A DEVELOPMENTAL STUDY OF VALUE DIMENSIONS OF AGRICULTURAL TECHNOLOGY STUDENTS AT MICHIGAN STATE UNIVERSITY

By

David R. Groves

A DISSERTATION

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

DOCTOR OF PHILOSOPHY

Department of Counseling, Personnel
Services and Educational Psychology

1978

ABSTRACT

A DEVELOPMENTAL STUDY OF VALUE DIMENSIONS
OF AGRICULTURAL TECHNOLOGY STUDENTS
AT MICHIGAN STATE UNIVERSITY

By

David R. Groves

The major purpose of this study was to describe and analyze 13 value dimensions of students enrolled in the Michigan State University Institute of Agricultural Technology. This was accomplished by administering the American College Personnel Association Value Questionnaire to students at their entry orientation and again 18 months later upon their graduation.

Assuming the importance values play in motivating and determining one's attitudes and behaviors, it was suggested that information on the value dimensions of students would serve as an aid to the Institute in providing an environment that would motivate and enhance the total educational growth of students.

Null hypotheses stated there would be no difference in value dimensions for students within the Institute's ten programs, or in program clusters of farm oriented and agri-business at orientation or graduation. It was further hypothesized there would be no change in value dimensions from orientation to graduation and no sex difference. Additionally, it was hypothesized there would be no relationship between

graduation value dimensions and parent occupation, parent education, residency on/off campus, agricultural technology student roommate, or weekends spent off campus. Appropriate analyses were utilized including: means, frequenceis, matched pair t-tests, analysis of variance and co-variance, correlations, and reliabilities.

Results indicated no differences in the 13 dimensions among students within the ten programs at orientation. Differences were found at orientation between farm oriented and agri-business students on the Field Committed dimension.

Significant differences were found on dimensions Alienated and Active Conformist of students within the ten programs at graduation. An analysis of covariance indicated the Alienated dimension difference might have resulted from initial group variations, while it also revealed an additional difference on Field Committed. Graduation results revealed significantly higher scores on Active Conformist and Narcissist scales for students in farm oriented programs.

Results on orientation to graduation change in value dimensions for students in overall programs indicated significant differences on seven dimensions, with increases on Perceptual Gratification, Gameplayer and Narcissist, and decreases on Alienated, Active Conformist, Lonely and Drifter. Change in students based on program clusters revealed farm oriented students significantly increased responses in Gameplayer, Freedom Independent, and Perceptual Gratification, while they decreased scores in Active Conformist and Lonely dimensions. Agri-business students decreased responses on Alienated, Active Conformist and Lonely dimensions.

Significant differences were found between male and female students on orientation value dimensions. Male student scores were higher on Gameplayer, Drifter and Narcissist dimensions, while female students responded higher on the dimension Humanitarian. Graduation data indicated a difference on Gameplayer with male scores being significantly higher. Data on change between orientation and graduation value responses indicated male students significantly decreased scores on Active Conformist, Lonely and Drifter scales and increased scores on the Perceptual Gratification dimension. Female students did not significantly change on any value dimensions.

No significant differences in student responses at graduation were found based on fathers' occupation. A significant difference was indicated on the Drifter dimension based on fathers' education, with students of fathers having technical training scoring highest.

An overall difference was revealed on value dimensions at graduation between students residing on campus and those not living on campus.

Results at graduation indicated students not having an agricultural technology roommate scored significantly higher in the Interpersonal Relations dimension.

Correlation coefficients indicated no significant relationship between weekends spent away from campus and specific value dimension scores at graduation.

Those students who graduated 18 months after orientation were found to be significantly different on three dimensions than those students who did not graduate. Students who did not graduate scored significantly higher on the dimensions of Activist, Perceptual Gratification and Drifter.

Dedicated to my wife Judy and children

Matthew and Meghan

ACKNOWLEDGMENTS

The accomplishment of this study was made possible through the support and cooperation of many people.

