recycling Materials
Michigan and the Auto Industry
Rising Costs Due to Scarcer Resources (Energy too)

TECHNOLOGICAL IMPLICATIONS

- Alternate Energy Sources
- Changes in Environmental Standards?
- Automation
- Acceleration of Automation & Energy Consumption
- Technology & Our Environmental Problems
- Control Weather?

GEOGRAPHICAL IMPLICATIONS

- Weather and Climate Control
- Sprawl vs. Agricultural Production
- Climatic Conditions and Changes
- Population Density

Since all the interviews were taped, it was possible to review many of them with notes in hand from the actual interviews so that opinion statements might be pulled. From the eighteen interviews, roughly 1,000 opinion statements were taken. These statements were put on cards, then categorized so that similar statements and ideas could be eliminated. Some opinion statements were eliminated while others were combined so that sixty statements emerged to be used as the Q-Sample.

The initial instrument was given to several people to check the balance of the instrument and the possible polarity of the statements. The eight people used to check the instrument included four males from the Fisheries and Wildlife Department at Michigan State University, a male engineer from the Board of Water and Light in Lansing, a female high school student, a female high school graduate, and a female secondary education teacher. After the instrument was administered and the statements checked, a few statements were deleted while others were added to eliminate some confusing

statements as well as statements which did not appear to be very discriminating.

Statements in the final Q-Sample (Appendix E) related to the main topics of the basic objectives of the environmental education guidelines in the following manner:

	Statement Numbers
Life Support System	9, 59
Free Enterprise System	22, 32, 35
Industrialization	13, 24, 25, 27, 33, 53, 57, 60
Production-Consumption	5, 34, 42
Environmental Problems - Cause and Effect	7, 14, 28, 43, 52
Biological Implications	1, 3, 16, 20, 26, 46, 55, 58
Social Implications	4, 6, 19, 23, 38, 45, 56
Psychological Implications	11, 17, 18, 30, 37, 39, 40, 41, 49, 54
Political Implications	15, 36, 47, 48
Economic Implications	8, 12, 29
Technological Implications	10, 21, 44, 50
Geographical Implications	2, 31, 51

Selection of Respondents

Members of the staff, enrollees, and members of a church youth group were included in this study. Staff members, who were included in this study, were those who spent a great amount of time with the enrollees including the activity coordinators, environmental education coordinators, and group leaders. Nine staff members from Yankee Springs, eight staff members from Headquarters Lake, and eight staff members from Alberta were included. Campers were chosen randomly from each of the camps with twenty-six from Yankee Springs, twenty-two from Headquarters Lake, and seventeen from Alberta. Ten people from the church youth group were

included in the study to be used as a control group. Thus, 100 people were included in this study (25 staff members, 65 enrollees, and 10 youth from the church youth group).

Administration of the Q-Sample

The statements composing the final Q-Sample (Appendix E) were put on cards and printed so that the Q-Sample might be administered to participants in a particular camp at the same time. The tests were administered during the first few days of the second camp session as well as during the last week of the session. The Q-Sample and instructions (Appendix F) were personally administered to the camp staff, then to the enrollees, so that the staff could help administer the test. This type of procedure seemed to work quite well with relatively few problems. The Q-Sample was also personally administered to the members of the youth group on a pre and post basis. Biographic data was gathered during the posttest from the staff (Appendix G), enrollees and members of the church youth group (Appendix H).

Subjects were asked to sort the statements into three piles. Those statements subjects agreed with were to be placed in a pile on their left, statements they disagreed with were to be placed in a pile on their right, and statements they were neutral or undecided about were to be placed in a middle pile. Subjects were then asked to further sort the statements into a quasi-normal forced distribution with statements ranging from those on the left which they most strongly agreed with to those on the right which they most

strongly disagreed with. The frequency distribution was as follows:

(N = 60)	Most agree									Most Disgree			
Value:	+6	+5	+4	+3	+2	+1	0	-1	-2	-3	-4	-5	-6
Pile Number	1	2	3	4	5	6	7	8	9	10	11	12	13
No. of Statements	3	3	4	5	6	6	6	6	6	5	4	3	3

After sorting the statements and recording the numbers in the distribution diagram that was provided (Appendix I), subjects were asked to circle their neutral statements and indicate with an arrow the column each thought was their neutral column. The neutral point ranged from 0 to -2 with most between 0 and -1.

Analysis of Data

Three hundred and forty-eight sorts were coded (one hundred and seventy-four pretest sorts and one hundred and seventy-four posttest sorts) which included sorts from the YCC camps at Yankee Springs, Headquarters Lake, and Alberta as well as the sorts from the church youth group. Sorts were selected for the study by first discarding any sorts that were not administered while I was present. Secondly, any sorts which had a number recorded more than once were also discarded.

Data were factor analyzed using the Statistical Package for the Social Sciences (SPSS). One hundred pretest sorts were first analyzed which produced three interpretable factors (Appendix J) after the principal axes solution

underwent varimax rotation (Appendix K). One hundred post-test sorts were then factor analyzed which produced two interpretable factors (Appendix L) after undergoing varimax rotation (Appendix M). The factors in the pre and posttests appeared to be quite similar so one more factor analysis was run using the following sorts from the pre and posttest sorts:

1. Twenty high loadings from Factor I on the pretest
2. Twenty high loadings from Factor I on the posttest
3. All ten sorts from Factor II on the pretest
4. All twenty-one sorts from Factor II on the posttest
5. All eleven sorts from Factor III on the pretest

Thus, a total of eighty-two sorts were used for the final factor analysis. After the principal axes solution underwent varimax rotation (Appendix N), four interpretable factors were found with seventy-five sorts having significant loadings on one and only one factor. Significant factor loadings are determined by computing the standard error for a zero correlation coefficient: $SE = 1/\sqrt{n}$, where n = number of statements. In this case, $SE = 1/\sqrt{60} = .129$. Thus, loadings greater than .322 (2½ SE) are significant at $p < .01$. (Mauldin, 1970).

Each of the three tests was run through the QUANAL program developed by N. Van Tubergen after factors were found using SPSS for the factor analysis. The QUANAL program produced an array of statements for each factor which is considered a "typical" Q-sort along with z-scores for each statement from those statements most positive to those statements

most negative for each "typical" sort. Using the statement arrays as well as discriminating statements for each factor provided the means for interpreting each factor.

Those subjects with low significant factor loadings on the pre and posttests for Factor I are included in the results since their factor loadings were significantly found on the factor analysis for the pre and posttests. The distribution of people on the factors (Appendix O), which includes some subjects who were found on two separate factors when their sorts were combined in the final factor analysis, is as follows:

Factor I: 54
Factor II: 13
Factor III: 9
Factor IV: 8

Subjects which showed up on the pre and posttests of a given factor numbered forty-three with thirty-eight on Factor I, four on Factor II, one on Factor III, and none on Factor IV. Twenty-three subjects were found just on the pretest with nine on Factor I, six on Factor II, eight on Factor III, and none again on Factor IV. On the posttest eighteen subjects were found with seven from Factor I, three from Factor II, none from Factor III, and eight from Factor IV. Thus, eighty-four subjects entered into the four factors (Appendix P) with one hundred and nineteen sorts being used.

CHAPTER III

INTERPRETATION

Subjects in the study were asked to sort sixty statements in a prescribed manner that would reflect their feelings and attitudes about the environment. The resulting Q-sorts were factor analyzed with the individual sorts being correlated with each other. Those which correlated at a certain level of significance were grouped together to form factors. The sorts of each factor were averaged to produce a typical Q-sort representing each factor (Appendix Q) as well as those individuals with significant loadings on the factor.

An explanation of each factor is sought which is both subjective and creative. Subjectivity is limited in that the explanation must fit the data. As stated earlier, the data, the factor arrays, and the combinatorial activity involved in producing the factors are objective and arrived at mathematically. Each reader is encouraged to study the various data and make his own interpretation.

Thumbnail sketches (Mauldin, 1970) are included to give the reader insight as to the characteristics of each factor before a more detailed explanation is given. After the thumbnail sketches the consensus items are studied to give the reader insight as to the opinion statements the subjects were in agreement with in the study. Finally, the individual

factors are studied in detail using the representative factor-array, discriminating statements, and biographic data (Appendix R) to arrive at the detailed explanation. Numbers in parenthesis refer to particular statements in the Q-sample. The discriminating statements and typical Q-sort for each factor follow the detailed factor interpretations. Labels have been attached to each factor so that they may be more easily remembered.

Brief Sketches

The factor analysis yielded four interpretable factors. A thumbnail sketch of each factor is provided before a detailed interpretation is given.

Factor I, Proponents of Social Control

The Proponents of Social Control view people as the ultimate problem in relation to environmental issues. They believe that we have to change people or control them to solve the problems. Proponents of Social Control feel that we have to change people's values on many fronts that relate directly or indirectly to the environment. We may even have to resort to legislative action to solve the problems such as in the case of limiting family size. People are too materialistic and are to blame. Really, people should know better. The Proponents of Social Control are very serious-minded when it comes to problems and solutions concerning the environment.

Factor II, Want Satisfiers (Hedonists)

The Want Satisfiers do not feel they should have limits placed on them. After all, technology, which helps to satisfy our wants, can also get us out of our ecological problems. The Want Satisfiers have a hands-on approach to Mother Nature believing we can continually change the environment to suit our needs. They do not feel the need to personally change their habits in order to bring about a solution to the problems since the problems will be taken care of by technology. It's just a matter of time.

Factor III, Proponents of Personal Involvement

The Proponents of Personal Involvement feel very strongly that the solution to the problems rests with individual involvement. As they see us as wasteful, they believe if we would all pitch in, we would lick the problems such as garbage and wastes. They do not believe we have to cut our life-styles to necessities; all we have to do is get involved. The Proponents of Personal Involvement are willing to do their part by getting involved and believe others are too. They see more elbow room on the planet if people would get involved by moving to less inhabited areas. In general, the Proponents of Personal Involvement are not interested in placing the blame for environmental problems, but are interested in getting personally involved for the solution.

Factor IV, Disbelievers: There Is No Problem

The Disbelievers really do not see a problem as the other types would. They do not believe there is a gas shortage or other such problems. The Disbelievers feel everyone has the right to do what he wants until he has evidence that it interferes with the freedom of others. Disbelievers do not see a problem with people's life-styles and believe people who create environmental problems should only be concerned with cleaning up their own messes.

Consensus Items

Twenty-seven of the sixty statements in the Q-Sort emerged as consensus items. Because of this there is a high degree of correlation between the four factors.

TABLE 1

CORRELATIONS BETWEEN FACTORS

	Factor I	Factor II	Factor III	Factor IV
Factor I	1.000	0.649	0.695	0.653
Factor II	0.649	1.000	0.740	0.700
Factor III	0.695	0.740	1.000	0.711
Factor IV	0.653	0.700	0.711	1.000

Although it would be ideal to have more clear-cut types in such a study, it is important to keep in mind the population that was studied and certain common interests the members of the population shared. After considering the consensus items it will be necessary to look at the four factor types to determine subtle differences.

At least sixty-eight percent of each type had participated in family or small group camping experiences. Over eighty percent of each type enjoyed participating in canoeing and hiking activities while at least fifty percent of each type enjoyed participating in other outdoor related sports such as backpacking, swimming, and sledding or tobogganing. With this high degree of contact with the outdoor environment, one would expect a study such as this to produce types that are highly correlated. The nature of the YCC program would also seem to be more attractive to "outdoor types."

The consensus items (Table 2) indicate that subjects agreed that we're a wasteful nation with most people being part of the problem. Subjects see industry as an untrustworthy culprit who must be forced to stop polluting. Subjects agreed that we should consume less, recycle more, and have a greater respect for life and the environment.

In Table 2, the statement and statement number appear at the left. The factors are indicated as FI, FII, FIII, and FIV and are found at the right with the standard scores from the individual factor arrays.

TABLE 2

CONSENSUS STATEMENTS

Statement	FI	FII	FIII	FIV	Average Z-Score
52. I believe man should take the responsibility for most of our environmental problems.	1.4	1.5	1.9	1.5	+1.58
12. One of our important objectives as a society should be increasing our capacity to recycle and reuse our waste products and by-products.	1.5	1.6	1.7	1.2	+1.47
9. It's our responsibility to look after, care for, and save animals and plants from extinction.	0.8	1.4	1.6	1.5	+1.34
46. Americans waste an awful lot of food and could do as well on much less.	1.1	1.2	1.7	1.2	+1.32
59. We don't put enough emphasis on life and respect for the natural environment.	1.5	1.3	1.1	1.1	+1.26
27. People who really care about the environment will try to improve it.	0.9	1.1	1.5	1.5	+1.24
44. There should be stricter environmental standards to make the environment more stable, and to get it cleaned up.	1.0	1.5	1.0	1.0	+1.12
14. People have to be educated so they will be made aware of our environmental problems.	1.4	1.3	1.0	0.8	+1.10
13. The government should place controls on industry in relation to the wastes they produce and enforce these controls with strict fines for violations.	0.9	1.5	1.1	0.9	+1.09

TABLE 2 (cont'd.)

Statement	FI	FII	FIII	FIV	Average Z-Score
6. If people organize, enough pressure can be put on industry to change and clean up the environment.	0.7	1.2	0.8	1.6	+1.04
23. If a lot more people were interested in environmental problems, we'd really be on the road to a sound, secure environment.	0.8	1.0	1.0	1.0	+0.98
28. As a person becomes more aware of the problem of litter, he will think more about it, will feel guilty when he does it, and will tend to stop doing it.	0.6	0.4	0.4	1.1	+0.62
36. Politicians are usually more concerned with getting elected than in taking definite stands on environmental issues.	0.5	0.8	0.3	0.6	+0.54
33. We ought to give industries credit for the environmental improvements they have made in air and water purification systems.	-0.1	0.1	0.6	-0.1	+0.12
29. Rising costs of products are due to scarcer resources being more difficult to find and take from the earth.	-0.1	0.0	0.1	-0.4	-0.09
4. When I leave an unnecessary light on, I am more concerned about the money wasted than about the energy used.	-0.8	-0.1	-0.5	-0.4	-0.45
3. Because environmental problems are so massive, we must rely on government to plan and coordinate the solution to such problems.	-0.5	-0.7	-1.2	-1.0	-0.84

TABLE 2 (cont'd.)

Statement	FI	FII	FIII	FIV	Average Z-Score
60. Generally, industries use only the materials and energy they have to for production.	-1.1	-0.7	-0.7	-1.1	-0.92
47. Local government can do little on environmental issues unless it is backed by the state and federal governments.	-0.8	-0.8	-1.4	-0.8	-0.97
57. We should keep our hands off the environment and let Mother Nature improve it the way she wants.	-0.7	-1.7	-0.8	-0.8	-0.99
10. We should try and control weather more to benefit mankind.	-1.2	-0.7	-0.9	-1.7	-1.14
43. There is little I can do personally to stop major forms of pollution.	-1.2	-1.2	-1.6	-1.0	-1.27
18. The faster the pace of life, the more there is in life we can enjoy.	-1.6	-1.4	-1.1	-1.3	-1.35
16. I don't believe there is an important connection between environmental problems and a growing population.	-1.9	-1.4	-1.4	-1.2	-1.49
7. Small types of litter like gum wrappers or cigarette butts have little effect on the environment.	-1.0	-1.4	-1.9	-1.9	-1.53
20. The loss of one organism from our environment really doesn't matter that much.	-1.4	-1.6	-1.3	-2.0	-1.58
25. It's sad that all our efforts to clean up the environment are in vain since the earth will eventually die anyway.	-1.4	-1.9	-1.7	-1.9	-1.75

In looking at the consensus items in greater detail, we find that many attitudes are indeed shared by most of the subjects in the study. Subjects identified a few key problem areas. They see us as a wasteful nation (12, 46) composed of many people who are not really that interested in environmental problems (23). The problems continue due to a growing population which is a problem itself (16). Problems with litter are significant. Even small types of litter have a large effect on the environment (7). Subjects also believe that we do not put enough emphasis on life and respect for the environment (56). They also recognize the problem of animals and plants becoming extinct (9) and emphasize this by feeling that the loss of even one organism from our environment is important (20).

In placing the responsibility for our problems, subjects see man as the offender (52, 59). They believe Americans are very wasteful (46), but go a step further in placing the blame even though they do recognize that we contribute to environmental problems by having an ever growing population (16). Subjects see industry as the culprit who wastes materials and resources (60) and has to be forced to clean up after itself (6, 13).

In looking at solutions to the problems, subjects feel we should strive to live on less (46) and that an important goal should be to recycle and reuse more waste products (12). They believe that people who really care about the environment will work to improve it (27, 57). People will do this

in several ways. Subjects really believe their efforts will make a difference (25). They believe people need to be educated to be made more aware of the problem (14). If people organize, enough pressure can be put on industry so that they will clean up the environment (6). Subjects also see a big part of getting the environment cleaned up resting with stricter environmental standards (44). Some things they do not see as solutions to the problems. They are not in favor of trying to control the weather (10) and do not believe we can enjoy life more with a faster pace of life (18).

Subjects were unsure about giving industry credit for improvements they are responsible for, if any (33). They also wonder who or what is really responsible for higher prices on goods (29). Lastly, they know they should be concerned about the waste of energy when leaving an unnecessary light on, but still know it might be the incentive of wasting money that encourages them to turn off the light (4).

Subjects also agreed on who is responsible to see that the solution is found and carried out. They see the responsibility not only resting on the population as is the case in saving animals and plants from extinction (9) or on people who care about the environment working to improve it (27), but also recognize that the local and federal government can do something (13, 47). Subjects also agreed that in some cases we cannot rely on the government (3), and in some cases we must find our own answers to get things done as individuals (43).

Factor I: Proponents of Social Control

Biographic Data

Fifty-four persons loaded on Factor I. Of these fifty-four, thirty-eight loaded on the factor on both the pre and posttests. Nine subjects were found to have loaded on the factor on just the pretest while seven subjects loaded on the factor just on the posttest. Thirty were enrollees, twenty-two were members of the staff, and two were from the church youth group. Thirty-three were females and twenty-one were males. Eighteen of the subjects were from the Yankee Springs camp, twenty were from the Headquarters Lake camp, fourteen were from the Alberta camp and two were from the church youth group. The enrollees and youth group members were from fifteen to eighteen years of age with a mean age of 16.43 years while the twenty-two staff members were between the ages of twenty and thirty.

The enrollees and youth group members mean education was 10.75 years while the staff's mean education was 15.5 years with seven possessing B.S. degrees and one possessing an M.S. degree. The mean grade average was 3.25 out of a possible 4.0 for the enrollees and members of the youth group. (Grade average was computed using the following values: A = 4.0; A- = 3.5; B+ = 3.5; B = 3.0; B- = 2.5; C+ = 2.5; C = 2.0; and C- = 2.0.)

Fifty-one of the subjects were white, two were black, and one was Spanish. 29.6% participated in ecology or

environmental clubs as well as photographic activities. 46.2% participated in family camping activities, 68.5% participated in small group camping, and 53.7% participated in individual camping while only 12.9% had no type of camping experience.

Only 9.2% indicated that they rode in dune buggies or snowmobiles, while 12.9% participated in power boating, indicating an aversion to mechanized sports activities. 48.1% participated in fishing while only 16.6% participated in hunting. As would be expected by many, a great number (75.9%) indicated they enjoyed watching animals. Over 50% of this type participated in such outdoor sports as canoeing (88.8%), hiking (87.0%), backpacking (61.6%), swimming (85.1%), running or jogging (57.4%), and sledding or tobogganing (59.2%). For additional data and a comparison of activities with the other types, please refer to Appendix R.

Attitudinal Data

Proponents of Social Control feel that people are the real problem in relation to environmental issues. People are too materialistic and do many things they shouldn't. The Proponents of Social Control feel that the answer or solution to the problems we have lies with changing people or even controlling them through legislation if necessary. The Proponents of Social Control look at life very seriously in relation to the environment and solutions to problems that need to be solved.

Subjects who were found on this factor identified

several problem areas relating to the environment. Because of their feelings, backgrounds, and attitudes, they will be referred to as Proponents of Social Control. The Proponents of Social Control felt that people are too materialistic and make decisions that hurt the environment (19, 40). This materialism can be seen in people's life-styles in which their wants exceed their needs (11, 37, 40). They do not see a higher quality life developing in the world (56). The freedoms and quality of life we now enjoy are being threatened by a growing population (31). The Proponents of Social Control believe in a gas shortage (5) and feel that many wasteful forms of mechanized entertainment are harmful to the environment in one way or another (39). This is in keeping with their behavioral data which shows a lack of participation in this type of activity.

In placing the blame for the problems which confront us, the Proponents of Social Control tend to blame the free enterprise system with industry and technology contributing quite significantly to the problem (32, 21). The Proponents of Social Control do not limit the blame to technology, industry, or the free enterprise system, but see man in a very important position regarding responsibility for some problems (19). The Proponents of Social Control believe that man really has a knack for messing up the environment when he tries to control various biological factors (55).

Proponents of Social Control allow us a way out of our problems by providing for some solutions. They believe

people's values must change (19). These changing values would dictate the need to cut our life-styles to necessities thus allowing us to conserve precious energy and other natural resources (51). Values would also change our view of population control which is a must to take care of the problem of a growing population (31). Another related solution to the problems is the belief that it is not really necessary to maintain our capability to provide for man's wants as well as his needs (11).

If our values do not change we might have to be limited in our food and product consumption so that there will be enough for everyone (34). In limitations, the Proponents of Social Control are not as opposed to the possibility of legislation limiting family size as are the other three types (1). In solving environmental problems, the Proponents of Social Control are not convinced that we should try to control biological factors (55) or that there is really a need to have the auto industry in Michigan in order that the state will survive (8).

Proponents of Social Control see people as being responsible for the solution to the problems at hand (19, 31, 54, 30) and also do not negate the possibility for the need of legislation to take care of the problems that man is unable to solve on his own (34, 1). Finally, the Proponents of Social Control believe man should be aware of the possible results of his actions without having to be told (45).

TABLE 3

DISCRIMINATING STATEMENTS: FACTOR I

Statement	Factor I Z-Score	Average of Other Z's	Difference (Z-Z Average)
19. People's values have to change because they are too materialistic and make decisions that hurt the environment.	1.80	0.15	+1.64
31. Population control is a must if we are going to enjoy the freedoms we have today.	1.30	0.19	+1.11
54. Everyone should cut their life-style to necessities, conserving goods as well as other natural resources such as water and energy.	0.95	-0.62	+1.58
37. If everyone's wants were satisfied, the environment would be a mess.	0.85	-0.19	+1.04
32. Through free enterprise, companies tend to use up too much energy and produce too many goods.	0.79	-0.06	+0.86
21. Industry and technology have created the biggest share of our environmental problems.	0.56	-0.27	+0.83
55. When man tries to change biological factors, they usually backfire on him leaving him faced with a worse situation than he began with.	0.50	-0.47	+0.98
34. There should be some limit placed on everyone concerning their food and product consumption.	0.15	-0.75	+0.90

TABLE 3 (cont'd.)

Statement	Factor I Z-Score	Average of Other Z's	Difference (Z-Z Average)
1. If we are not willing to voluntarily limit our family size, legislation should be passed that would force us into limiting the size of our families.	-0.01	-0.92	+0.91
8. In spite of environmental problems, a state must also preserve its industry. Michigan, for example, needs the auto industry to survive.	-0.47	0.37	-0.84
45. Everyone has the right to do what he wants until he has evidence that it interferes with other people's freedom.	-0.56	0.37	-0.94
5. There really isn't a gas shortage; just old misers trying to collect more money.	-0.79	0.19	-0.99
11. I think it's important that we maintain our capability to provide not just for man's basic needs, but also for things he wants.	-0.80	0.48	-1.29
39. Off the road vehicles are a fun type of recreation, loosen up tensions, and don't hurt the environment that much if they stick to designated areas.	-0.82	0.19	-1.01
40. Most people's lifestyles show we are more concerned about the future now than ever before.	-1.16	0.19	-1.35
56. A higher quality life is developing in the world.	-1.26	0.03	-1.30

TABLE 3 (cont'd.)

Statement	Factor I Z-Score	Average of Other Z's	Difference (Z-Z Average)
30. We should continue to improve our standard of living as much as possible.	-1.50	-0.15	-1.35

TABLE 4

Q-SORT FOR FACTOR I:
PROPONENTS OF SOCIAL CONTROL

		Standard Score
+6	Statements Most in Agreement With	
19.	People's values have to change because they are too materialistic and make decisions that hurt the environment.	1.80
58.	Each individual should be educated in the specific ways that he or she can contribute less to environmental problems and contribute more to environmental solutions.	1.58
59.	We don't put enough emphasis on life and respect for the natural environment.	1.49
+5		
12.	One of our important objectives as a society should be increasing our capacity to recycle and reuse our waste products and by-products.	1.49
14.	People have to be educated so they will be made aware of our environmental problems.	1.40
52.	I believe man should take the responsibility for most of our environmental problems.	1.36
+4		
31.	Population control is a must if we are going to enjoy the freedoms we have today.	1.30
46.	Americans waste an awful lot of food and could do as well on much less.	1.10

TABLE 4 (cont'd.)

		Standard Score
+4	Continued	
44.	There should be stricter environmental standards to make the environment more stable, and to get it cleaned up.	1.02
54.	Everyone should cut their life-style to necessities, conserving goods as well as other natural resources such as water and energy.	0.95
+3		
13.	The government should place controls on industry in relation to the wastes they produce and enforce these controls with strict fines for violations.	0.92
27.	People who really care about the environment will try to improve it.	0.89
37.	If everyone's wants were satisfied, the environment would be a mess.	0.85
38.	One of the most real problems of the environment is the growing problem of garbage and how to get rid of it.	0.84
23.	If a lot more people were interested in environmental problems, we'd really be on the road to a sound, secure environment.	0.83
+2		
9.	It's our responsibility to look after, care for, and save animals and plants from extinction.	0.83
41.	Advertising, by creating unnecessary desires, causes many of our environmental problems.	0.80
32.	Through free enterprise, companies tend to use up too much energy and produce too many goods.	0.80
24.	Just because I didn't make an environmental mess doesn't mean I shouldn't help to clean it up.	0.75
48.	We have to let our elected representatives know how we feel about environmental issues before we can expect them to act favorably toward them.	0.68

TABLE 4 (cont'd.)

	Standard Score
+2 Continued	
49. Everyone should spend some time in a wilderness situation so that they will understand and have more of a feeling for the environment.	0.66
+1	
6. If people organize, enough pressure can be put on industry to change and clean up the environment.	0.66
2. Agricultural land should be saved for food production and building should only take place where land cannot be harvested.	0.63
21. Industry and technology have created the biggest share of our environmental problems.	0.56
28. As a person becomes more aware of the problem of litter, he will think more about it, will feel guilty when he does it, and will tend to stop doing it.	0.56
17. Consumers show they support environmental issues by buying ecological products and disposing of them correctly.	0.52
55. When man tries to change biological factors, they usually backfire on him leaving him faced with a worse situation than he began with.	0.51
0 Neutral or Not Sure Statements	
36. Politicians are usually more concerned with getting elected than in taking definite stands on environmental issues.	0.50
53. Every individual or company should mainly be concerned with cleaning up the pollution they create.	0.37
35. People who try to get ahead in life through business usually care very little about the environment and consume more than their share of goods and energy.	0.24
34. There should be some limit placed on everyone concerning their food and product consumption.	0.16

TABLE 4 (cont'd.)

		Standard Score
0	Continued	
1.	If we are not willing to voluntarily limit our family size, legislation should be passed that would force us into limiting the size of our families.	-0.01
29.	Rising costs of products are due to scarcer resources being more difficult to find and take from the earth.	-0.07
-6	Statements Most in Disagreement With	
16.	I don't believe there is an important connection between environmental problems and a growing population.	-1.87
18.	The faster the pace of life, the more there is in life we can enjoy.	-1.63
15.	Our government spends too much money in trying to clean up our environment.	-1.61
-5		
30.	We should continue to improve our standard of living as much as possible.	-1.50
25.	It's sad that all our efforts to clean up the environment are in vain since the earth will eventually die anyway.	-1.45
20.	The loss of one organism from our environment really doesn't matter that much.	-1.41
-4		
56.	A higher quality life is developing in the world.	-1.26
10.	We should try and control weather more to benefit mankind.	-1.23
43.	There is little I can do personally to stop major forms of pollution.	-1.20
40.	Most people's life-styles show we are more concerned about the future now than ever before.	-1.16
-3		
42.	Going 55 mph on the highway instead of 70 mph really doesn't make that big a difference in conserving our energy supplies.	-1.13

TABLE 4 (cont'd.)

		Standard Score
-3	Continued	
60.	Generally, industries use only the materials and energy they have to for production.	-1.11
51.	We have a lot more room for more people on this earth if they would only spread across the land.	-1.08
7.	Small types of litter like gum wrappers or cigarette butts have little effect on the environment.	-0.96
26.	Manufactured chemical fertilizers are a necessity or else we wouldn't be able to grow the foods we need to survive.	-0.93
-2		
47.	Local government can do little on environmental issues unless it is backed by the state and federal governments.	-0.84
39.	Off the road vehicles are a fun type of recreation, loosen up tensions, and don't hurt the environment that much if they stick to designated areas.	-0.82
11.	I think it's important that we maintain our capability to provide not just for man's basic needs, but also for things he wants.	-0.81
5.	There really isn't a gas shortage; just old misers trying to collect more money.	-0.79
4.	When I leave an unnecessary light on, I am more concerned about the money wasted than about the energy used.	-0.79
57.	We should keep our hands off the environment and let Mother Nature improve it the way she wants.	-0.69
-1		
22.	Because they must maintain public acceptance, most businesses are motivated to help in the effort to solve environmental problems.	-0.59
45.	Everyone has the right to do what he wants until he has evidence that it interferes with other people's freedom.	-0.56

TABLE 4 (cont'd.)

	Standard Score
-1 Continued	
3. Because environmental problems are so massive, we must rely on government to plan and coordinate the solution to such problems.	-0.50
8. In spite of environmental problems, a state must also preserve its industry. Michigan, for example, needs the auto industry to survive.	-0.47
50. I believe technology will help us to find a way out of our environmental problems.	-0.43
33. We ought to give industries credit for the environmental improvements they have made in air and water purification systems.	-0.11

Factor II: Want Satisfiers (Hedonists)

Biographic Data

Thirteen subjects loaded on Factor II. Four loaded on this factor on both the pre and posttests. Six of the subjects were just found on the pretest while three others were found only on the posttest. Eight were enrollees, only two were staff members, and three were from the church youth group. Seven were females and six were males. There was an even distribution among the camps with four from Yankee Springs, three from Headquarters Lake, three from Alberta, and three from the church youth group. The enrollees were from sixteen to eighteen years of age with a mean age of 16.8 years. One of the members of the youth group was fourteen while the two staff members were from twenty to thirty. The enrollees and youth group members had a mean education of 10.72 years and the mean education of the staff members was 17.0 years with one possessing a B.S. degree and the other an M.S. degree. The mean grade average for the enrollees and members of the youth group was 3.04 out of a possible 4.0.

Twelve of the subjects were white and one was black. Although 30.6% were Catholics and 46.0% were Protestants, 68.1% of this type felt they were at best seldom active in church, which is the greatest lack of participation of any of the types. Only 38.4% participated in family camping (the lowest of any type), while 84.6% participated in small group camping (the most of any type), and 53.8% participated in individual camping (the most of any type). Only one

person (7.6%) loading on this factor had no type of camping experience (the least of any type).

Participation was shown in such mecahnized sports as riding in dune buggies (23.0%), snowmobiling (38.5%), water skiing (38.4%), and power boating (38.4%). 69.2% participated in fishing while 30.7% participated in hunting. Only 30.4% indicated they spent time watching animals. Over 50% of these subjects participated in such outdoor sports as canoeing (84.6%), hiking (92.3%), downhill skiing (61.5%), backpacking (76.9%), swimming (69.2%), and sledding or tobogganing (76.9%). It should also be noted that nearly one-half (46.1%) participated in mountain climbing activities. For a comparison of activities with the other types and additional data, please see Appendix R.

Attitudinal Data

The Want Satisfiers (Hedonists) feel that technology, which helps to satisfy our wants, will also help us out of our environmental problems. They feel that individuals should not have limits placed on them since it's just a matter of time before the solution will be found which will not limit us anyway. The Want Satisfiers have a hands-on approach to Mother Nature which will continue to demand more and more from her.

The Want Satisfiers identify problems in terms of whether or not we can continue on the road to success. In believing that a higher quality of life is developing in the world (56), the Want Satisfiers believe that it is important

to maintain our capability to provide for man's wants (11) and does not see a problem with everyone's wants being a factor in environmental quality (37). They do not feel that strongly about agricultural land needing to be saved from development (2) and do not feel that there is a problem with companies wasting too much energy in producing their products (32).

The Want Satisfiers do not identify themselves by placing blame for environmental problems, but rather, they express their belief that several parties are innocent of being a factor in the environmental problems that exist. They do not believe the responsibility lies with advertising (41) or with companies who use only what they have to for production (32). The Want Satisfiers feel that businessmen should not be blamed because they care more than just a little for the environment (35). Businesses are not just motivated to help solve environmental problems because of public pressure, but do so because of their feelings for the environment (22).

The Want Satisfiers get their name due to the solutions they see in getting the environment where it should be. They believe technology will help to get us out of our environmental problems (50) and thus believe we should take an active part in trying to improve the environment we live in (57). The Want Satisfiers feel that we should continue to improve our standard of living (30) and that the solution does not lie in trying to limit people (34). Even though

somewhat negative in using chemical fertilizers, the Want Satisfiers feel stronger than the other types that chemical fertilizers might be necessary to produce the foods we need to survive (26).

In looking at who is responsible for the solutions to our environmental problems, the Want Satisfiers see man's involvement (57) and technology (50) as the key.

TABLE 5

DISCRIMINATING STATEMENTS: FACTOR II

Statement	Factor II Z-Score	Average of Other Z's	Difference (Z-Z Average)
56. A higher quality life is developing in the world.	0.88	-0.67	+1.56
50. I believe technology will help us to find a way out of our environmental problems.	0.85	-0.25	+1.10
11. I think it's important that we maintain our capability to provide not just for man's basic needs, but also for things he wants.	0.79	-0.05	+0.84
30. We should continue to improve our standard of living as much as possible.	0.60	-0.85	+1.45
26. Manufactured chemical fertilizers are a necessity or else we wouldn't be able to grow the foods we need to survive.	-0.02	-1.18	+1.15
2. Agricultural land should be saved for food production and building should take place where land cannot be harvested.	-0.46	0.43	-0.89
41. Advertising, by creating unnecessary desires, causes many of our environmental problems.	-0.47	0.42	-0.89
32. Through free enterprise, companies tend to use up too much energy and produce too many goods.	-0.53	0.37	-0.91

TABLE 5 (cont'd.)

Statement	Factor II Z-Score	Average of Other Z's	Difference (Z-Z Average)
35. People who try to get ahead in life through business usually care very little about the environment and consume more than their share of goods and energy.	-0.76	0.18	-0.95
37. If everyone's wants were satisfied, the environment would be a mess.	-0.78	0.35	-1.13
22. Because they must maintain public acceptance, most businesses are motivated to solve environmental problems.	-0.79	0.08	-0.87
34. There should be some limit placed on everyone concerning their food and product consumption.	-1.15	-0.31	-0.84
57. We should keep our hands off the environment and let Mother Nature improve it the way she wants.	-1.66	-0.76	-0.89

TABLE 6

Q-SORT FOR FACTOR II:
WANT SATISFIERS (HEDONISTS)

		Standard Score
+6	Statements Most in Agreement With	
12.	One of our important objectives as a society should be increasing our capacity to recycle and reuse our waste products and by-products.	1.57
52.	I believe man should take the responsibility for most of our environmental problems.	1.49
44.	There should be stricter environmental standards to make the environment more stable, and to get it cleaned up.	1.48
+5		
13.	The government should place controls on industry in relation to the wastes they produce and enforce these controls with strict fines for violations.	1.45
58.	Each individual should be educated in the specific ways that he or she can contribute less to environmental problems and contribute more to environmental solutions.	1.44
9.	It's our responsibility to look after, care for, and save animals and plants from extinction.	1.38
+4		
59.	We don't put enough emphasis on life and respect for the natural environment.	1.29
14.	People have to be educated so they will be made aware of our environmental problems.	1.27
31.	Population control is a must if we are going to enjoy the freedoms we have today.	1.26
6.	If people organize, enough pressure can be put on industry to change and clean up the environment.	1.19
+3		
46.	Americans waste an awful lot of food and could do as well on much less.	1.19

TABLE 6 (cont'd.)

		Standard Score
+3	Continued	
48.	We have to let our elected representatives know how we feel about environmental issues before we can expect them to act favorably toward them.	1.11
27.	People who really care about the environment will try to improve it.	1.11
23.	If a lot more people were interested in environmental problems, we'd really be on the road to a sound, secure environment.	1.04
56.	A higher quality life is developing in the world.	0.89
+2		
50.	I believe technology will help us to find a way out of our environmental problems.	0.85
11.	I think it's important that we maintain our capability to provide not just for man's basic needs, but also for things he wants.	0.80
36.	Politicians are usually more concerned with getting elected than in taking definite stands on environmental issues.	0.76
17.	Consumers show they support environmental issues by buying ecological products and disposing of them correctly.	0.74
8.	In spite of environmental problems, a state must also preserve its industry. Michigan, for example, needs the auto industry to survive.	0.61
38.	One of the most real problems of the environment is the growing problem of garbage and how to get rid of it.	0.60
+1		
30.	We should continue to improve our standard of living as much as possible.	0.60
53.	Every individual or company should mainly be concerned with cleaning up the pollution they create.	0.52
49.	Everyone should spend time in a wilderness situation so that they will understand and have more of a feeling for the environment.	0.48

TABLE 6 (cont'd.)

		Standard Score
+1	Continued	
28.	As a person becomes more aware of the problem of litter, he will think more about it, will feel guilty when he does it, and will tend to stop doing it.	0.42
19.	People's values have to change because they are too materialistic and make decisions that hurt the environment.	0.34
24.	Just because I didn't make an environmental mess doesn't mean I shouldn't help to clean it up.	0.27
0	Neutral or Not Sure Statements	
39.	Off the road vehicles are a fun type of recreation, loosen up tensions, and don't hurt the environment that much if they stick to designated areas.	0.14
5.	There really isn't a gas shortage; just old misers trying to collect more money.	0.13
33.	We ought to give industries credit for the environmental improvements they have made in air and water purification systems.	0.12
26.	Manufactured chemical fertilizers are a necessity or else we wouldn't be able to grow the foods we need to survive.	-0.03
29.	Rising costs of products are due to scarcer resources being more difficult to find and take from the earth.	-0.04
4.	When I leave an unnecessary light on, I am more concerned about the money wasted than about the energy used.	-0.14
-6	Statements Most in Disagreement With	
25.	It's sad that all our efforts to clean up the environment are in vain since the earth will eventually die anyway.	-1.92
15.	Our government spends too much money in trying to clean up our environment.	-1.68
57.	We should keep our hands off the environment and let Mother Nature improve it the way she wants.	-1.66

TABLE 6 (cont'd.)