I am grateful for the cooperation offered by the staff of the Institute of Agricultural Technology. I especially thank Dr. Harold Ecker, Director, Dr. James Gibson, Program Coordinator, and Ms. Pat Marion, Assistant Director, for their interest and assistance.

I appreciate the work of Ms. Connie Blake in typing and Ms. Judy Pfaff in assisting with the statistical analysis for this study.

My thanks also to the members of my doctoral committee, Dr. William Hinds, chairman, Dr. Gwen Norrell, Dr. Gilbert DeRath and Dr. Sam Plyler for their direction and support. Most of all, I am indebted to my research chairman, Dr. John Powell, for his patience, guidance and expertise.

I also owe the completion of my doctoral program to the faith and encouragement from my wife, Judy, especially in the times of setback and discouragement.

TABLE OF CONTENTS

Chapter Page

LIST OF TABLES

CHAPTER I

THE PROBLEM

Need

Characteristics of college students have long been a focus of research. Several studies during the 1920's and 1930's, while suffering from serious methodological defects, dealt with the exploration of college students' attitudes and values. During the last two decades, still greater attention was given to research in this area. In recent years, the impact of college experience on the development, stability, and change in attitudes, values and other personality dimensions have been studied extensively by psychologists, sociologists, anthropologists and educators.

For the most part, previous research in this area has been restricted to specific problems, such as change in student attitudes and opinions about current, religious, economic or political issues (Lehmann and Dressel, 1963). Many of the previous studies have also been concerned with limited personality characteristics such as authoritarianism, ethnocentrism and rigidity. In general, researchers in values have employed such standardized tests as the Allport, Vernon, Linzey Study of Values, the Edwards Personal Preference Schedule, or a locally constructed questionnaire. Martin (1974) has noted that few existing value surveys are discriminating enough to catch the present subtleties of value

structure and change in college students. He also states that the Study of Values has been the one major instrument employed in most value studies on college students. He continued by emphasizing that "this instrument was developed in the 1930's, was limited to six personality types and was not explicitly designed for the college population" (1974: 2). In addition to the fact that the majority of past investigations have been restricted to special problem areas, utilizing instruments of measurement not specifically designed for the college population, Lehmann and Dressel (1963) point out that past studies have been, for the most part, cross-sectional rather than longitudinal. King and Powell state,

> Within the past two decades, there appears to have been a change in observable values of college students, moving more in the direction of immediate gratification of impulses, focusing on feelings and emotions, but simultaneously, demonstrating a feeling of responsibility for the welfare of society and the planet. Some students react to these changes and/or bring them about through feelings of alienation or depersonalization... others commit to a definite cause and work out a responsibility to society and themselves in this way, and a variety of value patterns have been appearing. Yet, over the past two decades no new measurement instrument has been developed which can focus on such change (1972:1).

There seems to be uncertainty among some researchers as to how much the value structure of college students has changed over the past 20 years. Some feel that values, especially political and personal-social ones, have fluctuated little (Jacobs, 1957). According to King and Powell, other authorities have argued that even with gradual societal value change over the years, "that today's culture is fomenting the development of small well-defined groups which are very articulate about their values" (1972:2). These descriptions point out that evidence is not clear enough at this time to know whether the current college

population is significantly undergoing a values change. In addition, the contrasting opinions emphasize that the dimensions of the value structure of this group is not well understood or thoroughly documented. Even with the increasing research effort being made in the areas of value characteristics of college students, certain student populations have largely been ignored to the extent that little data is available concerning their value characteristics. Whether this lack of research within some student populations is due to limited resources, difficult access to students, or individual researcher interest, it is important that these ignored student groups be explored. It is valuable to better understand their value dimensions in relation to overall trends while also providing colleges with important information on the characteristics of their individual students. King and Powell emphasize that if dimensions of the value structure of college student populations were understood,

> and value types with behavioral correlates could be identified, educational planning, curricular individuation and prudent modification of campus environments could then be instituted to maximize the natural propensities of the student, allowing him to get the most from his educational opportunities (1972:2).