	Standard Score
-5	
20. The loss of one organism from our environment really doesn't matter that much.	-1.63
16. I don't believe there is an important connection between environmental problems and a growing population.	-1.45
18. The faster the pace of life, the more there is in life we can enjoy.	-1.38
-4	
7. Small types of litter like gum wrappers or cigarette butts have little effect on the environment.	-1.37
43. There is little I can do personally to stop major forms of pollution.	-1.21
34. There should be some limit placed on everyone concerning their food and product consumption.	-1.16
54. Everyone should cut their life-style to necessities, conserving goods as well as other natural resources such as water and energy.	-1.11
-3	
51. We have a lot more room for more people on this earth if they would only spread out across the land.	-1.06
1. If we are not willing to voluntarily limit our family size, legislation should be passed that would force us into limiting the size of our families.	-0.91
47. Local government can do little on environmental issues unless it is backed by the state and federal governments.	-0.83
22. Because they must maintain public acceptance, most businesses are motivated to help in the effort to solve environmental problems.	-0.80
37. If everyone's wants were satisfied, the environment would be a mess.	-0.79

TABLE 6 (cont'd.)

	Standard Score
-2	
35. People who try to get ahead in life through business usually care very little about the environment and consume more than their share of goods and energy.	-0.77
60. Generally, industries use only the materials and energy they have to for production.	-0.74
10. We should try and control weather more to benefit mankind.	-0.74
40. Most people's life-styles show we are more concerned about the future now than ever before.	-0.73
3. Because environmental problems are so massive, we must rely on government to plan and coordinate the solution to such problems.	-0.71
55. When man tries to change biological factors, they usually backfire on him leaving him faced with a worse situation than he began with.	-0.69
-1	
21. Industry and technology have created the biggest share of our environmental problems.	-0.59
42. Going 55 mph on the highway instead of 70 mph really doesn't make that big a difference in conserving our energy supplies.	-0.54
32. Through free enterprise, companies tend to use up too much energy and produce too many goods.	-0.54
41. Advertising, by creating unnecessary desires, causes many of our environmental problems.	-0.47
2. Agricultural land should be saved for food production and building should only take place where land cannot be harvested.	-0.46
45. Everyone has the right to do what he wants until he has evidence that it interferes with other people's freedoms.	-0.41

Factor III: Proponents of Personal Involvement

Biographic Data

Out of the nine people who loaded on Factor III, only one person was found to be on both the pre and posttests. The other eight subjects were all found on just the pretest. Eight of the nine people were enrollees with the ninth being a member of the church youth group. No staff member was found on this factor. Seven were females while only two were males. Four subjects were from the Yankee Springs camp, three were from the Alberta camp, only one was from the Headquarters Lake camp, and again, one was from the church youth group. The subjects on this factor were from fifteen to seventeen years of age with a mean age of 15.66 years. The enrollees and youth group member had a mean education of 9.77 years. The mean grade average on this factor was 3.11 out of a possible 4.0.

Seven of the subjects were white, one was black, and one was Spanish. While 44.4% were Catholic and 33.3% were Protestants, 66.6% felt they were at least moderately active in church. Only one subject was from a metropolitan environment while six were from a suburban environment and two were from a small city or town. 55.5% participated in family camping, 77.7% participated in small group camping, and 22.2% participated in individual camping. Only one (11.1%) had no type of camping experience. Factor III, as Factor I, has few who are interested in mechanized sports such as water skiing (33.3%), snowmobiling (22.2%), riding in dune buggies

(0.0%), and power boating (22.2%). Only 33.3% participated in fishing while none (0.0%) participated in hunting, probably due to the fact that only two in this type were males. While these subjects are low in their participation in hunting and fishing activities, only 22.2% indicated they spent time animal watching (much unlike Factor I). Over 50% of Factor III enjoyed participating in such outdoor sports as canoeing (88.8%), hiking (88.8%), backpacking (55.5%), swimming (77.7%), ice skating (66.6%), and sledding or tobogganing (88.8%). For a comparison of activities with the other factors and additional data, please refer to Appendix R.

Attitudinal Data

The Proponents of Personal Involvement view the solution to environmental problems resting with people pitching in and getting involved. Involvement is the key. If we would just get involved we could lick the problem of garbage and wastes as well as the problem of people not having enough room on this planet. The Proponents of Personal Involvement are ready to get involved and believe others are also ready.

Due to subjects' feelings in identifying the problems, solutions, and responsibility, these people will be considered Proponents of Personal Involvement. In recognizing specific problems in the environment, Proponents of Personal Involvement see a real problem with garbage and getting rid of it (38) as well as the problem of everyone not pitching in to clean up the environment even though they may know they

are not responsible for a particular problem (24). Thus, the Proponents of Personal Involvement do not want to spend very much time blaming someone for the problems we have (53). They did not react as negatively as the other three types to the thought that there really is more room on this earth if people would only spread out (51).

In looking for someone who is responsible for the problems we have, the Proponents of Personal Involvement do not seem to believe there is a great need in trying to place the blame on people's values (19) or life-styles (54).

When solutions are looked at concerning the problems we have, the Proponents of Personal Involvement do not believe the answer lies in everyone cutting their life-styles to necessities (54) or in having to have certain people change their value system (19). Proponents of Personal Involvement possess a willingness to be involved in cleaning up the environment (24) and believe businesses will also pitch in to help solve the problems (22). In a few matters dealing with solutions these subjects are a little unsure. The Proponents of Personal Involvement tend to believe that people spreading out across the land might be a way to alleviate congested areas (51). They are unsure about the solution resting with just telling our representatives how we feel (48), and lastly, believe consumers are practical people who will support environmental issues if it is economical (17).

In looking at who is responsible for the solution to

the problems, Proponents of Personal Involvement do not place the responsibility on consumers (17). They do not feel that people should have to do without or cut back to necessities (54). Instead of placing the blame, Proponents of Personal Involvement feel that it is a matter where all of us should pitch in to take care of the problems (53) and not just be concerned with what we have messed up (24).

TABLE 7

DISCRIMINATING STATEMENTS: FACTOR III

Statement	Factor III Z-Score	Average of Other Z's	Difference (Z-Z Average)
24. Just because I didn't make an environmental mess doesn't mean I shouldn't help to clean it up.	1.87	-0.08	+1.95
38. One of the most real problems of the environment is the growing problem of garbage and how to get rid of it.	1.53	0.56	+0.96
22. Because they must maintain public acceptance, most businesses are motivated to help in the effort to solve environmental problems.	0.56	-0.37	+0.93
51. We have a lot more room for more people on this earth if they would only spread out across the land.	-0.06	-1.01	+0.95
48. We have to let our elected representatives know how we feel about environmental issues before we can expect them to act favorably toward them.	0.02	0.95	-0.92
19. People's values have to change because they are too materialistic and make decisions that hurt the environment.	-0.14	0.81	-0.96
17. Consumers show they support environmental issues by buying ecological products and disposing of them correctly.	-0.41	0.59	-1.00

TABLE 7 (cont'd.)

Statement	Factor III Z-Score	Average of Other Z's	Difference (Z-Z Average)
53. Every individual or company should mainly be concerned with cleaning up the pollution they create.	-0.66	0.25	-0.91
54. Everyone should cut their life-style to necessities, conserving goods as well as other natural resources such as water and energy.	-1.14	0.06	-1.20

TABLE 8

Q-SORT FOR FACTOR III:

PROPONENTS OF PERSONAL INVOLVEMENT

		Standard Score
+6	Statements Most in Agreement With	
52.	I believe man should take the responsibility for most of our environmental problems.	1.92
24.	Just because I didn't make an environmental mess doesn't mean I shouldn't help to clean it up.	1.88
46.	Americans waste an awful lot of food and could do as well on much less.	1.75
+5		
12.	One of our important objectives as a society should be increasing our capacity to recycle and reuse our waste products and by-products.	1.66
9.	It's our responsibility to look after, care for, and save animals and plants from extinction.	1.64
38.	One of the most real problems of the environment is the growing problem of garbage and how to get rid of it.	1.53

TABLE 8 (cont'd.)

	Standard Score
+4	
27. People who really care about the environment will try to improve it.	1.48
59. We don't put enough emphasis on life and respect for the natural environment.	1.14
58. Each individual should be educated in the specific ways that he or she can contribute less to environmental problems and contribute more to environmental solutions.	1.13
49. Everyone should spend some time in a wilderness situation so that they will understand and have more of a feeling for the environment.	1.10
+3	
13. The government should place controls on industry in relation to the wastes they produce and enforce these controls with strict fines for violations.	1.06
23. If a lot more people were interested in environmental problems, we'd really be on the road to a sound, secure environment.	1.04
44. There should be stricter environmental standards to make the environment more stable, and to get it cleaned up.	1.03
14. People have to be educated so they will be made aware of our environmental problems.	0.97
6. If people organize, enough pressure can be put on industry to change and clean up the environment.	0.76
+2	
8. In spite of environmental problems, a state must also preserve its industry. Michigan, for example, needs the auto industry to survive.	0.75
45. Everyone has the right to do what he wants until he has evidence that it interferes with other people's freedom.	0.66
22. Because they must maintain public acceptance, most businesses are motivated to help in the effort to solve environmental problems.	0.57

TABLE 8 (cont'd.)

		Standard Score
+2	Continued	
33.	We ought to give industries credit for the environmental improvements they have made in air and water purification systems.	0.55
40.	Most people's life-styles show we are more concerned about the future now than ever before.	0.46
28.	As a person becomes more aware of the problem of litter, he will think more about it, will feel guilty when he does it, and will tend to stop doing it.	0.43
+1		
2.	Agricultural land should be saved for food production and building should only take place where land cannot be harvested.	0.35
11.	I think it's important that we maintain our capability to provide not just for man's basic needs, but also for things he wants.	0.32
36.	Politicians are usually more concerned with getting elected than in taking definite stands on environmental issues.	0.30
37.	If everyone's wants were satisfied, the environment would be a mess.	0.12
39.	Off the road vehicles are a fun type of recreation, loosen up tensions, and don't hurt the environment that much if they stick to designated areas.	0.10
29.	Rising costs of products are due to scarcer resources being more difficult to find and take from the earth.	0.09
0	Neutral or Not Sure Statements	
32.	Through free enterprise, companies tend to use up too much energy and produce too many goods.	0.08
41.	Advertising, by creating unnecessary desires, causes many of our environmental problems.	0.04
48.	We have to let our elected representatives know how we feel about environmental issues before we can expect them to act favorably toward them.	0.03

TABLE 8 (cont'd.)

		Standard Score
0	Continued	
31.	Population control is a must if we are going to enjoy the freedoms we have today.	0.00
51.	We have a lot more room for more people on this earth if they would only spread out across the land.	-0.06
55.	When man tries to change biological factors, they usually backfire on him leaving him faced with a worse situation than he began with.	-0.12
-6	Statements Most in Disagreement With	
7.	Small types of litter like gum wrappers or cigarette butts have little effect on the environment.	-1.87
25.	It's sad that all our efforts to clean up the environment are in vain since the earth will eventually die anyway.	-1.69
43.	There is little I can do personally to stop major forms of pollution.	-1.65
-5		
26.	Manufactured chemical fertilizers are a necessity or else we wouldn't be able to grow the foods we need to survive.	-1.46
47.	Local government can do little on environmental issues unless it is backed by the state and federal governments.	-1.44
16.	I don't believe there is an important connection between environmental problems and a growing population.	-1.42
-4		
15.	Our government spends too much money in trying to clean up our environment.	-1.36
20.	The loss of one organism from our environment really doesn't matter that much.	-1.30
3.	Because environmental problems are so massive, we must rely on government to plan and coordinate the solution to such problems.	-1.17

TABLE 8 (cont'd.)

		Standard Scores
-4	Continued	
54.	Everyone should cut their life-style to necessities, conserving goods as well as other natural resources such as water and energy.	-1.14
-3		
18.	The faster the pace of life, the more there is in life we can enjoy.	-1.07
56.	A higher quality life is developing in the world.	-0.95
10.	We should try and control weather more to benefit mankind.	-0.86
57.	We should keep our hands off the environment and let Mother Nature improve it the way she wants.	-0.83
60.	Generally, industries use only the materials and energy they have to for production.	-0.73
-2		
1.	If we are not willing to voluntarily limit our family size, legislation should be passed that would force us into limiting the size of our families.	-0.73
42.	Going 55 mph on the highway instead of 70 mph really doesn't make that big a difference in conserving our energy supplies.	-0.71
53.	Every individual or company should mainly be concerned with cleaning up the pollution they create.	-0.66
35.	People who try to get ahead in life through business usually care very little about the environment and consume more than their share of goods and energy.	-0.66
21.	Industry and technology have created the biggest share of our environmental problems.	-0.57
5.	There really isn't a gas shortage; just old misers trying to collect more money.	-0.56

TABLE 8 (cont'd.)

	Standard Score
-1	
4. When I leave an unnecessary light on, I am more concerned about the money wasted than about the energy used.	-0.46
30. We should continue to improve our standard of living as much as possible.	-0.44
17. Consumers show they support environmental issues by buying ecological products and disposing of them correctly.	-0.41
50. I believe technology will help us find a way out of our environmental problems.	-0.30
19. People's values have to change because they are too materialistic and make decisions that hurt the environment.	-0.15
34. There should be some limit placed on everyone concerning their food and product consumption.	-0.14

Factor IV: Disbelievers: There Is No Problem

Biographic Data

All of the eight people found on this factor loaded on the posttest. Six were enrollees while two were members of the church youth group. In contrast to the other factors, most of these subjects were males. In fact, seven were males and only one was female. Three were from Yankee Springs, two were from Headquarters Lake, one was from Alberta, and two were from the church youth group. As in Factor III, all subjects were from fifteen to seventeen years of age, but the mean age was 16.5 years. The mean education was 10.62 years and the mean grade average was 2.75 out of a possible 4.0.

All subjects were white. 75% were Catholics and 25% were Protestants with 75% feeling they were at least moderately active in church. All eight people came from suburban, small city or town, or rural (non-farm) environments. No one was from a metropolitan area. 50% participated in outdoor sports clubs. 75% participated in family camping activities, 25% participated in small group camping activities, and no one indicated participation in individual camping activities. 25% had no type of camping experience.

An interest can be seen in mechanized sports such as water skiing (25.0%), snowmobiling (37.5), riding in dune buggies (25.0%), and power boating (37.5%). A large portion of people on this factor participated in fishing (87.5%) and hunting (62.5%) activities. It should be mentioned again

that all but one of the subjects were males. Surprising to some, 50% indicated they enjoyed watching animals. Over 50% participated in such outdoor sports as canoeing (100%), hiking (87.5%), downhill skiing (50%), cross country skiing (50%), backpacking (50%), swimming (75%), ice skating (62.5%), running or jogging (87.5%), and sledding or tobogganing (75%). For a comparison of activities with the other types and additional data, please see Appendix R.

Attitudinal Data

Disbelievers really do not believe there is a problem in many areas associated with the environment. They do not recognize a gas shortage or the need to reduce their scale of consumption. Everyone should be able to do what he wants until someone proves he is interfering with their life-style. In effect, Disbelievers want someone to prove to them that there really is a problem. The Disbelievers' solution to the problems further indicates their lack of belief that there is a problem which needs to be taken care of.

The Disbelievers' concern for various environmentally related problems can be seen with several discriminating statements. Disbelievers believe that people really don't have enough of a feeling for the environment (49). They recognize problems such as higher gas prices (5) along with measures that do not get at the problem of conserving energy (42). The Disbelievers also feel that businessmen care little about the environment and use more than their share of goods and energy (35). Lastly, they recognize a problem

of interfering with other people's freedoms (45).

In finding out who is responsible for some of these problems, the Disbelievers place the responsibility on people for not having more of a feeling for the environment (49) as well as businessmen (35) and "old misers" who try to get all the money they can (5). In using up energy supplies they do not recognize a reason for taking the responsibility of going 55 mph instead of 70 mph to conserve energy supplies (42). The Disbelievers also do not believe that our life-styles indicate a lack of concern for the future (40).

In looking for solutions to some of the problems, Disbelievers appear to be a little detached in some aspects. Even though they believe people should spend more time in wilderness situations (49), when it comes to conserving energy, it's someone else's responsibility (42). They also feel that they should be allowed to do as they want for the most part. If they are interfering with someone else's rights, that person only need prove it and they will be happy to change direction (45). The Disbelievers do not see the solution to the problem resting in certain aspects of population control (31) which might be expected from a type in which 75% are at least moderately active in their church. They also do not see the solution lying with everyone pitching in to solve environmental problems they did not create (24). Disbelievers are not as convinced as the other three types that our government needs to spend more money on

the environment (15). They are also not as sure as the other types that education is the answer (58).

The responsibility for the solution to the problems lies with the people creating the problems. People should be able to get out into wilderness situations (49). Those people responsible for environmental problems should clean up their own messes (24). And finally, the Disbelievers feel that whoever feels their rights are violated should take action and tell whoever is violating those rights that they are interfering with their freedoms.

TABLE 9

DISCRIMINATING STATEMENTS: FACTOR IV

Statement	Factor IV Z-Score	Average of Other Z's	Difference (Z-Z Average)
49. Everyone should spend some time in a wilderness situation so that they will understand and have more of a feeling for the environment.	1.55	0.74	+0.80
5. There really isn't a gas shortage; just old misers trying to collect more money.	1.02	-0.40	+1.43
35. People who try to get ahead in life through business usually care very little about the environment and consume more than their share of goods and energy.	0.95	-0.39	+1.35
45. Everyone has the right to do what he wants until he has evidence that it interferes with other people's freedom.	0.88	-0.10	+0.98
40. Most people's lifestyles show we are more concerned about the future now than ever before.	0.83	-0.47	+1.31
15. Our government spends too much money in trying to clean up our environment.	-0.61	-1.55	+0.94
58. Each individual should be educated in the specific ways that he or she can contribute less to environmental problems and contribute more to environmental solutions.	0.42	1.38	-0.95

TABLE 9 (cont'd.)

Statement	Factor IV Z-Score	Average of Other Z's	Difference (Z-Z Average)
31. Population control is a must if we are going to enjoy the freedoms we have today.	-0.68	0.85	-1.54
24. Just because I didn't make an environmental mess doesn't mean I shouldn't help clean it up.	-1.26	0.96	-2.22
42. Going 55 mph on the highway instead of 70 mph really doesn't make that big a difference in conserving our energy supplies.	-1.73	-0.79	-0.94

TABLE 10

Q-SORT FOR FACTOR IV:

DISBELIEVERS: THERE IS NO PROBLEM

		Standard Score
+6	Statements Most in Agreement With	
6.	If people organize, enough pressure can be put on industry to change and clean up the environment.	1.57
49.	Everyone should spend some time in a wilderness situation so that they will understand and have more of a feeling for the environment.	1.55
52.	I believe man should take the responsibility for most of our environmental problems.	1.55
+5		
9.	It's our responsibility to look after, care for, and save animals and plants from extinction.	1.51
27.	People who really care about the environment will try to improve it.	1.48

TABLE 10 (cont'd.)

	Standard Score
+5 Continued	
46. Americans waste an awful lot of food and could do as well on much less.	1.25
+4	
12. One of our important objectives as a society should be increasing our capability to recycle and reuse our waste products and by-products.	1.17
59. We don't put enough emphasis on life and respect for the natural environment.	1.13
48. We have to let our elected representatives know how we feel about environmental issues before we can expect them to act favorably toward them.	1.08
28. As a person becomes more aware of the problem of litter, he will think more about it, will feel guilty when he does it, and will tend to stop doing it.	1.07
+3	
5. There really isn't a gas shortage; just old misers trying to collect more money.	1.03
23. If a lot more people were interested in environmental problems, we'd really be on the road to a sound, secure environment.	0.99
44. There should be stricter environmental standards to make the environment more stable, and to get it cleaned up.	-.96
35. People who try to get ahead in life through business usually care very little about the environment and consume more than their share of goods and energy.	0.96
13. The government should place controls on industry in relation to the wastes they produce and enforce these controls with strict fines for violations.	0.94
+2	
45. Everyone has the right to do what he wants until he has evidence that it interfers with other people's freedom.	0.88

TABLE 10 (cont'd.)

	Standard Score
+2 Continued	
40. Most people's life-styles show we are more concerned about the future now than ever before.	0.84
14. People have to be educated so they will be made aware of our environmental problems.	0.77
36. Politicians are usually more concerned with getting elected than in taking definite stands on environmental issues.	0.62
17. Consumers show they support environmental issues by buying ecological products and disposing of them correctly.	0.52
41. Advertising, by creating unnecessary desires, causes many of our environmental problems.	0.45
+1	
58. Each individual should be educated in the specific ways that he or she can contribute less to environmental problems and contribute more to environmental solutions.	0.42
54. Everyone should cut their life-style to necessities, conserving goods as well as other natural resources such as water and energy.	0.37
21. Industry and technology have created the biggest share of our environmental problems.	0.34
39. Off the road vehicles are a fun type of recreation, loosen up tensions, and don't hurt the environment that much if they stick to designated areas.	0.33
11. I think it's important that we maintain our capability to provide not just for man's basic needs, but also for things he wants.	0.33
2. Agricultural land should be saved for food production and building should only take place where land cannot be harvested.	0.32

TABLE 10 (cont'd.)

		Standard Score
0	Neutral or Not Sure Statements	
19.	People's values have to change because they are too materialistic and make decisions that hurt the environment.	0.29
22.	Because they must maintain public acceptance, most businesses are motivated to help in the effort to solve environmental problems.	0.27
32.	Through free enterprise, companies tend to use up too much energy and produce too many goods.	0.26
38.	One of the most real problems of the environment is the growing problem of garbage and how to get rid of it.	0.25
56.	A higher quality of life is developing in the world.	0.18
37.	If everyone's wants were satisfied, the environment would be a mess.	0.08
-6	Statements Most in Disagreement With	
20.	The loss of one organism from our environment really doesn't matter that much.	-1.98
25.	It's sad that all our efforts to clean up the environment are in vain since the earth will eventually die anyway.	-1.94
7.	Small types of litter like gum wrappers or cigarette butts have little effect on the environment.	-1.92
-5		
42.	Going 55 mph on the highway instead of 70 mph really doesn't make that big a difference in conserving our energy supplies.	-1.74
10.	We should try and control weather more to benefit mankind.	-1.72
18.	The faster the pace of life, the more there is in life we can enjoy.	-1.34
-4		
24.	Just because I didn't make an environmental mess doesn't mean I shouldn't help to clean it up.	-1.26

TABLE 10 (cont'd.)

		Standard Score
-4	Continued	
16.	I don't believe there is an important connection between environmental problems and a growing population.	-1.24
26.	Manufactured chemical fertilizers are a necessity or else we wouldn't be able to grow the foods we need to survive.	-1.16
1.	If we are not willing to voluntarily limit our family size, legislation should be passed that would force us into limiting the size of our families.	-1.14
-3		
60.	Generally, industries use only the materials and energy they have to for production.	-1.10
43.	There is little I can do personally to stop major forms of pollution.	-1.03
34.	There should be some limit placed on everyone concerning their food and product consumption.	-0.96
3.	Because environmental problems are so massive, we must rely on government to plan and coordinate the solution to such problems.	-0.90
51.	We have a lot more room for more people on this earth if they would only spread out across the land.	-0.90
-2		
57.	We should keep our hands off the environment and let Mother Nature improve it the way she wants.	-0.79
47.	Local government can do little on environmental issues unless it is backed by the state and federal governments.	-0.76
31.	Population control is a must if we are going to enjoy the freedoms we have today.	-0.69
55.	When man tries to change biological factors, they usually backfire on him leaving him faced with a worse situation than he began with.	-0.62
30.	We should continue to improve our standard of living as much as possible.	-0.61

TABLE 10 (cont'd.)

	Standard Score
-2 Continued	
15. Our government spends too much money in trying to clean up our environment.	-0.61
-1	
4. When I leave an unnecessary light on, I am more concerned about the money wasted than about the energy used.	-0.42
29. Rising costs of products are due to scarcer resources being more difficult to find and take from the earth.	-0.36
8. In spite of environmental problems, a state must also preserve its industry. Michigan, for example, needs the auto industry to survive.	-0.24
53. Every individual or company should mainly be concerned with cleaning up the pollution they create.	-0.13
33. We ought to give industries credit for the environmental improvements they have made in air and water purification systems.	-0.09
50. I believe technology will help us to find a way out of our environmental problems.	-0.03

CHAPTER IV

SUMMARY AND DISCUSSION

It was the purpose of this investigation to: (1) identify attitudes of members of the 1975 Michigan Youth Conservation Corps toward the environment and related areas; (2) determine if there was any shift in attitudes after members had been involved in the program for approximately five weeks; and (3) find any relationship between attitude "types" and such factors as age, sex, education, family income, religious orientation, participation in clubs, summer camps, and various outdoor activities.

With the use of Q-methodology, four attitudinal "types" were found which were named: Proponents of Social Control, Want Satisfiers (Hedonists), Proponents of Personal Involvement, and Disbelievers: There Is No Problem.

The Proponents of Social Control view people as being responsible for our environmental problems. They believe people are too materialistic and should know better than to do the things they do. The Proponents of Social Control believe we have to change people's values even if it means legislative action to bring about such change.

The Want Satisfiers (Hedonists) do not feel limits should be imposed on them or that they need to personally

change their habits in order to bring about a solution to the problem. They have a hands-on approach to Mother Nature and feel that technology, which helps to satisfy our wants, will also get us out of our environmental problems.

The Proponents of Personal Involvement feel that the solution to our environmental problems rests with getting involved. They are not anxious to place the blame for environmental problems, but do believe others, as well as themselves, are ready to do their part to solve the problems at hand.

The Disbelievers do not seem to recognize the problems the other types do. They do not see a gas shortage and do not feel people's life-styles indicate a problem. While they do not see problems as other types do, the Disbelievers feel people who create problems are and should be concerned with taking care of the problems they create.

The consensus statements indicated that subjects agreed that we are a wasteful nation with most people being part of the problem. Subjects also saw industry as an untrustworthy culprit who must be forced to stop polluting. Finally, subjects were in general agreement that we should consume less, recycle more, and have a greater respect for life and the environment.

Of particular interest to this study is the shift in attitude that can be seen between the pre and posttests. While Factor I and Factor II had a great number of people

loading on the factors on the pre and posttests, Factor III seems to represent a type of attitude found mainly on the pretest while Factor IV seems to represent another attitude found only on the posttest.

Of the nine people loading on Factor III, the experience in YCC had an impact in that five dropped the position and did not appear on a significant factor on the posttest; two people switched to Factor I on the posttest; one person switched to Factor II; and one person stayed on Factor III. No person who loaded significantly on Factor III on the pretest loaded significantly on Factor IV on the posttest.

Since people on Factor IV were found just on the posttest, it is of value to question where they came from. One person was confounded (3-4) on the pre-test and had the Factor IV position on the posttest. The other seven subjects did not have a significant loading on any factor on the pretest. This type of attitude emerged somewhere between the first and fifth week of camp.

In looking into the attitude type of persons loading significantly on Factor III, we find that this type (Proponents of Personal Involvement) feels that getting involved is the answer to the problems at hand. They are reluctant to place the blame on anyone specifically and do not believe that part of the answer lies with cutting their life-styles. Proponents of Personal Involvement believe others, as well as themselves, are willing to get involved to resolve the problems.

After involvement in the YCC Program, Factor III people might change for several reasons. It is difficult to work for an extended period of time cleaning up someone else's "messes" without having the feeling that I am being used, and, after all, "I'm doing my part, why don't they do theirs?" YCC stresses an alternate life-style. After several weeks in an environment lacking so many conveniences people are used to, and still being able to live fairly comfortably, a feeling of wastefulness emerges in many to the old life-style at home. "We really can get by on much less."

In other words, after weeks in a YCC environment, Factor III people begin to change their attitudes about the environment and things that relate to it. They begin to place the blame; they no longer feel everyone is ready to pitch in and do their part; they see a need or at least a reason to change their life-styles; and finally, they begin to look a little more realistically at problems, solutions, and who really is responsible for the problems as well as the solutions.

Thus, YCC has provided the opportunity many have sought. The Proponents of Personal Involvement are willing to get personally involved--in simple ways, like picking up after themselves, and the YCC experience has given them the knowledge and opportunity to extend their willingness to help. By providing the knowledge and opportunity for involvement, an attitude change has actually resulted in some members involved in the program. This has tremendous

implications for public education and certain kinds of public programs as well as for curricula and activities in the YCC programs.

Factor IV (Disbelievers: There Is No Problem) is a very important factor since it represents a coalescing of unidentifiable types into an identifiable one. It would certainly seem that YCC had an impact on these enrollees to bring such a factor into existence. The very presence of the two members of the youth group indicates this is a type that could be expected to be found in a population larger than the YCC camps sampled.

In briefly reviewing the attitudes found in Factor IV (Disbelievers: There Is No Problem), we find problems not mentioned in the other three factors. Those problems that go unmentioned, which are found in the other three factors, indicate that Factor IV people really do not see certain problems the people on the other factors recognize. It would seem that Factor IV people are just beginning to come to grips with the problems at hand. They have developed a sensitivity to the environment that they feel would really make a difference in other people's lives. They feel more strongly about "old misers" getting rich than about a gas shortage being real. The Disbelievers do not yet feel the need to become personally involved or change their life-styles. Finally, they do not feel responsible, as of yet, to help solve problems they do not create. There is certainly the question here of whether or not more time would

reinforce this feeling or make the participants more willing to accept responsibility.

After several weeks in the YCC Program, Disbelievers did form recognizable attitudes toward the environment. Perhaps with a few more weeks involvement in the program, the people on this factor might have changed a little more. The important matter concerning this factor is that YCC can be seen to accomplish some of the attitudinal objectives set up for the program (Appendix B).

Several questions need to be answered concerning the emergence of Factor IV from previously unformed positions. Why did Factor IV emerge? Why did some other factors not form instead? Did the camps' curricula and activities have anything important to do with what attitude developed, or did the attitude simply surface at this point in time?

In looking at why this attitude formed and not some other attitude, could it be possible that Disbelievers were already Disbelievers when they entered the YCC program? Disbelievers feel that someone is always trying to get the best of them, and the Disbelievers are not going to just stand around and let it happen. People have to prove to the Disbelievers that there really is a problem before they will believe it.

Disbelievers saw certain positions being presented to them and would not accept them without question. As they began to recognize that some people were stating that certain problems exist, Disbelievers reacted negatively as usual and

figured someone was just trying to put something over on them again. Disbelievers resent other people trying to run their lives whether it is the gas company with higher prices or someone trying to tell them to alter their life-styles. As the Disbelievers began to realize what position was being presented in the YCC program, they were able to form a position that was slightly contrary to the position being presented. They could look around them and see people who were very concerned about their life-styles so the Disbelievers felt that the problem of overusage really wasn't a problem since people were already doing something about it.

As Table 1 indicates (page 30), there is a high degree of correlation between Factor IV and the other three factors. This high degree of correlation which is reflected in the consensus statements demonstrates that the people who loaded on this factor have much in common in relation to environmental attitudes with people loading on the other factors, but have subtle differences that make them unique as do the people on the other three factors.

Due to the nature of the YCC program, it could be expected that an attitude favoring the environment would emerge. It is very doubtful that after spending five weeks in an environment in which wise use of natural resources in varied ways was stressed, that an anti-environmental type of attitude would develop. If the environment was one in which profit motives through development at any cost were stressed, it is equally doubtful that a pro-environmental type of

attitude would form. Peer pressure as well as encouragement from staff and friends helped to mold the pro-environmental attitudes found in the participants of the YCC Program.

Factor IV is not an extreme position favoring the environment but YCC does not seek to form extreme positions. In the attitude objectives (Appendix B) of the YCC Source-book for Environmental Awareness the following is stated concerning attitudes:

> Attitudes. This second set of objectives concern the affective domain of attitude change and behavior modification of those participating in the Youth Conservation Corps program and represent a primary goal of the educational program. The objective is not to develop extreme positions on the involved issues. Rather, they should be viewed as spectra for each extreme. The focus then becomes the moving of an attitude in one direction or the other.

It would seem then, that the Michigan YCC program has accomplished this goal in that attitude change has taken place and the attitude formed is not an extreme one but one that has moved a little closer to a strictly pro-environment position.

The control group is of great importance to this study since members of the youth group were found on all four factors. Only two subjects, one on the pretest and one on the posttest were found on Factor I. Three subjects were found on Factor II, one on the pre and posttest, another just on the pretest, and another just on the posttest. Only one person from the youth group was found on Factor III while two were found on Factor IV. One subject is counted

twice above since she loaded significantly on Factor III on the pretest and Factor I on the posttest. Three subjects did not load significantly on any factor on the pre or post-test.

The church youth group was a special population of which the members shared similar beliefs about their faith. However, it would appear that this is where that similarity ends. The population is not homogeneous when it comes to various biographic information. With members loading on all four factors, the youth group helped to show that attitudes toward the environment, no matter what stage of development these attitudes are in, are not peculiar to YCC populations alone. YCC can distinguish itself by helping to form attitudes in some individuals who might never have had these attitudes without it or YCC might help youth reach certain attitudes in a shorter period of time. Of special note here is the fact that none of the staff who took the pre and post-tests changed to another factor. Somewhere along the line, age or some other factor might be responsible for the ceasing of attitudinal development along a given topic.

The relationship between attitudinal types and such factors as age, sex, education, family income, religious orientation, participation in clubs, summer camps, and various outdoor activities is given in the Interpretation chapter of this study as well as in the Appendix. Factors such as sex, education, grade average, home environment (urban to rural), religion, church activity, mechanized

sports activities, and other outdoor related activities appear to be important when describing the various attitudinal types found in this study.

Recommendations for Further Study

This study has answered a large number of questions, but as one should expect in this kind of Q-study, it raises many new questions. At what point do attitudes about the environment and other aspects of camp become fixed in the participants in the program? If environmental attitudes can change in such a short period, how long do these attitudes last after the enrollees leave the security of the YCC environment? If attitude changes take less time than eight weeks to become fixed in the participants in the program, it might be possible to involve more youths in shorter camp sessions and bring about a positive attitudinal change in a greater segment of the population by having more youths participate.

What are the attitudes and how much change in attitudes takes place in other YCC residential camps? As one considers attitudinal changes in the YCC program, at least three added approaches seem entirely reasonable: (1) attitudinal changes resulting from non-residential programs; (2) attitudinal changes affected by rural non-residential programs; and (3) attitudinal changes brought about by urban non-residential programs.

Research is needed on those participants already

through the program to see what impact from the program remains through given periods of time. Q-methodology might be used to see what relation, if any, exists between length of time out of camp and attitude change. Do positive or negative attitude changes last into adult life? How many participants seek employment in environmentally related fields after an experience in YCC?

It is basic to the program to find what factors in camp have the greatest effect on attitudinal changes in the participants. A Q-study might be used in the selection of staff if it is found that it is important for staff to have certain shared attitudes toward the environment for the enrollees to be positively changed. Such a Q-sample might be administered to a more general population of youth in high schools to see if, in fact, a cross-section of youth with various environmental attitudes is really becoming involved in the YCC Program. And finally, more minorities need to be involved in such attitudinal research to see if they enter the program with a completely different set of values concerning the environment.

As millions of dollars are poured annually into the YCC Program, it is imperative to find if the attitudinal as well as knowledge objectives of the Youth Conservation Corps are being met.

APPENDIX A

STAFF PARTICIPATING IN THE YCC PROGRAM

APPENDIX A

STAFF PARTICIPATING IN THE YCC PROGRAM

I would like to give a special note of thanks to all the staff of the 1975 Michigan Youth Conservation Corps who not only made this research possible, but became good friends in the process. Staff members are listed according to camp and responsibility.

Yankee Springs

Dan Bonner	Camp Director
Debbie Adams	Activities Coordinator
Gary Fischer	Work Coordinator
Janie Secor	Environmental Education Coordinator
Sally Abbott	Recreational Leader/Group Leader
Jill Freeze	Clerk
Tony Pardee	Cook
Gay Flanders	Assistant Cook
Scott Wingeier	Assistant Cook
Sylvia Albrecht	Group Leader/Photographer
Abel Cepeda	Group Leader
Merald Clark	Group Leader
Fred Hingst	Group Leader
June Minard	Group Leader
Diana Nadeau	Group Leader
Ken Priest	Group Leader

Headquarters Lake

Carl Sams	Camp Director
Wanda Davison	Activities Coordinator
Scott Bohms	Work Coordinator
Vince Call	Environmental Education Coordinator
Judy Hubble	Recreational Leader/Group Leader
Jeff McDonald	Clerk
Jim Douthat	Cook
Mary Call	Assistant Cook
Nancy Costanza	Assistant Cook
Ann Beatty	Group Leader
Jan Boden	Group Leader
Tim McGarry	Group Leader
Barb Miller	Group Leader
Frank Peacock	Group Leader
Harold Petrimoulx	Group Leader

APPENDIX A (cont'd.)

Alberta

Tom Mauro	Camp Director
Diane Pickard	Activities Coordinator
Rick Noble	Work Coordinator
Dave Beall	Environmental Education Coordinator
Kathy Horton	Recreational Leader/Group Leader
Terri Mauro	Clerk
Jim Kienitz	Group Leader
Lynda Mallory	Group Leader
Val Novak	Group Leader
Dave Trudgen	Group Leader
Rick Valliere	Group Leader

APPENDIX B

ENVIRONMENTAL PERSPECTIVES OF THE 1975 YOUTH CONSERVATION CORPS

APPENDIX B

ENVIRONMENTAL PERSPECTIVES OF THE 1975 YOUTH CONSERVATION CORPS

This is from the Youth Conservation Corps Source Book for Environmental Awareness.

CHAPTER 1 - ENVIRONMENTAL PERSPECTIVES

I. Definition of Environmental Education:

Environmental education is defined by the Environmental Education Act of 1970 (Public Law 91-516) to be "THE EDUCATIONAL PROCESS DEALING WITH MAN'S RELATIONSHIP WITH HIS NATURAL AND MAN-MADE SURROUNDINGS AND INCLUDES THE RELATION OF POPULATION, POLLUTION, RESOURCE ALLOCATION AND DEPLETION, CONSERVATION, TRANSPORTATION, TECHNOLOGY, AND URBAN AND RURAL PLANNING TO THE TOTAL HUMAN ENVIRONMENT."

II. Objectives of the YCC Program:

A. Purpose. To accomplish the purpose of the Law, we will stress three equally important objectives:

(1) Accomplish needed conservation work on public lands.

(2) Provide gainful employment for 15-through-18-year old males and females from all social, economic, ethnic and racial classifications.

(3) Develop an understanding and appreciation in participating youths of the nation's natural environment and heritage.

These objectives will be accomplished in a manner that will provide the youth with an opportunity to acquire increased self-dignity and self-discipline, better work with and relate with peers and supervisors, and build lasting cultural bridges between youth from various social, ethnic, racial, and economic backgrounds.

We will seek the best way(s) to accomplish these objectives by directing or coordinating the program so that available resources, including human, natural, and physical are maximized and restraints are minimized.

APPENDIX B (cont'd.)