One college student population that has had minimal research effort directed toward it, especially in the area of values characteristics, is that of agricultural technology students. Elson (1971) has stated that "one segment of education benefiting from additional support of the public is vocational-technical education. Evaluation of vocational-technical education has been neglected" (1971:1). Sharp and Krasnegor (1966) observed that very few studies of vocational education have been

conducted at the post-secondary level. They indicated that very little is known about the students or graduates of post-secondary vocational education. Anderson (1965) discussed how little data exists about agricultural short course students. He emphasized that more data is needed for accurate decision making regarding student personnel services and academic offerings. He also observed the considerable need for studies of the sociological and psychological characteristics of agricultural degree and short course students in order to ascertain specifically what differences may exist. Anderson continued by stating,

> While research related directly to agriculturally oriented college or short course students is extremely scarce, college students, in general, have been examined in a multitude of ways. They have been studied within such groups as the gifted, retarded, and underprivileged. They have been individually analyzed on general characteristics such as physical condition, values, academic abilities, attitudes, and other assorted traits. However, ... agricultural degree and short course students have been neglected (1965:15).

The foregoing discussion has made these points:

1. Much previous research has been restricted to specific problems in student attitudinal and opinion change, limited personality characteristics, and has utilized measurement instruments not explicitly designed for the college population.

2. There are contradictory opinions on exactly what are the specific value characteristics of college students; whether the current college population is undergoing significant value change; if there is a change of student value structure over the course of college; and what the general dimensions are of the value structure of this group.

3. While a considerable number of studies have been done in the area of value characteristics, some college student groups have

been neglected resulting in little or no available data: vocational-agricultural students being one such population.

4. New instruments for assessing value dimensions and value change in the college student population are needed.

By utilizing a values inventory which is specifically created for use with the college student in defining and measuring specific value dimensions, with an agricultural technology population that has not had values research done previously, information has been gathered which will contribute knowledge to the area of value characteristics as well as provide valuable information to the Institute of Agricultural Technology. This study helps to better:

1. Understand the current value structure of college students enrolled in the Institute of Agricultural Technology at Michigan State University, by using a questionnaire that contains validated dimensions of college student values.

2. Understand the characteristics of value change during the college experience for those students who finish the two year program.

3. Provide information to the Institute of Agricultural Technology about their students. This effort can help them provide a facilitative learning environment which will maximize opportunities for student learning.

4. Assist in fulfilling a number of objectives, listed by King and Powell in their proposal to the Department of Health, Education and Welfare, for the area of values measurement and identification among and within college populations. These objectives include understanding and

measuring the main value dimensions of contemporary college students and relating these resultant value dimensions to student populations at various types of institutions. It is also an objective to lay the groundwork for further research on value dimensions including the study of developmental changes in value systems over time, and helping to maximize the educational experience for students through a greater understanding of their values (1972:3-4).

Purpose

The purpose of this study is to describe and analyze the value orientations of students enrolled in the Michigan State University Institute of Agricultural Technology program. This is accomplished through the administration of the American College Personnel Association Value Questionnaire (King and Powell, 1972), which measures college students on 13 value dimensions.

This investigation seeks data for both the overall agricultural institute's first-year student population as well as possible differences of students enrolled within the institute's ten specific programs. Also, data was secured upon the graduation of this class of students to analyze and describe the characteristics of value change which might occur over their 18 month span of college educational experience. This longitudinal data contributes to the knowledge of possible developmental changes in value systems over time as well as providing information about agricultural technology students that is of value to faculty members offering them educational and vocational advisement. Another segment of the study is the description and analysis of some additional variables

as they relate to the population's value dimensions. These factors include: sex of student, parent occupation, parent education, residence on or off campus, roommate an Agricultural Technology student, and number of week-ends spent off campus. It is the purpose of this study to provide descriptive information for this population of students at Michigan State University, and not for broad generalizations to other student groups. Generalization of data to other student groups is inappropriate and not the intent of this research.