B. General Environmental Education Objectives.

1. Knowledge. The cognitive objectives concern the domains of knowledge, factual information, and basic skills and are considered to be:

a. The student to have increased awareness about natural laws and ecological principles that govern the natural environment.

b. The student to better understand the extent of the present degree of environmental deterioration.

c. To offer possible solutions to existing and potential environmental problems on both a universal and a personal level.

d. To help develop an environmental ethic in each member of the Youth Conservation Corps, enrollees, staff members, Bureau personnel, parents and others.

2. Attitudes. This second set of objectives concern the affective domain of attitude change and behavior modification of those participating in the Youth Conservation Corps program and represent a primary goal of the educational program. The objective is not to develop extreme positions on the involved issues. Rather, they should be viewed as spectra for each extreme. The focus then becomes the moving of an attitude in one direction or the other.

a. Production solely of nonbiodegradable waste vs. production of solely biodegradable waste.

b. Consumption solely of nonrenewable resources vs. consumption solely of renewable resources.

c. Concern solely for the present vs. concern solely for the future.

d. Solely consumptive resource use vs. solely nonconsumptive resource use.

e. Concern solely for man vs. concern solely for things other than man.

f. Consumption due solely to wants vs. consumption due solely to needs.

g. Consideration solely of economic criteria vs. consideration solely of ecological criteria.

C. Specific Environmental Education Objectives for YCC Environmental Education and Work Goals. Upon completing the program, the enrollee will have an increased awareness about

APPENDIX B (cont'd.)

natural laws and ecological principles that govern the natural environment. By the end of the YCC experience he should be able to:

1. Identify the basic elements of the ecosystem within his geographic area.

   a. Demonstrate a basic understanding of the biological elements inherent in that ecosystem.

      (1) Plants

      (2) Animals (including man)

   b. Demonstrate a basic understanding of the physical elements inherent in that ecosystem.

      (1) Minerals (soil, etc.)

      (2) Water

      (3) Air

2. Describe the interrelationships of the basic elements in this:

   a. Food chain

   b. Water cycle

   c. Energy cycle

   d. Carrying capacity

   e. Biotic succession

   f. Plant-animal cooperation

   g. Plant and animal competition

   h. Limiting factors

3. Discuss natural phenomena occurring in the ecosystem.

   a. Fire

   b. Flood

   c. Weather disaster

   d. Earthquake

4. Describe man's economic, social, cultural, and physical dependence and resulting impact upon the natural environment.

   a. Historical

      (1) Primitive to beginning of modern technology.

APPENDIX B (cont'd.)

b. Present through the future.

(1) Satisfaction of basic needs.

(2) Higher population concentration and pressures.

(3) Higher demands upon renewable and nonrenewable resources.

(4) Rapid changes in modern technology.

5. Explain man's capabilities to manage and change an environment.

a. Manage resources wisely to meet basic needs.

b. Use resources wisely to satisfy his cultural and social needs.

c. Accept trade-offs and priorities to prevent shortages and exhaustion of resources (recycling, aesthetic vs. commercial, etc.)

d. Understand the functions and philosophies of land and natural resource management agencies (Federal, State, local, and private).

6. Construct a plan of action for the following:

a. Identify, analyze, and propose at least two alternative plans of management for a predetermined area of land based on the summer work experience.

b. Identify a local environment issue or concern and prescribe at least two alternate ways to affect that issue or concern.

7. Describe at least three ways in which these work experiences will help him better understand the community in which he lives.

8. Analyze his own life style with reference to those activities which contribute to the stability, integrity, and/or beauty of the ecosystem and those which do not.

9. Apply the concepts of an environmental impact statement to specific programs and land areas with which he is familiar.

<u>YCC as an Environmental Awareness Laboratory</u>:

With objectives such as these the YCC could become a major influence on the ecosystems which comprise the United States. The YCC could produce a nucleus of youth with the concern, motivation, and knowhow which will be required if

APPENDIX B (cont'd.)

the environment is to be preserved and enhanced.

Other benefits that could be gained from the YCC program are numerous. An environmental curriculum could be developed for use in the YCC program but also by thousands of high school across the country which are presently in need of various techniques for teaching environmental studies. The YCC could also provide a place for the training of prospective teachers on an apprenticeship or internship basis giving practical experience as part of their professional training.

A Comprehensive Environmental Awareness Program:

A premise here is that the program will have more significant and enduring effects if it pervades the entire YCC experience and is not restricted solely to a scheduled time period each day or week. To be more specific, the recreational programs, the camp layout and procedures, the work experiences, the meals, and the free time activities should all be considered to have great potential for achieving environmental education objectives in both the cognitive and affective domains.

APPENDIX C

FOCUS INTERVIEW SCHEDULE

APPENDIX C

FOCUS INTERVIEW SCHEDULE

I would like to talk to you about your involvement in the Youth Conservation Corps this summer.

1. What experiences have you had so far at camp?
2. What have you liked about this program so far? What haven't you liked? Why?
3. What do you think about the camp staff? Activities?
4. What do you think has been the result of this camp?
5. What has been the effect of this camp on you?
6. What are some of your thoughts about the environment?
7. I have a number of cards with terms on them which may or may not relate to the environment. Will you please sort these cards to show which are strongly related to the environment and which are slightly related or not related at all to the environment.
8. Will you now tell my why you placed the cards in the piles you did?

APPENDIX D

STATE YCC ENVIRONMENTAL EDUCATION OBJECTIVES

APPENDIX D

STATE YCC ENVIRONMENTAL EDUCATION OBJECTIVES

TOPIC	UNDERSTANDING	APPLICATIONS
Life Support System	1. What are components of Life Support System? 2. What are the interconnections of Life Support System? 3. What is man's place in Life Support System? Examples: Food chains, abiotic factors, etc.	a. Analyze the camp as a Life Support System. b. Analyze the community as a Life Support System. c. Analyze your home neighborhood as a Life Support System. d. What contribution does our project make toward our Life Support System?
Free Enterprise System	1. What are students' concepts of what Free Enterprise System is? 2. What is the profit motive? 3. What are examples around camp of environmental problems caused by profit motive inherent in Free Enterprise System? 4. How do supply and demand of product(s) effect prices? 5. What is the distribution systems for goods and services? How does it compare with distribution of another economic system? 6. Does the Free Enterprise System tend to be more energy consumptive than other economic systems?	a. What is an example in camp of a problem and effect due to Free Enterprise System? b. Compare use of two pieces of land: one public, one private: care, condition, decisions, whose interest served, etc. c. Investigate one problem or product encountered in work and analyze the economics of it.

TOPIC	UNDERSTANDING	APPLICATION
Free Enterprise System	7. Should the costs of environmental cleanup be passed on to the consumer?	
Industrialization	1. In what ways is automation accelerating? 2. Is industry the cause of our environmental problems? 3. Do industries tend to waste natural resources and energy? Why? 4. Should industry be controlled by government? e.g., air pollution controls on smoke stacks, exhaust standards for autos, etc. 5. Should industry be given incentives to clean up the environment? To what extent? 6. Should they be penalized for not cleaning up, improving environment?	
Production Consumption	1. Everything is limited 2. Resources are finite on the planet	a. Analyze camp for resources and identify the scarcest and least scarce natural resources used.
Environmental Problems Cause & Effect	1. What are some underlying causes for some nearby environmental problems? 2. What causes are the most direct culprits, i.e., what seem to be the root causes for above?	a. Explore nearby problem, preferably work-related. b. What are alternative solutions to this problem?

TOPIC	UNDERSTANDING	APPLICATION
Environmental Problems Cause & Effect	3. What are the tolerable limits of environmental contamination? Health, esthetics, economics, genetic, etc. 4. What are some trade-offs involved with cleaning up a nearby environmental problem?	c. What suggested methods result in long-range solutions to root causes?
Biological Implications	1. What are contamination effects on Life Support System? e.g., air, water pollution, etc., on health, genetics, etc. 2. Food supply and demand: in man and other animals. Agriculture - pesticides, fertilizers, food/number of mouths, soil depletion, soil erosion 3. Population dynamics: birth rate, death rate, food, water, disease, predator and prey relations. 4. Man's manipulations of biological factors: fire management, wildlife management, forestry techniques.	a. Problems to explore (1) Deer management techniques over the years: cut/slash, feeding hay, doe permits, bag limits, hunter success (2) Fish management techniques: poisonings, inventories, introducing predators, e.g., salmon (3) Fire management techniques (4) Timber improvement techniques b. Provide input and discussion on ecologically sound future models!
Social Implications	1. Where are we going and why? a. What is a quality of life? b. What kind of society (city, lifestyle, crowding, economic state, government structure) are we working toward? c. Is it ecologically sound?	a. Value clarification exercises. b. Life style analysis in camp. c. Analysis of TV program messages

TOPIC	UNDERSTANDING	APPLICATION
Social Implications	d. Choices, decisions make a difference. e. Values directly influence our direction and policy choices. 2. No decision about environmental improvement. Is there one right answer that will suit all segments of society? 3. How environmental problems affect society? Crowding, congestion, jobs, social, poverty, education, crime, war, birth control, disease, services (garbage pickup, etc.) 4. Develop ethics for ecological way of living	d. E.g., recreation conflicts - snowmobiles vs. cross-county skiing; motorcycles vs. backpackers on trails e. Explore good models for future. E.g., cities, energy, parks, transportation, forest management, planning, bike paths, recycling
Psychological Implications	1. Fast pace of life. How is a human affected by it? E.g., health: heart, blood pressure, mental stress 2. Pressures resultant from a choice E.g., ecological life-style - composting, etc.; corporate product change which raised costs but protected consumer 3. Need for credible models for sound ecological life style. How can it be made popular? 4. What consumer habits are manipulated by advertisements? What are luxuries, necessities? Needs vs. wants.	a. Value clarification techniques b. Is behavior follow-through evident? (Incorporate observation recorded on behavior manifestation scale here) c. Examine and analyze advertisements and other messages and values they are promoting.

TOPIC	UNDERSTANDING	APPLICATIONS
Political Implications	1. What can be legislated? 2. Policy and its relation to laws. 3. State, local, federal powers and jurisdiction 4. Citizen input into decisions 5. Who makes decisions at each level? How are they made? 6. To what extent do government agencies work together? Make fractional administrative decisions, uncoordinated approach. E.g., highway department and drain commision - do they work together on planning projects?	a. Involve participants in at least one experience in influencing some decision at some level of government. E.g., make presentation to council, give data and recommendations, lobby about bill, letter-writing about bill, phone surveys. b. Structure a council in camp to practice democratic decision making with large groups c. Role-play and use simulation games about environmental decisions
Economic Implications	1. Can we support our population? 2. E.g., agriculture, industry, schools, employment, increase in energy consumption, etc. 2. Trade-offs in pollution cleanup. 3. Unemployment as less resources are available, and/or change of lifestyle. 4. Cost benefit methods of determining project feasibility. 5. Rising costs due to scarcer resources (including energy). 6. Economics of recycling various materials. 7. Long vs. short range profits.	a. Explore what your $2.00 per day toward food is really paying for. Analyze efficiency of food supply system. b. Predict changes of life style as prices go up and employment goes down. Example: backyard gardens, etc. What changes are ecologically sound and economically helpful c. Analyze economics of recycling some resource at camp. d. Grow garden at camp site.

TOPIC	UNDERSTANDING	APPLICATIONS
Economic Implications	8. Externalities 9. Can Michigan survive if auto industry can't sell cars?	
Technological Implications	1. Can technology solve our environmental problems? I.e., Can we fight technology with technology? - Everything goes somewhere - Every industrial process has a waste product - Accelerating automation results in an acceleration of energy consumption - Cleanup of one thing must consider effects on everything else. 2. Alternate energy sources. 3. Changes in environmental standards due to embryonic state of scientific knowledge. 4. Can we control weather?	a. Analyze the energy input/output and technological aspects of work projects. b. Discuss alternatives and effects of each. c. Garden at camp.
Geographical Implications	1. Population density: Concentration of people in cities, concentration of pollutants, distribution of resources, sprawl vs. agricultural production 2. Climatic conditions and changes; distribution of people and ages due to climatic conditions; stresses on natural resources 3. Weather and climate control.	

APPENDIX E

STATEMENTS IN THE Q-SAMPLE

APPENDIX E

STATEMENTS IN THE Q-SAMPLE

1. If we are not willing to voluntarily limit our family size, legislation should be passed that would force us into limiting the size of our families.

2. Agricultural land should be saved for food production and building should only take place where land cannot be harvested.

3. Because environmental problems are so massive, we must rely on government to plan and coordinate the solution to such problems.

4. When I leave an unnecessary light on, I am more concerned about the money wasted than about the energy used.

5. There really isn't a gas shortage; just old misers trying to collect more money.

6. If people organize, enough pressure can be put on industry to change and clean up the environment.

7. Small types of litter like gum wrappers or cigarette butts have little effect on the environment.

8. In spite of environmental problems, a state must also preserve its industry. Michigan, for example, needs the auto industry to survive.

9. It's our responsibility to look after, care for, and save animals and plants from extinction.

10. We should try and control weather more to benefit mankind.

11. I think it's important that we maintain our capability to provide not just for man's basic needs, but also for things he wants.

12. One of our important objectives as a society should be increasing our capacity to recycle and reuse our waste products and by-products.

13. The government should place controls on industry in relation to the wastes they produce and enforce these controls with strict fines for violations.

14. People have to be educated so they will be made aware of our environmental problems.

APPENDIX E (cont'd.)

15. Our government spends too much money in trying to clean up our environment.

16. I don't believe there is an important connection between environmental problems and a growing population.

17. Consumers show they support environmental issues by buying ecological products and disposing of them correctly.

18. The faster the pace of life, the more there is in life we can enjoy.

19. People's values have to change because they are too materialistic and make decisions that hurt the environment.

20. The loss of one organism from our environment really doesn't matter that much.

21. Industry and technology have created the biggest share of our environmental problems.

22. Because they must maintain public acceptance, most businesses are motivated to help in the effort to solve environmental problems.

23. If a lot more people were interested in environmental problems, we'd really be on the road to a sound, secure environment.

24. Just because I didn't make an environmental mess doesn't mean I shouldn't help to clean it up.

25. It's sad that all our efforts to clean up the environment are in vain since the earth will eventually die anyway.

26. Manufactured chemical fertilizers are a necessity or else we wouldn't be able to grow the foods we need to survive.

27. People who really care about the environment will try to improve it.

28. As a person becomes more aware of the problem of litter, he will think more about it, will feel guilty when he does it, and will tend to stop doing it.

29. Rising costs of products are due to scarcer resources being more difficult to find and take from the earth.

APPENDIX E (cont'd.)

30. We should continue to improve our standard of living as much as possible.

31. Population control is a must if we are going to enjoy the freedoms we have today.

32. Through free enterprise, companies tend to use up too much energy and produce too many goods.

33. We ought to give industries credit for the environmental improvements they have made in air and water purification systems.

34. There should be some limit placed on everyone concerning their food and product consumption.

35. People who try to get ahead in life through business usually care very little about the environment and consume more than their share of goods and energy.

36. Politicians are usually more concerned with getting elected than in taking definite stands on environmental issues.

37. If everyone's wants were satisfied, the environment would be a mess.

38. One of the most real problems of the environment is the growing problem of garbage and how to get rid of it.

39. Off the road vehicles are a fun type of recreation, loosen up tensions, and don't hurt the environment that much if they stick to designated areas.

40. Most people's life-styles show we are more concerned about the future now than ever before.

41. Advertising, by creating unnecessary desires, causes many of our environmental problems.

42. Going 55 mph on the highway instead of 70 mph really doesn't make that big a difference in conserving our energy supplies.

43. There is little I can do personally to stop major forms of pollution.

44. There should be stricter environmental standards to make the environment more stable, and to get it cleaned up.

APPENDIX E (cont'd.)

45. Everyone has the right to do what he wants until he has evidence that it interferes with other people's freedom.

46. Americans waste an awful lot of food and could do as well on much less.

47. Local government can do little on environmental issues unless it is backed by the state and federal governments.

48. We have to let our elected representatives know how we feel about environmental issues before we can expect them to act favorably toward them.

49. Everyone should spend some time in a wilderness situation so that they will understand and have more of a feeling for the environment.

50. I believe technology will help us to find a way out of our environmental problems.

51. We have a lot more room for more people on this earth if they would only spread out across the land.

52. I believe man should take the responsibility for most of our environmental problems.

53. Every individual or company should mainly be concerned with cleaning up the pollution they create.

54. Everyone should cut their life-style to necessities, conserving goods as well as other natural resources such as water and energy.

55. When man tries to change biological factors, they usually backfire on him leaving him faced with a worse situation than he began with.

56. A higher quality life is developing in the world.

57. We should keep our hands off the environment and let Mother Nature improve it the way she wants.

58. Each individual should be educated in the specific ways that he or she can contribute less to environmental problems and contribute more to environmental solutions.

59. We don't put enough emphasis on life and respect for the natural environment.

60. Generally, industries use only the materials and energy they have to for production.

APPENDIX F

PROCEDURE FOR COMPLETING THE Q-SORT

APPENDIX F

PROCEDURE FOR COMPLETING THE Q-SORT

Step 1. General Categorization of Environmentally Related Statements

Read through the 60 environmentally related statements and sort them into three piles:

A. Pile 1 - Those statements which you tend to agree with.

B. Pile 2 - Those statements which you are neutral or undecided about.

C. Pile 3 - Those statements which you tend to disagree with.

Place these piles in front of you in the following order:

Pile 1	Pile 2	Pile 3
		
Agree Statements	Neutral or Undecided Statements	Disagree Statements

USE THE DISTRIBUTION DIAGRAM ON PAGE 4 TO COMPLETE STEPS 2, 3, and 4.

Step 2. Selecting the statements you Agree Most with

A. From Pile 1 choose the three statements you agree with most and place them in a pile on your far left.

B. Go back to Pile 1 and choose three more statements that you agree with most and place them in a second pile.

C. Now choose the next four statements that you agree with most and place them in a third pile.

D. Five statements that you agree with most should now be placed in a fourth pile.

E. Six statements that you agree with most should be put in a fifth pile so that your statement piles continue to run from those on the extreme left that you agree with most to those on the right that you agree with a little. Continue this procedure using six statement cards in each pile until you have exhausted all your cards in Pile 1.

APPENDIX F (cont'd.)

F. Lastly, record the numbers on the cards you have just sorted on page 4 which is the Distribution Diagram. The three numbers from the three cards on your extreme left should be recorded in the +6 column. The next three cards should be recorded in the +5 column, the next four cards in the +4 column, the next five cards in the +3 column, the next six cards in the +2 column, and continue this procedure until all the cards you have sorted from Pile 1 have been recorded on the Distribution Diagram.

G. Your Distribution Diagram should now look something like this:

+6	+5	+4	+3	+2	+1	0	-1	-2	-3	-4	-5	-6
13	5	29	4	12	3							
6	17	9	21	8	22							
10	30	49	31	50	32							
		36	54	37								
			41	58								
				46								

Step 3. Selecting the statements you Disagree Most with

A. From Pile 3, choose the three statements you disagree with most and place them in a pile on your far right.

B. Go back to Pile 3 and choose three more statements that you disagree with most and place them in a second pile.

C. Now choose the next four statements that you disagree with most and place them in a third pile.

D. Five statements that you disagree with most from the remaining pile should not be placed in a fourth pile.

E. Six statements that you disagree with most should be put in a fifth pile so that your statement piles continue to run from those on the extreme right that you disagree with most to those on the left that you disagree with a little. Continue this procedure using six statement cards in each pile until you have exhausted all your cards in Pile 3.

F. Lastly, record the numbers on the cards you have just sorted onto the Distribution Diagram. The three numbers from the three cards on your extreme right

APPENDIX F (cont'd.)

should be recorded in the -6 column. The next three cards should be recorded in the -5 column, the next four cards in the -4 column, the next five cards in the -3 column, the next six cards in the -2 column, and continue this procedure until all the cards you have sorted from Pile 3 have been recorded on the Distribution Diagram.

G. Your Distribution Diagram should now look something like this:

+6	+5	+4	+3	+2	+1	0	-1	-2	-3	-4	-5	-6
13	5	29	4	12	3		2	20	1	19	26	60
6	17	9	21	8	22		23	16	24	15	25	14
10	30	49	31	50	32		53	52	34	33	35	18
		36	54	37			56	39	57	40		
			41	58			44	59	45			
				46				48				

Step 4. Selecting statements from the Neutral or Undecided Pile

A. Draw a box around the remaining empty spaces on your Distribution Diagram.

B. Your diagram should now look something like this:

+6	+5	+4	+3	+2	+1	0	-1	-2	-3	-4	-5	-6
13	5	29	4	12	3		2	20	1	19	26	60
6	17	9	21	8	22		23	16	24	15	25	14
10	30	49	31	50	32		53	52	34	33	35	18
		36	54	37			56	39	57	40		
			41	58			44	59	45			
				46				48				

C. Next, record the numbers of the remaining statements in the remaining empty spaces of the Distribution Diagram so that when the diagram is completed, all the statements are ranked from those you Agree Most with to those statements you Disagree Most with.

APPENDIX F (cont'd.)

D. Lastly, use an arrow to mark the column you feel would be neutral on your diagram. On the left of this column should be those statements you agree with and on the right of this column should be those statements you disagree with.

Step 5. Complete the information asked for on the bottom of the Distribution Diagram.

Step 6. Complete the Personal Data Sheet

Remember that you can change the order and placement of these statements whenever you wish until you are satisfied with the results. When you are done you should have numbers in all the boxes of the Distribution Diagram representing a range of statements from those you agree most with to those you disagree most with.

I would like to thank you at this time for your patience and cooperation in completing this task.

APPENDIX G

STAFF PERSONAL DATA QUESTIONNAIRE

APPENDIX G

STAFF PERSONAL DATA QUESTIONNAIRE

Date _____ Name _____

Type of camp _____ Position _____

Camp _____

P E R S O N A L D A T A
(Staff)

1. What is your age bracket?

___18-19 (1) ___20-30 (2) ___31-40 (3) ___41-50 (4) ___51-60 (5) ___61+ (6)

2. Sex: ___Male (1) ___Female (2)

3. Highest grade completed in school:

___9th (1) ___10th (2) ___11th (3) ___12th (4) ___13th (5) ___14th (6)

___15th (7) ___16th (8)

4. Please check the degree(s) you have earned:

___B.A. (1) ___B.S. (2) ___M.A. (3) ___M.S. (4) ___Ed.D (5) ___Ph.D (6)

5. With what major and minors did you graduate?

Major	Minor
_____	_____
_____	_____
_____	_____

6. Ethnic background:

___White (1) ___Black (2) ___American Indian (3) ___Oriental (4) ___Spanish (5)

(Spanish includes people of Chicano, Mexican, Puerto Rican, Cuban or other Spanish descent.)

7. What is your present occupation? _____

APPENDIX G (cont'd.)

8. Do you feel your political orientation is:

___1 Very liberal ___2 Liberal ___3 Moderate ___4 Conservative
___5 Very conservative

9. What is your religious orientation?

Catholic - ___1 liberal ___2 fundamental or conservative
Protestant - ___3 liberal ___4 fundamental or conservative
Jewish - ___5 orthodox ___6 traditional ___7 reformed
Eastern Religion ___8
Atheist ___9
Agnostic ___10
None of the above ___11

10. Please check your level of church activity:

___1 Very active ___2 Active ___3 Moderately active
___4 Seldom active ___5 Not active

11. What type of community did you spend most of your life in?

___1 Large metropolitan (Detroit) ___2 Other metropolitan area
___3 Suburban ___4 Small city or town ___5 Rural (non-farm)
___6 Farm

12. To what clubs, organizations or professional societies do you belong? _____

_____

13. Check those of the following activities in which you have participated:

___1 FFA ___2 4-H Club work ___3 Boy Scouts ___4 Girl Scouts ___5 Camp Fire Girls
___6 Ecology or Environmental Clubs ___7 Bird clubs ___8 Photography ___9 Outdoor Sports
___10 Family Camping ___11 Small group camping (other than family) ___12 Individual camping Clubs

APPENDIX G (cont'd.)

14. Please check the types of summer camps you have attended:

___ Boy Scout, Girl Scout, Camp Fire Girls, etc. (1)

___ Athletic (2) ___ Church related (3) ___ Educational (music, art, drama, science) (4)

___ Survival type camp (5)

15. Please check the following outdoor activities in which you like to participate:

___ Canoeing (1) ___ Hiking (2) ___ Water Skiing (3) ___ Downhill Skiing (4)

___ Cross Country Skiing (5) ___ Snowmobiling (6)

___ Riding in Dune Buggies (7) ___ Fishing (8) ___ Hunting (9)

___ Mountain Climbing (10) ___ Backpacking (11) ___ Photography (12)

___ Swimming (13) ___ Ice skating (14) ___ Running or jogging (15)

___ Power boating (16) ___ Animal watching (17) ___ Sledding or tobogganing (18)

16. If given the opportunity some other summer, would you like to participate in the Youth Conservation Corps?

___ Yes (1) ___ No (2)

APPENDIX H

ENROLLEE PERSONAL DATA QUESTIONNAIRE

APPENDIX H

ENROLLEE PERSONAL DATA QUESTIONNAIRE

Date _____ Name _____

Type of Camp _____ Position _____

Date of Birth _____ Camp _____

P E R S O N A L D A T A

(Enrollee)

1. What is your age?

___14 (1) ___15 (2) ___16 (3) ___17 (4) ___18 (5) ___19 (6)

2. Sex: ___Male (1) ___Female (2)

3. Highest grade completed in school:

___9th (1) ___10th (2) ___11th (3) ___12th (4) ___13th (5) ___14th (6)
___15th (7) ___16th (8)

4. Ethnic background:

___White (1) ___Black (2) ___American Indian (3) ___Oriental (4) ___Spanish (5)

(Spanish includes people of Chicano, Mexican, Puerto Rican, Cuban or other Spanish descent.)

5. Father's occupation: _____

6. Mother's occupation: _____

7. Present grade average: (please check)

___A (1) ___A- (2) ___B+ (3) ___B (4) ___B- (5) ___C+ (6) ___C (7) ___C- (8)
___D+ (9) ___D (10) ___D- (11) ___F (12)

APPENDIX H (cont'd.)

8. Family income range:

___1 Below $5,000 ___2 Between $5,000 - $10,000

___3 Between $10,000 - $15,000 ___4 Between $15,000 - $20,000

___5 Over $20,000 ___6 Don't know

9. Previous YCC participant: ___1 Yes ___2 No

If yes, enter program year _____

10. Please check the person in the YCC program who did the most for your understanding of the environment.

___1 Camp Director ___2 Environmental Education Coordinator

___3 Group or Crew leader ___4 Other (If other what was person's position in camp?) _____

11. What is your religious orientation?

Catholic - ___1 liberal ___2 fundamental or conservative

Protestant - ___3 liberal ___4 fundamental or conservative

Jewish - ___5 orthodox ___6 traditional ___7 reformed

Eastern Religion ___8

Atheist ___9

Agnostic ___10

None of the above ___11

12. Please check your level of church activity:

___1 Very active ___2 Active ___3 Moderately active

___4 Seldom active ___5 Not active

13. In what type of community did you spend most of your life?

___1 Large metropolitan (Detroit) ___2 Other metropolitan area

___3 Suburban ___4 Small city or town ___5 Rural (non-farm)

___6 Farm

APPENDIX H (cont'd.)

14. To what clubs, organizations or professional societies do you belong? _____

_____

15. Check those of the following activities in which you have participated:

___FFA (1) ___4-H Club work (2) ___Boy Scouts (3) ___Girl Scouts (4)
___Campfire Girls (5) ___Ecology or Environmental Clubs (6)
___Bird Clubs (7) ___Photography (8) ___Outdoor Sports Clubs (9)
___Family camping (10) ___Small group camping (other than family camping (11)
___Individual camping (12)

16. Please check the types of summer camps you have attended:

___Boy Scout, Girl Scout, Campfire Girls, etc. (1)
___Athletic (2) ___Church related (3) ___Educational (music, art, drama, science) (4)
___Survival type camp (5)

17. Please check the following outdoor activities in which you like to participate:

___Canoeing (1) ___Hiking (2) ___Water Skiing (3) ___Downhill Skiing (4)
___Cross Country Skiing (5) ___Snowmobiling (6)
___Riding in Dune Buggies (7) ___Fishing (8) ___Hunting (9)
___Mountain Climbing (10) ___Backpacking (11) ___Photography (12)
___Swimming (13) ___Ice skating (14) ___Running or jogging (15)
___Power boating (16) ___Animal watching (17) ___Sledding or tobogganing (18)

18. Did you stay in the same work group or work crew all summer? ___Yes (1) ___No (2) (If yes, who was your group or crew leader? First and last name.) _____

19. If given the opportunity some other summer would you like to participate in the Youth Conservation Corps?

___Yes (1) ___No (2)

APPENDIX H (cont'd.)

20. How many courses have you taken in school where a unit on the environment was included? _____

21. How many environmental, ecology, or conservation courses have you taken in school? _____

22. How many group or crew leaders did you have this summer?

___one (1) ___two (2) ___three (3) ___four (4) ___five (5) ___six (6)

___seven (7) ___eight (8) ___nine (9)

If you had more than 1 group or crew leader this summer, please answer questions 23 and 24.

23. Who were the group or crew leaders if any who did the most for your understanding of the environment? (First and last names) _____

_____

_____

_____

24. Who were the group or crew leaders if any who did the least for your understanding of the environment? (First and last names) _____

_____

_____

_____

APPENDIX I

SAMPLE SCORE SHEET

APPENDIX I

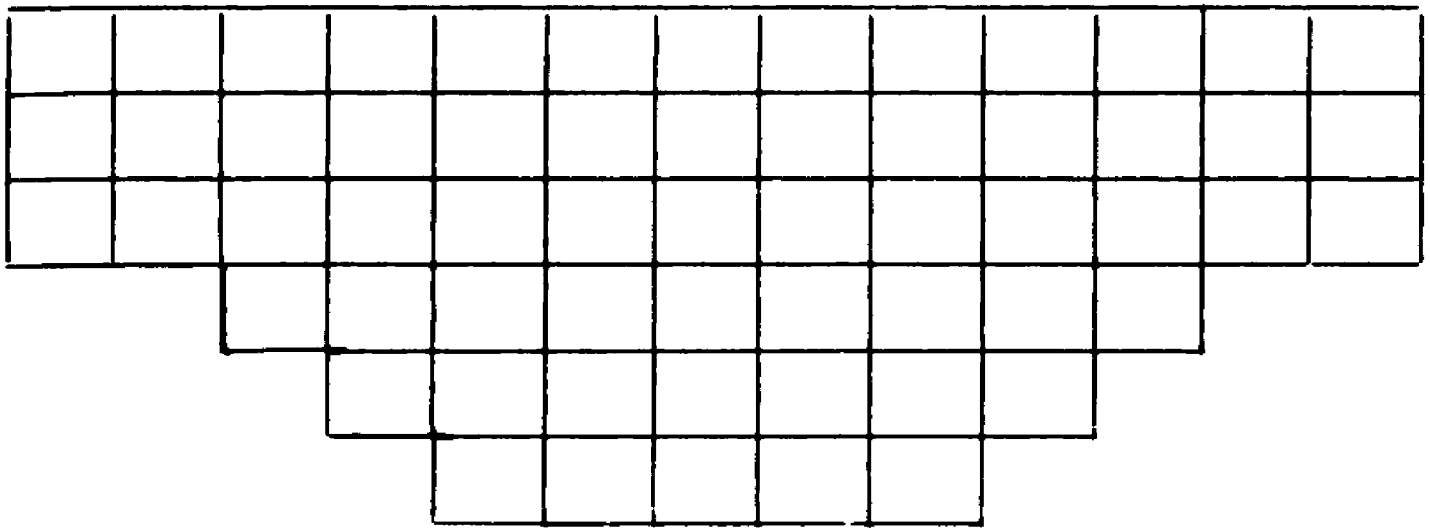
SAMPLE SCORE SHEET

Distribution Diagram

Neutral
or
Undecided

Agree Most — Disagree Most

+6 +5 +4 +3 +2 +1 0 -1 -2 -3 -4 -5 -6



Name _____

Camp _____

Position _____

Date _____

APPENDIX J

FACTOR DISTRIBUTION FOR PRETEST (100 SORTS)

APPENDIX J

TABLE 11

FACTOR DISTRIBUTION FOR PRETEST (100 SORTS)

Camp	Factor I	Factor II	Factor III	Not on significant factor	Total
Yankee Springs					
Staff	6	1	0	2	9
Campers	9	3	5	9	26
Headquarters Lake					
Staff	7	0	0	1	8
Campers	12	1	1	8	22
Alberta					
Staff	7	1	0	0	8
Campers	5	2	3	7	17
Church Group	1	2	2	5	10
Totals					
Staff	20	2	0	3	25
Campers	26	6	9	24	65
Church Group	1	2	2	5	10
					100

APPENDIX K

VARIMAX ROTATION: PRETEST

APPENDIX K

TABLE 12

VARIMAX ROTATION: PRETEST*

Respondent	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII
1	64	09	30	34	00	10	05	13	04	05	06	06	23	-05	-06	-00	25
2	65	30	13	03	12	17	11	04	23	07	-09	03	14	12	14	06	30
3	39	51	24	19	24	05	14	07	14	05	-20	09	-13	14	01	-00	-02
4	50	46	16	12	05	16	-04	03	03	02	-08	-02	07	-03	00	12	10
5	54	34	32	18	12	03	-05	13	05	35	02	04	-00	16	08	06	19
6	56	37	21	11	-11	17	09	12	19	-10	06	-02	11	22	22	11	-08
7	55	18	22	10	03	27	-01	-06	07	-07	09	-01	22	-05	19	31	24
8	64	26	11	04	24	06	-24	-05	12	21	08	13	16	-10	19	05	13
9	51	50	39	05	20	-03	00	12	-05	01	14	-03	02	-00	04	07	05
10	29	40	28	03	06	08	-02	08	-07	-06	25	12	26	28	-01	-07	01
11	58	43	31	-10	14	01	22	-03	00	-06	01	04	10	-00	08	12	-08
12	55	17	10	27	21	05	47	02	17	-00	08	-03	17	-02	06	-06	-00
13	66	18	33	18	17	05	16	-12	-04	12	05	08	16	02	08	01	07
14	75	14	22	16	11	06	-02	10	12	06	00	03	07	-04	-10	04	23
15	33	34	25	19	07	25	-04	12	03	30	14	12	05	23	10	-11	-07
16	37	27	18	25	11	20	26	32	-21	39	-12	-03	-02	07	-17	01	-12
17	52	10	37	25	01	09	15	03	-01	14	04	03	14	-10	04	-02	29
18	17	35	47	29	07	06	-04	08	06	17	18	07	08	19	-19	-07	-14
19	35	37	63	21	23	-17	07	09	09	-00	-10	02	-07	04	03	07	06
20	12	69	10	12	24	07	17	12	03	18	06	-01	-09	06	05	09	02
21	06	73	22	01	-02	-00	05	07	14	03	-07	-06	06	00	01	-09	-08
22	18	07	10	26	13	30	00	12	-00	25	-08	02	20	10	45	09	11
23	25	31	65	15	06	12	00	12	06	04	03	-01	20	-04	-00	-05	12
24	67	05	07	13	15	20	11	04	04	09	10	-00	30	-13	01	-13	18
25	30	13	64	12	-03	00	-15	-02	-03	13	00	10	06	-04	-08	07	01

*All decimal points omitted

APPENDIX K (cont'd.)

Respondent	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII
26	11	26	21	09	21	-06	11	21	28	-05	04	02	01	-03	-04	-03	02
27	61	20	05	30	19	17	00	09	-12	28	01	-04	08	02	-06	-07	00
28	32	04	08	06	11	78	08	03	00	02	03	-00	01	02	04	-03	07
29	53	-04	30	05	06	06	37	21	-07	28	00	18	07	-06	08	08	22
30	45	36	47	16	01	-01	10	15	-03	13	05	20	11	-18	08	06	09
31	16	21	56	-17	20	36	-14	-10	10	03	-04	11	12	-05	-35	-00	16
32	44	44	47	23	06	11	08	15	10	14	-09	08	11	-16	03	01	05
33	29	25	01	07	10	08	72	-02	-03	13	01	19	20	05	-00	-01	10
34	-24	16	-06	-01	-00	03	02	13	15	07	-02	15	04	76	01	00	01
35	74	24	15	08	14	15	-05	-01	-08	-00	-17	-01	08	01	04	-04	-08
36	61	43	10	22	09	02	-17	-01	02	08	-11	19	09	-18	16	-11	14
37	79	20	29	-03	06	-01	07	12	02	08	14	09	-03	03	11	02	12
38	69	26	23	11	13	-08	04	-04	-00	16	-04	-04	08	06	11	-00	-06
39	49	54	23	07	-01	-01	08	11	-14	04	08	09	06	03	-07	35	18
40	65	37	26	17	-07	15	09	-02	01	20	14	10	08	-23	-04	08	07
41	56	15	43	12	10	-01	10	16	10	00	21	04	12	-14	39	-05	-13
42	58	00	22	18	-00	07	32	05	-05	05	05	19	26	12	05	-07	00
43	71	26	23	-00	09	09	03	22	-05	05	-00	12	16	-05	06	09	-00
44	55	32	39	19	06	11	19	-00	-02	26	00	16	17	02	10	02	-05
45	46	19	15	32	03	18	09	13	07	33	07	08	09	06	05	14	16
46	28	27	28	-02	18	-09	06	-10	-15	09	05	-01	11	-00	-01	09	-08
47	17	11	16	10	07	00	12	15	07	01	-00	73	02	15	00	02	01
48	66	22	25	09	25	00	17	-04	21	05	05	01	-06	-21	06	10	02
49	31	09	33	06	14	-09	-06	01	16	15	15	07	30	-01	13	47	01
50	46	07	12	28	09	03	-06	05	05	65	-02	-05	02	06	-04	00	01

Respondent	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII
51	29	46	45	-01	19	04	-10	-08	05	02	00	17	-01	07	17	01	01
52	54	26	17	07	-01	16	-08	06	12	15	13	02	30	-27	01	-23	14
53	62	11	11	33	08	17	-03	14	-05	20	03	11	-01	08	-14	30	-11
54	31	48	33	20	13	-13	01	00	-05	30	05	-02	09	13	02	-02	15
55	19	11	18	-03	12	05	13	10	-05	02	-00	03	79	08	03	06	00
56	-07	14	12	01	08	05	-00	82	-04	06	02	15	08	12	03	-00	00
57	53	52	20	32	08	12	00	-01	-03	16	05	17	05	12	01	-10	08
58	77	25	15	07	00	11	-00	-03	07	30	03	02	08	-02	02	-05	04
59	58	-01	16	08	03	08	04	00	13	31	-11	-03	04	08	04	-04	-03
60	44	24	07	32	23	03	-14	-01	07	-00	03	14	20	09	08	-04	08
61	49	32	38	19	17	07	16	15	-13	28	02	-07	28	-07	09	09	15
62	65	14	-05	22	25	06	23	05	-02	20	00	20	-11	-02	-04	02	06
63	31	31	06	59	32	06	06	01	02	12	-11	-05	16	00	08	-05	06
64	47	27	20	08	03	-00	09	16	04	31	14	27	27	-12	-08	-10	-10
65	23	25	49	31	-13	16	16	20	17	21	-02	-04	05	10	03	02	15
66	66	-02	14	12	06	27	04	-12	17	12	03	-18	-04	14	-12	-06	13
67	43	30	21	08	01	03	04	06	24	00	58	-02	09	01	01	11	02
68	63	27	40	05	-05	-16	04	-22	13	15	06	07	-06	02	-15	15	-00
69	67	09	-02	16	15	07	13	-00	08	12	19	-00	16	-09	-10	17	08
70	72	11	27	05	13	13	-06	-09	03	12	01	20	04	-06	00	06	-06
71	22	74	15	04	12	03	10	05	-08	02	19	04	06	17	-00	05	13
72	41	29	20	18	14	17	08	-00	00	09	05	03	-01	02	-00	01	60
73	42	37	24	24	11	12	-42	-06	-19	00	03	29	04	14	-06	03	13
74	37	25	51	19	12	04	26	08	-14	09	07	00	02	-08	03	-09	01
75	23	12	30	05	21	09	06	21	10	24	03	-06	09	-06	06	-00	26

APPENDIX K (cont'd.)