Hypothesis

This study is introduced in light of the lack of research information available concerning the value characteristics of agricultural technology students. While some data is available on degree students in four-year agricultural programs, Anderson (1965) has shown that vocational technology students differ significantly from these four-year agricultural students on several dimensions. In that this research represents an exploratory and descriptive study, a general research hypothesis seems to be appropriate to the investigation at this time (this hypothesis will be restated in testable form in the design portion of this study).

Although it is recognized that additional questions and hypotheses will probably emerge in the course of the investigation, the major research hypothesis of this study is stated as follows:

> Students who enroll in one of the Michigan State University Institute of Agricultural Technology's ten programs may differ in their value dimensions from the students in the Institute's other programs. Changes in the students' value dimensions may occur over time from orientation to graduation.

> Value dimensions will be measured by the American College Personnel Association Value Questionnaire at the beginning and end of their two year program.

Other variables associated with this major hypothesis include: sex differences, effect of parent education and occupation, student residency on or off campus, agricultural technology roommate, and the number of weekends spent off campus.

Theory

The recognition of the importance of studying and exploring the nature of human values has long been with us. Williams has stated, "Problems of values appear in all fields of the social sciences, and value elements are potentially important as variables to be analyzed in all major areas of investigations" (1968:286).

Rokeach prefaces his book The Nature of Human Values by stating,

> ... the concept of values more than any other, is the core concept across all the social sciences. It is the main dependent variable in the study of social attitudes and behaviors. It is difficult for me to conceive any problem social scientists might be interested in that would not deeply implicate human values (1973).

In another work, Rokeach claims when comparing the relative power of the value concept against other concepts, that by focusing upon a person's values

> ... we would be dealing with a concept that is more central, more dynamic, more economical, a concept that would invite a more enthusiastic interdisciplinary collaboration, and that would broaden the range of the social psychologist's traditional concern to include problems of education and re-education as well as problems of persuasion (1968:159).

In a similar sense, Morris attempts to offer his view of the importance of values by stating, "The term 'value' is one of the Great Words like

'science,' 'religion,' 'art,' 'morality,' and 'philosophy,' its meaning multiple and complex" (1956:9). As Morris indicates, the concept of values has been assigned a place of major importance by many theorists who have attempted to define the term in multiple and complex ways. Smith forcefully speaks about this conceptual disarray in the concept of values by stating:

> But the increased currency of explicit value concepts among psychologists and social scientists has unfortunately not been accompanied by corresponding gain in conceptual clarity or consensus. We talk about too many probably different things under one rubric when we stretch the same terminology to include the utilities of mathematical decision theory ... fundamental assumption about the nature of the world and man's place in it ... ultimate preferences among life style ... and core attitudes or sentiments that set priorities among one's preferences and thus gives structure to a life ... and at the same time, we are embarassed with the proliferation of concepts akin to values: attitudes and sentiments, but also interests, preferences, motives, cathexis, valence (1969:97-98).

In an attempt to prevent this study from adding further to the conceptual disarray and terminology confusion referred to by Smith, definitions of some key concepts are specified as they are used in the theoretical assumptions of this study. For the purpose of this research, rather than wading through the myriad of definitions found in the literature on values, definitions offered relate to those formulated in the writings of Milton Rokeach (1960, 1968, 1973). Rokeach has completed some of the most exhaustive and comprehensive work in the area of human values. His distinctions among beliefs, attitudes, and values, while also conceptualizing their interrelatedness, offers a theoretical base which lends itself to operational measures of values.

Definitions

Belief--any simple proposition, conscious or unconscious, inferred from what a person says or does, capable of being preceded by the phrase "I believe that ..." (1968:113).

Belief System--the total universe of a person's belief about the physical world, the social world, and the self (1968:123).

Attitude--a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner (1968:112).

Value--an enduring belief that a specific mode of conduct or end-state of existence is personally and socially preferable to an opposite or converse mode of conduct or end state of existence (1973:5).

Value System--an enduring organization of beliefs concerning preferable modes of conduct or end states of existence along a continuum of relative importance (1973:5).

Rokeach speaks of an organizing structure where values have to do with modes of conduct and end states of existence. Values represent a type of belief centrally located in a belief system about how one ought or ought not to behave or about some end state of existence worth or not worth attaining.

Within this value--attitude--belief system, beliefs are "any simple proposition, conscious or unconscious, inferred from what a person says or does, capable of being preceded by the phrase 'I believe that ...'" (Rokeach, 1968:113). Beliefs are identified as falling into three types: (1) descriptive beliefs capable of being true or false, (2)

evaluative beliefs in which the object of belief is judged to be good or bad, and (3) prescriptive or proscriptive beliefs in which some mean or end of action is judged to be desirable or undesirable. Martin defines belief similarly in stating that it is

> ... a simple proposition having a descriptive or evaluative label to it. For example, the statement 'the sun is rising in the east' is a descriptive statement, or 'ice cream is good' is an example of an evaluative belief (1971:6).

An attitude is related to a belief in that it is considered to be a package of beliefs about an object or situation that will predispose an action or response in a preferential way.

Within this system, a value would be a prescriptive or proscriptive belief. This is consistent with Allport's concept of "a value is a belief upon which a man acts by preference" (1961:459). Like all beliefs, which are predispositions to actions, values have cognitive, affective and behavioral components. The cognitive component of a value is the knowledge of what is good or bad, true or false, desirable or undesirable. The affective component of a value is the state of arousal of varying intensity around an object of belief. This is recognized in the sense that one can feel emotional and may approve of a positively demonstrated example, and show disapproval of those who display a negation of it. A value possesses a behavioral component in that it serves as an intervening variable leading to an action when activated in the manner dictated by the belief content. In addition to a value's cognitive, affective, and behavioral components, there is also a motivational function identified which is related to the maintenance and promotion of self concept. Rokeach states,

> If the immediate functions of values and value systems are to guide human actions in daily situations, their more long-range functions are to give expression to basic human needs ... they are in the final analysis the conceptual tools and weapons that we all employ in order to maintain and enhance self-esteem (1973:14).

Werkmeister also speaks to a motivational process in commenting, "It is the peculiar nature of human existence as a self-directed becoming which requires elucidation and which is crucially important for man's search for values" (1967:15).

Man's value system, consisting of an organization of beliefs prioritized by relative importance along a continuum, is composed of two categories: (1) instrumental values, or single beliefs always taking the form "I believe that a mode of conduct (i.e. loyalty, consistency) is socially and personally preferable, thus inducing me to act upon the environment;" (2) terminal values, which are single beliefs stated in the form "I believe that an end state of existence (i.e. world in harmony, eternal life) is socially and personally worth striving for, thus representing an ideal of importance to me."

In bringing together more clearly his value organization, Rokeach offers the following extended definition:

> To say that a person has a value is to say that he has an enduring prescriptive or proscriptive belief that a specific mode of behavior or end-state of existence is preferred to an oppositive mode of behavior or end-state. This belief transcends attitudes toward objects and toward situations; it is a standard that guides and determines action, attitudes toward objects and situations, idealogy, presentations of self to others, evaluations, judgments, justifications, comparisons of self with others, and attempts to influence others. Values serve adjustive, ego-defensive, knowledge, and self-actualizing functions. Instrumental and terminal values are related yet are separately organized into relatively enduring hierarchical organizations along a continuum of importance (1973:25).