Respondent	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII
76	23	27	55	-13	20	35	10	13	-05	22	23	21	10	-07	11	-10	15
77	81	10	15	02	07	06	14	06	-13	00	07	11	-01	-00	02	04	-01
78	24	08	03	12	05	44	-06	32	13	22	-36	-00	15	15	08	30	00
79	54	19	35	11	08	06	16	02	08	23	-24	12	08	04	15	09	33
80	20	09	18	72	09	00	05	-00	00	15	04	14	-08	-05	04	03	06
81	48	47	27	08	28	-15	11	-00	03	07	-08	07	00	-05	15	01	04
82	46	20	12	36	39	17	17	08	-03	11	18	04	08	-01	08	13	00
83	50	31	25	-05	12	23	09	-09	12	-01	-11	-25	01	01	-17	-01	27
84	48	43	26	06	24	09	17	09	05	38	-10	05	13	02	24	-01	-09
85	31	35	16	22	38	15	09	04	-00	17	02	14	14	16	01	-34	-03
86	44	60	25	09	-02	13	-05	07	-12	20	27	08	09	-12	-00	01	07
87	29	43	36	11	21	-21	-20	16	-10	07	00	22	23	03	-01	05	07
88	34	13	31	04	61	07	17	20	-08	05	-15	04	04	-10	01	17	19
89	31	27	50	-10	18	18	14	-10	-04	-05	17	01	-02	02	28	13	-00
90	56	31	28	08	26	-09	03	-07	-04	12	04	07	08	-13	04	02	21
91	19	35	39	11	-04	00	25	-11	-02	11	28	03	42	-12	09	11	09
92	21	11	13	19	76	12	00	03	09	16	08	05	10	04	02	-01	02
93	24	20	19	08	13	01	22	00	02	60	02	09	01	-00	07	05	13
94	46	28	49	02	19	20	-04	10	-01	11	-04	08	22	16	05	08	14
95	30	52	15	29	-06	02	04	00	-00	18	-02	38	24	09	01	-00	18
96	04	60	20	10	02	35	04	01	16	17	02	18	16	-12	-09	05	30
97	30	23	48	27	21	03	11	30	03	29	05	11	24	-07	24	08	08
98	46	02	07	12	38	32	01	10	-02	-05	-27	-02	34	-02	-08	-18	-01
99	39	33	56	03	24	11	06	06	-05	19	04	13	25	07	09	10	01
100	13	02	00	00	02	03	-00	-04	79	03	04	04	-04	10	00	02	01

APPENDIX L

FACTOR DISTRIBUTION FOR POSTTEST (100 SORTS)

APPENDIX L

TABLE 13

FACTOR DISTRIBUTION FOR POSTTEST (100 SORTS)

Camp	Factor I	Factor II	Not on Significant factor	Total
Yankee Springs				
Staff	7	1	1	9
Campers	10	8	8	26
Headquarters Lake				
Staff	7	0	1	8
Campers	9	4	9	22
Alberta				
Staff	7	1	0	8
Campers	4	2	11	17
Church Group	1	5	4	10
Totals				
Staff	21	2	2	25
Campers	23	14	28	65
Church Group	1	5	4	10
				100

APPENDIX M

VARIMAX ROTATION: POSTTEST

APPENDIX M

TABLE 14

VARIMAX ROTATION: POSTTEST*

Respondents	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII
1	52	27	16	12	08	-04	13	22	-00	09	03	02	-00	21	15	19	-07
2	62	32	38	-11	-06	08	07	04	08	11	09	11	16	-04	11	17	07
3	43	60	-12	-12	19	-04	02	01	13	16	19	-04	05	-04	24	11	-06
4	58	42	05	-10	10	13	-10	08	10	-00	-06	26	11	12	07	-04	-33
5	65	46	16	13	10	-13	-01	-05	06	11	15	22	16	20	06	-05	-14
6	57	21	-01	15	-15	17	-06	19	-04	-01	-17	-13	14	-13	01	19	07
7	79	04	13	07	13	12	02	10	25	08	-03	01	00	00	-22	08	-02
8	81	09	-05	06	12	-00	12	-08	14	05	00	04	-02	19	-08	11	06
9	67	57	-02	03	04	05	01	11	23	00	00	06	20	16	-02	00	-07
10	19	35	10	36	15	10	-10	14	31	13	-01	-06	36	09	-04	02	03
11	74	39	-00	-04	16	06	04	04	21	-03	-02	-02	15	09	13	10	-03
12	67	31	35	-04	16	02	-01	14	25	04	-02	03	-04	-00	-02	03	10
13	64	31	27	07	24	-01	12	04	10	-10	12	17	40	-03	-08	05	09
14	57	34	19	15	-01	00	00	28	07	-07	-07	04	34	16	-04	-01	-03
15	16	67	11	27	-07	00	03	03	21	00	13	-04	04	14	05	02	06
16	34	65	16	-11	24	04	-00	15	07	05	16	20	-03	04	32	00	-05
17	54	36	24	15	-01	-04	-04	14	18	-04	22	23	30	-01	08	09	17
18	23	70	26	15	04	-10	10	09	-02	02	-10	-00	08	16	11	01	04
19	47	47	-01	08	-01	03	03	05	55	21	-06	-03	03	-14	06	08	-09
20	19	56	-13	-07	17	25	-06	02	19	-00	11	29	06	28	-02	06	05
21	36	34	07	18	23	-13	-23	17	30	-02	13	-21	10	11	04	21	-11
22	19	74	06	05	-01	-02	14	-03	15	-15	-01	07	-09	-09	-03	08	-01
23	40	62	02	07	19	10	-10	18	13	09	-05	-07	27	-18	13	-12	08
24	62	10	24	34	02	04	01	08	07	05	00	16	17	09	-06	-06	14
25	40	21	11	-05	07	33	-28	26	-10	-20	-09	16	10	24	01	-17	-03

*All decimal points omitted

APPENDIX M (cont'd.)

Respondents	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII
26	48	26	00	03	03	02	-05	18	10	19	19	06	20	19	-34	-10	-02
27	77	32	00	15	03	01	-00	22	13	-11	00	05	03	16	05	07	02
28	07	03	12	14	01	04	80	04	04	-05	01	10	01	-00	01	-01	02
29	36	17	60	18	31	17	10	-02	13	19	28	-03	00	-16	02	02	23
30	29	52	34	20	04	17	-14	22	27	02	-07	-03	13	-09	10	-03	-08
31	34	48	05	38	-07	10	23	35	07	01	14	16	-01	28	16	03	-03
32	50	57	27	13	12	14	-01	07	34	04	00	09	14	-06	01	00	08
33	05	27	08	03	76	05	-01	09	05	10	-07	07	06	01	02	15	02
34	-18	08	11	08	08	00	-04	-01	02	81	02	-01	00	01	-05	04	-01
35	69	26	28	-01	05	-10	12	09	14	03	-03	-02	01	26	05	13	00
36	55	21	05	-03	-01	05	08	05	11	-00	04	-01	15	02	14	13	-01
37	78	40	06	16	-09	05	10	10	19	-00	03	-01	07	04	-00	11	00
38	80	24	00	-01	-03	06	-06	01	06	05	-00	15	-12	-06	17	-03	14
39	74	26	05	14	06	17	22	12	07	03	21	02	11	06	03	-02	-10
40	73	30	00	08	08	14	-12	14	09	-13	11	11	11	11	07	01	15
41	54	44	10	01	15	00	01	-02	16	25	01	-06	20	-07	-09	21	23
42	62	02	50	13	19	00	00	02	10	-09	16	01	-04	03	-05	08	15
43	65	46	07	13	02	09	-04	06	-08	-17	-22	20	-00	-08	07	11	03
44	47	43	21	20	07	-06	05	24	35	-12	-04	31	-00	-00	13	-04	12
45	68	24	23	21	19	08	-07	30	04	03	03	14	04	02	18	02	02
46	23	27	28	32	10	-06	01	38	38	-21	04	21	-02	-12	-15	02	-01
47	31	56	04	08	36	00	09	13	03	00	01	10	-03	12	04	-01	-04
48	71	22	13	-05	24	16	-07	03	02	-11	14	18	14	10	03	-00	07
49	28	28	-02	30	10	-04	14	32	33	15	11	-00	25	02	11	10	00
50	37	28	17	27	06	-07	-32	-01	-10	-13	19	28	06	-04	35	10	08

APPENDIX M (cont'd.)

Respondents	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII
51	44	61	04	05	-06	07	-14	-02	10	03	11	00	38	-10	02	02	-02
52	79	03	33	04	-01	08	02	15	-02	03	04	04	11	-13	-10	04	13
53	49	22	31	26	-09	-00	16	06	15	-24	21	18	-02	-00	09	11	03
54	41	49	15	21	-04	-08	08	06	20	-04	27	15	27	-04	10	-04	13
55	10	16	12	10	-00	06	17	00	45	16	-02	14	05	08	-25	10	22
56	11	13	03	78	02	05	13	04	16	06	-00	05	03	-00	00	-04	01
57	64	50	00	07	-00	13	05	02	28	03	03	06	07	10	01	00	-03
58	74	25	22	17	13	-11	09	09	15	-06	04	-06	09	05	21	00	-03
59	53	22	55	-07	-04	-24	02	16	12	-06	04	-08	08	11	11	-30	-05
60	55	11	19	07	22	-08	03	23	28	-06	11	-08	36	08	08	07	-07
61	64	45	23	28	00	-08	-02	08	05	08	-14	11	12	05	18	-00	11
62	63	25	00	05	12	16	16	14	-01	-15	19	02	-01	08	02	-02	-09
63	32	50	-03	07	25	-17	10	10	04	06	-00	12	01	08	01	11	02
64	27	31	15	11	07	-09	07	-06	19	-08	11	04	08	06	48	16	-03
65	41	60	04	-02	27	15	-10	10	-01	-02	17	10	-04	00	-18	12	-03
66	59	02	33	01	-12	08	20	27	-06	03	31	13	-01	-07	-03	02	-19
67	63	20	-00	25	17	16	02	24	04	04	08	-06	16	04	-09	21	07
68	82	20	04	01	01	11	-01	-00	19	-05	12	01	03	-05	14	03	03
69	66	26	16	-08	-08	-22	-08	02	-01	-11	23	10	-05	-03	06	-15	-10
70	75	29	10	23	18	02	02	13	08	-05	08	01	-02	-00	09	05	02
71	37	52	-11	-01	-12	34	02	-12	25	02	16	21	24	14	04	21	-04
72	48	16	16	00	-13	-06	02	10	07	01	54	09	06	03	07	-01	00
73	59	42	03	21	11	05	07	00	05	-04	09	-05	15	24	03	16	-29
74	49	48	11	15	11	03	-09	11	22	06	09	14	13	-03	-21	-07	-02
75	39	08	04	05	15	-06	02	67	04	01	04	19	05	-02	-05	08	04

APPENDIX M (cont'd.)

Respondents	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII
76	13	25	10	08	36	08	11	15	30	-02	-04	29	42	17	06	24	01
77	74	31	10	07	-02	-07	05	06	09	-17	06	23	08	-04	-07	10	-02
78	16	15	72	02	02	06	09	03	-03	09	-01	08	06	07	03	22	-04
79	37	38	24	38	22	-01	31	02	-01	06	06	00	-01	30	20	-04	03
80	44	20	37	18	07	-23	20	00	05	08	08	06	00	03	08	-14	-04
81	51	35	-15	-02	06	18	15	22	22	14	19	02	-11	-04	12	-07	-10
82	35	38	17	14	24	09	10	40	09	-07	02	08	11	15	-00	-01	45
83	68	21	15	05	06	03	-07	09	18	-18	05	12	-00	01	-00	-00	-10
84	46	58	17	15	01	10	-19	09	06	11	31	03	-11	10	11	-07	15
85	40	59	19	06	16	08	-08	15	01	04	-01	-00	03	16	-02	13	08
86	24	40	09	05	-12	15	-01	38	18	-26	16	-17	15	25	-07	-00	00
87	30	31	04	11	10	06	-04	-00	54	-06	11	16	00	12	06	14	-04
88	21	20	05	06	10	15	14	15	08	-03	06	72	01	02	01	-01	-02
89	43	49	11	02	08	-01	28	20	32	-17	08	-04	13	02	03	12	32
90	51	43	13	15	13	07	11	22	06	12	10	31	20	-13	-04	-12	07
91	25	46	10	10	30	09	21	09	19	17	-02	28	05	24	03	24	00
92	17	59	23	09	19	-03	09	11	04	02	00	24	08	-05	-21	05	00
93	07	42	28	09	19	-10	08	28	-02	16	32	13	07	03	02	21	08
94	33	33	-04	25	02	15	15	05	57	-05	03	-03	26	02	12	11	06
95	27	53	06	07	24	17	-09	-00	21	09	00	06	08	45	-02	20	09
96	14	09	03	05	05	82	06	-02	07	01	-02	07	00	01	-04	-04	00
97	34	55	25	09	26	27	-14	08	30	02	-04	15	09	01	14	08	09
98	18	11	20	-02	-00	-05	07	03	01	13	02	14	-00	-03	01	00	-01
99	49	26	16	13	28	02	00	10	28	04	19	35	-02	07	05	-03	16
100	18	13	16	-05	18	-05	-02	06	17	03	-00	-00	03	03	07	65	00

APPENDIX N

VARIMAX ROTATION:

PRE AND POSTTESTS COMBINED

APPENDIX N

TABLE 15

VARIMAX ROTATION:
PRE AND POSTTESTS COMBINED*

Respondents	I	II	III	IV	V	VI	VII	VIII	IX
1	61	08	34	43	-04	20	12	-11	05
2	67	33	14	20	10	04	15	05	-00
3	36	48	18	16	61	04	07	-04	11
4	36	41	18	29	56	-01	01	07	-03
5	76	21	21	03	-05	02	08	24	09
6	70	28	13	12	-00	05	-04	44	03
7	76	28	01	06	-01	01	-10	46	03
8	26	40	33	18	03	11	09	03	45
9	67	41	19	06	28	05	22	13	06
10	72	18	18	28	16	-01	12	08	17
11	67	21	29	30	12	09	02	03	13
12	77	12	28	23	01	12	01	-03	05
13	16	35	32	43	07	03	07	-00	14
14	37	34	17	52	44	02	13	-03	-01
15	13	33	42	42	17	11	-03	-00	00
16	22	16	29	53	17	02	22	01	05
17	36	36	51	17	14	-00	09	02	-08
18	16	73	14	29	22	-22	10	-07	09
19	12	72	12	35	14	-01	01	16	04
20	08	67	21	01	15	12	-00	-00	01
21	21	37	17	38	17	-13	13	-02	-06
22	23	32	72	29	05	08	11	-09	-01
23	33	29	57	32	26	02	21	-10	-04
24	71	09	11	36	-15	01	06	-01	09
25	29	09	64	08	16	18	03	15	06
26	76	26	26	18	-00	03	08	07	05
27	32	30	35	22	13	00	48	-12	11
28	24	22	61	05	-00	-04	-16	-05	11
29	36	29	26	39	00	02	14	05	-00
30	71	19	18	14	14	-10	00	-04	32
31	75	17	04	28	13	05	-05	05	33
32	77	20	23	10	-05	-06	24	03	02
33	75	28	27	13	07	02	16	09	09
34	70	22	21	13	15	15	-02	09	-04
35	75	22	15	03	12	14	04	-00	-23
36	74	24	29	14	10	02	-04	-01	04
37	72	36	28	14	-01	18	01	-06	-16
38	71	43	27	15	-03	11	-03	-05	-17
39	66	21	19	17	00	03	43	06	00
40	65	26	10	19	05	06	34	-14	-03

*All decimal points omitted

APPENDIX N (cont'd.)

Respondents	I	II	III	IV	V	VI	VII	VIII	IX
41	71	12	26	33	07	03	22	04	00
42	31	15	24	47	29	22	14	03	01
43	71	20	27	15	19	-07	05	-10	-13
44	70	30	19	19	15	11	01	02	-11
45	39	53	33	21	16	-13	10	-15	-05
46	85	05	09	15	-07	00	08	-00	-04
47	62	12	09	38	06	10	03	05	06
48	34	53	32	30	05	02	-02	17	11
49	79	22	11	18	17	07	07	01	12
50	76	09	18	24	16	-01	12	12	00
51	67	16	-04	39	15	-05	-04	02	-02
52	32	30	13	52	06	07	-02	09	02
53	23	29	44	39	10	06	20	00	-11
54	34	46	21	34	23	-02	24	03	-00
55	68	-03	17	21	15	-14	-05	-15	08
56	67	20	32	-06	18	23	-02	-00	-17
57	78	25	26	-08	16	19	06	04	-14
58	71	12	-00	33	-03	-05	08	-04	-03
59	71	10	00	18	30	-15	-20	-25	-02
60	72	08	26	04	18	01	13	09	08
61	76	17	24	16	14	11	11	-03	-01
62	24	79	11	09	-01	-04	05	-04	-00
63	29	75	21	04	08	02	10	06	-05
64	38	30	53	34	-02	-19	09	-18	01
65	26	35	54	25	-03	-07	17	19	02
66	77	12	18	14	00	-12	25	-10	24
67	78	25	12	17	-05	-13	14	-05	-01
68	71	14	23	12	11	07	05	-07	18
69	44	35	21	58	11	13	00	-11	20
70	46	61	26	23	-08	03	10	-09	03
71	26	36	33	10	-07	08	06	-27	01
72	27	43	34	18	-00	20	16	13	14
73	33	34	51	10	09	-25	06	03	19
74	24	44	12	40	01	12	22	17	07
75	21	27	31	64	-03	-23	06	-01	02
76	20	13	09	74	06	07	-00	-00	03
77	30	52	13	29	02	55	08	-02	05
78	21	62	10	39	02	41	12	17	15
79	15	63	28	13	02	21	-06	01	-02
80	32	31	44	47	01	07	23	28	-18
81	35	45	31	34	08	13	46	06	-00
82	40	36	56	25	04	11	15	12	09

APPENDIX O

FACTOR DISTRIBUTION FOR PRE AND POSTTESTS COMBINED

APPENDIX O

TABLE 16

FACTOR DISTRIBUTION FOR PRE AND POSTTESTS COMBINED

	Type I	Type II	Type III	Type IV
Camp Distribution				
Yankee Springs	18(33.3%)	4(30.7%)	4(44.4%)	3(37.5%)
Headquarters Lake	20(37.0%)	3(23.0%)	1(11.1%)	2(25.0%)
Alberta	14(25.9%)	3(23.0%)	3(33.3%)	1(12.5%)
Church Group	2(3.7%)	3(23.0%)	1(11.1%)	2(25.0%)
Totals	54(64.2%)	13(15.4%)	9(10.7%)	8(9.5%)
Types of People				
Campers	30(55.5%)	8(61.5%)	8(88.8%)	6(75.0%)
Staff	22(40.7%)	2(15.3%)	0(0.0%)	0(0.0%)
Church Group	2(3.7%)	3(23.0%)	1(11.1%)	2(25.0%)
Totals	54(64.2%)	13(15.4%)	9(10.7%)	8(9.5%)

APPENDIX P

TEST DISTRIBUTION ON FACTORS

APPENDIX P

TABLE 17

TEST DISTRIBUTION ON FACTORS

	Type I	Type II	Type III	Type IV
Pre and Posttests	38(70.3%)	4(30.7%)	1(11.1%)	0(0.0%)
Pretest	9(16.6%)	6(46.1%)	8(88.8%)	0(0.0%)
Posttest	7(12.9%)	3(23.0%)	0(0.0%)	8(100.%)
Totals	54(100.%)	13(100.%)	9(100.%)	8(100.%)

APPENDIX Q

STANDARD SCORES

APPENDIX Q

TABLE 18

STANDARD SCORES

(N=60)	Score and Rankings on Factor							
Statement	I		II		III		IV	
1	-0.01	32	-0.91	49	-0.73	45	-1.14	51
2	0.63	23	-0.46	35	0.35	22	0.32	27
3	-0.50	37	-0.71	41	-1.17	52	-0.96	47
4	-0.79	41	-0.14	33	-0.46	39	-0.42	39
5	-0.79	42	0.13	29	-0.56	40	1.03	11
6	0.66	22	1.19	10	0.76	15	1.57	1
7	-0.96	47	-1.37	54	-1.87	60	-1.92	58
8	-0.47	36	0.61	20	0.75	16	-0.24	37
9	0.83	16	1.38	6	1.64	5	1.51	4
10	-1.23	53	-0.74	43	-0.86	48	-1.72	56
11	-0.81	43	0.80	17	0.32	23	0.33	26
12	1.49	4	1.57	1	1.66	4	1.17	7
13	0.92	11	1.45	4	1.06	11	0.94	15
14	1.40	5	1.27	8	0.97	14	0.77	18
15	-1.61	58	-1.68	59	-1.36	54	-0.61	40
16	-1.87	60	-1.45	56	-1.42	55	-1.24	53
17	0.52	26	0.74	19	-0.41	37	0.52	20
18	-1.63	59	-1.38	55	-1.07	50	-1.34	55
19	1.80	1	0.34	26	-0.15	35	0.29	28
20	-1.41	55	-1.63	57	-1.30	53	-1.98	60
21	0.56	24	-0.59	39	-0.57	41	0.34	24
22	-0.59	39	-0.80	47	0.57	18	0.27	29
23	0.83	15	1.04	14	1.04	12	0.99	12
24	0.75	19	0.27	27	1.88	2	-1.26	54
25	-1.45	56	-1.92	60	-1.69	59	-1.94	59
26	-0.93	46	-0.03	31	-1.46	57	-1.16	52
27	0.89	12	1.11	13	1.48	7	1.48	5
28	0.56	25	0.42	25	0.43	21	1.07	10
29	-0.07	33	-0.04	32	0.09	27	-0.36	38
30	-1.50	57	0.60	22	-0.44	38	-0.61	41

APPENDIX Q (cont'd.)

Statement	Score and Rankings on Factor I		II		III		IV	
31	1.30	7	1.26	9	0.00	31	-0.69	43
32	0.80	18	-0.54	37	0.08	28	0.26	30
33	-0.11	34	0.12	30	0.55	19	-0.09	35
34	0.16	31	-1.16	52	-0.14	34	-0.96	48
35	0.24	30	-0.77	45	-0.66	42	0.96	14
36	0.50	28	0.76	18	0.30	24	0.62	19
37	0.85	13	-0.79	46	0.12	25	0.08	33
38	0.84	14	0.60	21	1.53	6	0.25	31
39	-0.82	44	0.14	28	0.10	26	0.33	25
40	-1.16	51	-0.73	42	0.46	20	0.84	17
41	0.80	17	-0.47	36	0.04	29	0.45	21
42	-1.13	50	-0.54	38	-0.71	44	-1.74	57
43	-1.20	52	-1.21	53	-1.65	58	-1.03	49
44	1.02	9	1.48	3	1.03	13	0.96	13
45	-0.56	38	-0.41	34	0.66	17	0.88	16
46	1.10	8	1.19	11	1.75	3	1.25	6
47	-0.84	45	-0.83	48	-1.44	56	-0.76	44
48	0.68	20	1.11	12	0.03	30	1.08	9
49	0.66	21	0.48	24	1.10	10	1.55	2
50	-0.43	35	0.85	16	-0.30	36	-0.03	34
51	-1.08	48	-1.06	50	-0.06	32	-0.90	46
52	1.36	6	1.49	2	1.92	1	1.55	3
53	0.37	29	0.52	23	-0.66	43	-0.13	36
54	0.95	10	-1.11	51	-1.14	51	0.37	23
55	0.51	27	-0.69	40	-0.12	33	-0.62	42
56	-1.26	54	0.89	15	-0.95	49	0.18	32
57	-0.69	40	-1.66	58	-0.83	47	-0.79	45
58	1.58	2	1.44	5	1.13	9	0.42	22
59	1.49	3	1.29	7	1.14	8	1.13	8
60	-1.11	49	-0.74	44	-0.73	46	-1.10	50

APPENDIX R

BIOGRAPHIC DATA

APPENDIX R

TABLE 19

BIOGRAPHIC DATA

	Type I	Type II	Type III	Type IV
Sex				
Males	21(38.8%)	6(46.1%)	2(22.2%)	7(87.5%)
Females	33(61.1%)	7(53.8%)	7(77.7%)	1(12.5%)
Age				
14	0(0.0%)	1(7.6%)	0(0.0%)	0(0.0%)
15	8(14.8%)	0(0.0%)	5(55.5%)	1(12.5%)
16	7(12.9%)	5(38.4%)	2(22.2%)	2(22.2%)
17	12(22.2%)	2(15.3%)	2(22.2%)	5(62.5%)
18	5(9.2%)	3(23.0%)	0(0.0%)	0(0.0%)
20-30	22(40.7%)	2(15.3%)	0(0.0%)	0(0.0%)
Grade Completed				
9	3(5.5%)	1(7.6%)	4(44.4%)	0(0.0%)
10	10(18.5%)	3(23.0%)	3(33.3%)	3(37.5%)
11	11(20.3%)	5(38.4%)	2(22.2%)	5(62.5%)
12	8(14.8%)	2(15.3%)	0(0.0%)	0(0.0%)
13	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
14	1(1.8%)	0(0.0%)	0(0.0%)	0(0.0%)
15	11(20.3%)	0(0.0%)	0(0.0%)	0(0.0%)
16	2(3.7%)	0(0.0%)	0(0.0%)	0(0.0%)
B.S.	7(12.9%)	1(7.6%)	0(0.0%)	0(0.0%)
M.S.	1(1.8%)	1(7.6%)	0(0.0%)	0(0.0%)
Ethnic Background				
White	51(94.4%)	12(92.3%)	7(77.7%)	8(100.%)
Black	2(3.7%)	1(7.6%)	1(11.1%)	0(0.0%)
Spanish	1(1.8%)	0(0.0%)	1(11.1%)	0(0.0%)
Grade Average				
A	4(12.5%)	3(27.2%)	1(11.1%)	1(12.5%)
A-	10(31.2%)	1(9.0%)	1(11.1%)	1(12.5%)
B+	7(21.8%)	1(9.0%)	3(33.3%)	0(0.0%)
B	5(12.5%)	1(9.0%)	0(0.0%)	1(12.5%)
B-	2(6.2%)	2(18.1%)	3(33.3%)	3(37.5%)
C+	3(9.3%)	1(9.0%)	1(11.1%)	0(0.0%)
C	1(3.1%)	1(9.0%)	0(0.0%)	2(25.0%)
C-	1(3.1%)	1(9.0%)	0(0.0%)	0(0.0%)
Not applicable (staff)	22	2	0	0

APPENDIX R (cont'd.)

	Type I	Type II	Type III	Type IV
Family Income Range				
Below $5,000	3(9.3%)	0(0.0%)	1(11.1%)	0(0.0%)
$5,000-$10,000	4(12.5%)	1(9.0%)	0(0.0%)	1(12.5%)
$10,000-$15,000	7(21.8%)	3(27.2%)	3(33.3%)	3(37.5%)
$15,000-$20,000	8(25.0%)	2(18.1%)	2(22.2%)	2(25.0%)
Over $20,000	6(18.7%)	4(36.3%)	2(22.2%)	1(12.5%)
Don't Know	4(12.5%)	1(9.0%)	1(11.1%)	1(12.5%)
Not applicable (staff)	22	2	0	0
Religious Orientation				
Catholic - Liberal	11(20.3%)	3(23.0%)	4(44.4%)	6(75.0%)
Catholic - Fundamental	2(3.7%)	1(7.6%)	0(0.0%)	0(0.0%)
Protestant - Liberal	14(25.9%)	4(30.7%)	2(22.2%)	1(12.5%)
Protestant - Fundamental	8(14.8%)	2(15.3%)	1(11.1%)	1(12.5%)
Eastern Religion	2(3.7%)	0(0.0%)	0(0.0%)	0(0.0%)
Atheist	3(5.5%)	0(0.0%)	0(0.0%)	0(0.0%)
Agnostic	5(9.2%)	1(7.6%)	0(0.0%)	0(0.0%)
None of the above	8(14.8%)	2(15.3%)	1(11.1%)	0(0.0%)
Blank	1(1.8%)	0(0.0%)	1(11.1%)	0(0.0%)
Level of Church Activity				
Very Active	6(11.1%)	2(15.3%)	0(0.0%)	1(12.5%)
Active	6(11.1%)	2(15.3%)	1(11.1%)	1(12.5%)
Moderately Active	12(22.2%)	0(0.0%)	5(55.5%)	4(50.0%)
Seldom Active	13(24.0%)	7(53.8%)	3(33.3%)	2(25.0%)
Not Active	16(29.6%)	2(15.3%)	0(0.0%)	0(0.0%)
Blank	1(1.8%)	0(0.0%)	0(0.0%)	0(0.0%)
Size of Community				
Large Metropolitan (Detroit)	8(14.8%)	4(30.7%)	1(11.1%)	0(0.0%)
Other Metropolitan areas	4(7.4%)	1(7.6%)	0(0.0%)	0(0.0%)
Suburban	20(37.0%)	4(30.7%)	6(66.6%)	4(50.0%)

APPENDIX R (cont'd.)

	Type I	Type II	Type III	Type IV
Size of Community (Continued)				
Small City or Town	10(18.5%)	4(30.7%)	2(22.2%)	3(37.5%)
Rural (non-farm)	9(16.6%)	0(0.0%)	0(0.0%)	1(12.5%)
Farm	3(5.5%)	0(0.0%)	0(0.0%)	0(0.0%)
Activities Participated In				
FFA	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
4-H Club Work	10(18.5%)	1(7.6%)	3(33.3%)	1(12.5%)
Boy Scouts	7(12.9%)	3(23.0%)	1(11.1%)	3(37.5%)
Girl Scouts	21(38.8%)	5(38.4%)	4(44.4%)	0(0.0%)
Campfire Girls	2(3.7%)	0(0.0%)	1(11.1%)	0(0.0%)
Ecology or Environmental Clubs	16(29.6%)	1(7.6%)	1(11.1%)	1(12.5%)
Bird Clubs	3(5.5%)	1(7.6%)	0(0.0%)	0(0.0%)
Photography	16(29.6%)	2(15.3%)	1(11.1%)	0(0.0%)
Outdoor Sports Clubs	21(38.8%)	4(30.7%)	2(22.2%)	4(50.0%)
Camping Activities Participated In				
Family Camping	25(46.2%)	5(38.4%)	5(55.5%)	6(75.0%)
Small Group Camping (Other Than Family)	37(68.5%)	11(84.6%)	7(77.7%)	2(25.0%)
Individual Camping	29(53.7%)	7(53.8%)	2(22.2%)	0(0.0%)
No Type of Camping Experience	7(12.9%)	1(7.6%)	1(11.1%)	2(25.0%)
Types of Summer Camps Attended				
Boy Scout, Girl Scout, Campfire Girls, etc.	16(29.6%)	6(46.1%)	3(33.3%)	3(37.5%)
Athletic	8(14.8%)	4(30.7%)	1(11.1%)	1(12.5%)
Church Related	16(29.6%)	4(30.7%)	2(22.2%)	2(25.0%)
Educational (Music, Art, Drama, Science, etc.)	13(24.0%)	1(7.6%)	1(11.1%)	0(0.0%)

APPENDIX R (cont'd.)

	Type I	Type II	Type III	Type IV
Types of Summer Camps Attended (Continued)				
Survival Type Camp	6(11.1%)	2(15.3%)	1(11.1%)	0(0.0%)
None of the Above	15(27.7%)	3(23.0%)	4(44.4%)	3(37.5%)
Outdoor Related Activities				
Canoeing	48(88.8%)	11(84.6%)	8(88.8%)	8(100.%)
Hiking	47(87.0%)	12(92.3%)	8(88.8%)	7(87.5%)
Water Skiing	15(27.7%)	5(38.4%)	3(33.3%)	2(25.0%)
Downhill Skiing	18(33.3%)	8(61.5%)	1(11.1%)	4(50.0%)
Cross Country Skiing	14(25.9%)	4(30.7%)	1(11.1%)	4(50.0%)
Snowmobiling	5(9.2%)	5(38.4%)	2(22.2%)	3(37.5%)
Riding in Dune Buggies	5(9.2%)	3(23.0%)	0(0.0%)	2(25.0%)
Fishing	26(48.1%)	9(69.2%)	3(33.3%)	7(87.5%)
Hunting	9(16.6%)	4(30.7%)	0(0.0%)	5(62.5%)
Mountain Climbing	15(27.7%)	6(46.1%)	2(22.2%)	1(12.5%)
Backpacking	33(61.1%)	10(76.9%)	5(55.5%)	4(50.0%)
Photography	30(55.5%)	2(15.3%)	3(33.3%)	2(25.0%)
Swimming	46(85.1%)	9(69.2%)	7(77.7%)	6(75.0%)
Ice Skating	24(44.4%)	5(38.4%)	6(66.6%)	5(62.5%)
Running or Jogging	31(57.4%)	5(38.4%)	3(33.3%)	7(87.5%)
Power Boating	7(12.9%)	5(38.4%)	2(22.2%)	3(37.5%)
Animal Watching	41(75.9%)	4(30.7%)	2(22.2%)	4(50.0%)
Sledding or Tobogganing	32(59.2%)	10(76.9%)	8(88.8%)	6(75.0%)
Courses Taken in School Where A Unit on the Environment Was Included				
0	7(21.8%)	1(9.0%)	0(0.0%)	0(0.0%)
1	9(28.1%)	2(18.1%)	3(33.3%)	2(25.0%)
2	7(21.8%)	4(36.3%)	2(22.2%)	3(37.5%)
3	4(12.5%)	2(18.1%)	1(11.1%)	1(12.5%)
4	3(9.3%)	2(18.1%)	2(22.2%)	0(0.0%)
5	1(3.1%)	0(0.0%)	0(0.0%)	0(0.0%)
6	0(0.0%)	0(0.0%)	0(0.0%)	2(25.0%)
7	1(3.1%)	0(0.0%)	1(11.1%)	0(0.0%)
Not applicable (staff)	22	2	0	0

APPENDIX R (cont'd)

	Type I	Type II	Type III	Type IV
Environmental, Ecology, or Conservation Courses Taken in School				
0	18(56.2%)	5(45.4%)	4(44.4%)	3(36.5%)
1	5(15.6%)	2(18.1%)	2(22.2%)	1(12.5%)
2	5(15.6%)	3(27.2%)	2(22.2%)	2(25.0%)
3	2(6.2%)	1(9.0%)	0(0.0%)	1(12.5%)
4	1(3.1%)	0(0.0%)	1(11.1%)	1(12.5%)
8	1(3.1%)	0(0.0%)	0(0.0%)	0(0.0%)
Not applicable (staff)	22	2	0	0

LIST OF REFERENCES

LIST OF REFERENCES

Block, Jack. 1956. A comparison of the forced and unforced Q-sorting procedures. Educational and Psychological Measurement. 16: 481-493.

Cooley, William W. and Paul R. Lohnes. 1971. Multivariate data analysis. John Wiley and Sons, New York. 364 pp.

Driver, B. L., Robert W. Marans, and John C. Scott. 1973. Toward environmental understanding: an evaluation of the 1972 Youth Conservation Corps. Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, Michigan. 319 pp.

George, Robert W. 1966. A comparative analysis of conservation attitudes in situations where conservation education is a part of the educational experience. Ph.D. dissertation, Michigan State University, East Lansing, Michigan. 143 pp.

Harman, Harry H. 1967. Modern factor analysis. Second edition, revised. The University of Chicago Press, Chicago, Ill. 474 pp.

Hinkle, Robert Douglas. 1976. Environmental interpreters in southern Michigan: a Q-study of interpreter types. Unpublished Ph.D. dissertation, Michigan State University, East Lansing, Michigan. 102 pp.

Johnston, Jerome, David Lingwood, Robert Marans, and William Morris. 1974. An evaluation of the 1973 Youth Conservation Corps. Institute for Social Research, University of Michigan, Ann Arbor, Michigan. 158 pp.

Kahle, Roger R., and Richard L. Lee. 1974. A Q-methodological study of attitudes toward water resources and implications for using mass media in dissemination of water research results. Missouri Water Resources Research Center, University of Missouri, Columbia, Missouri. 349 pp.

Kerlinger, Fred N. 1964. Foundations of behavioral research. Holt, Rinehard and Winston, New York. Pp. 581-599.

Kerlinger, Frederick N. 1972. Q methodology in behavioral research. Science, Psychology, and Communication. Steven Brown and Donal Brenner, eds. Teachers College Press, New York. 28pp.

Laug, George Milton. 1960. A study of expressed attitudes of prospective teachers taking part in practical conservation activities. Unpublished Ph.D. dissertation, Syracuse University. 252 pp.

Mauldin, Charles R. 1970. The image study as a basic public relations study. Unpublished Master's thesis, University of Missouri. 220 pp.

_____. 1972. A subjective systems approach: application of an image study to aggregate behavior in a socio-economic system. Unpublished Ph.D. dissertation, University of Missouri. 300 pp.

Nie, Norman H., Dale H. Bent, Hadlai C. Hull, Jean G. Jenkins, and Karin Steinbrenner. 1975. Statistical package for the social sciences (SPSS). McGraw-Hill Book Co., New York. Pp. 468-496.

People and Natural Resources. 1975. Youth Conservation Corps source book for environmental awareness. U.S. Department of Interior and U.S. Department of Agriculture, Summer. 71 pp.

Schlinger, Mary Jane. 1969. Cues on Q-technique. Journal of Advertising Research. IX(3):53-60.

Stephenson, William. 1953. The study of behavior: Q-technique and its methodology. The University of Chicago Press, Chicago. 376 pp.

_____. 1967. The play theory of mass communication. The University of Chicago Press, Chicago. 225 pp.

Van Tubergen, G. Norman. n.d. Write-up for Q analysis (QUANAL) computer program. (Mimeographed.) 22 pp.

Whiteman, Eldon Eugene. 1965. A comparative study of a traditional and a specially designed college course in biology upon conservation attitudes. Unpublished Ph.D. dissertation, Michigan State University. 191 pp.

Zimmerman, Dan H. 1974. Attitudes about golf: operationalizing the Kernan and Sommers theory of promotion. Unpublished Master's thesis, University of Missouri. 220 pp.