All these conceptually distinct components are organized into a functional and interrelated belief system where terminal values are more central than instrumental values and instrumental values are more central than attitudes. Within this framework, self-conceptions are a class of beliefs more centrally located than values. Rokeach defines self-conceptions as:

> all one's cognitions, conscious and unconscious, about one's physical image; intellectual and moral abilities and weaknesses; socio-economic position in society; national, regional, ethnic, racial, and religious identity; the sexual, generational, occupational, marital, and parental roles that one plays in society; and how well or poorly one plays such roles (1973:215).

Components of the total belief system converge into a single ultimate purpose, namely, to maintain and enhance one's total conception of oneself.

Assuming that the total belief system is a functionally interconnected system, a change in one part will impact on other parts. Changes occurring in a more central component (a terminal value) will cause more enduring and far-reaching effects than if the change takes place in a less central component (an attitude). With an induced change in self-conception occurring, changes of terminal and instrumental values, functionally related attitudes, and behavior should take place.

If values undergo enduring changes then the maintenance or enhancement of self-conception is at stake, then self-dissatisfaction becomes a major determinant of change. A person defining oneself incompetent in a situation may experience self-dissatisfaction to the extent that they may be motivated to reduce or eliminate it. This requires an often difficult attempt at identifying the source of dissatisfaction. If a person is able to identify specifically the components

of their performance which contradicts their self-conceptions, they may be motivated to remove the source of the self-dissatisfaction. This may require modifying their behavior or components of their belief system in a manner allowing compatibility with their self-conceptions.

Over the years, more research has concentrated on the theory and measurement of attitudes than on the theory and measurement of values. The ratio of attitude to value studies reported in the Psychological Abstracts between 1961 and 1965 was approximately five to one (Rokeach, 1973). While attitudinal studies have lent little to a theoretical conception of social behavior, the concept of values, if accorded greater attention, would be more powerful in one's attempt to understand and predict attitudes and behaviors (Hollen, 1972). Greater power and justification for assessing values rather than attitudes stem from several points:

(1) values are more fundamental components of an individual's belief that guides actions and judgments across specific objects and situations, beyond immediate goals to end states of existence, whereas an attitude consists of several beliefs focusing on a specific object or situation.

(2) values possess a strong motivational component that may result in an overt act,

(3) values are the determinants of attitudes as well as of behavior,

(4) values are relatively few in number and are organized hierarchically while attitudes are extremely numerous and possess no inherent organizing structure (Martin, 1971; Hollen, 1972; Rokeach, 1973).

Values are thought to be a product of all the cultural, institutional, and personal forces that act upon a person throughout his lifetime. Rokeach states,

> The findings suggest that culture, society, and personality are the major antecedents of values and that attitudes and behaviors are their major consequence ... Thus values seem to be implicated either as dependent or independent variables at virtually all levels of social analysis--cultural, institutional, group and individual (Rokeach, 1973:327).

In viewing our social institutions, one can conceptualize each as specializing in the development of different subsets of values. The home, church, and school will all direct their enhancement of values to particular, often overlapping, areas of development. Although in the past it has generally been agreed that attitudes and values are instilled early in life and are most easily modifiable in infancy and adolescence, curriculum planning at our colleges and universities assumes that the critical thinking ability, attitudes, and values of college students are still modifiable at age 18 to 22 or older (Lehmann and Dressel, 1962). Evidence is accumulating from several recent sources to challenge the long held belief that core values are a permanent product of the early childhood days and become frozen during this period (Martin, 1971). Rokeach states that "The data show a continual development of values from early youth to old age, a finding that is in more accord with Erickson (1950) than Freud's view of personality development" (1973:327).

If our institutions of higher education are dedicated to preparing their students to become effective members of society and are true agencies of education,

> ... one might expect that the greater part of college students, sometime in the period from their freshman to senior year,

> would become better critical thinkers, less stereotypic in their beliefs, and more receptive to new ideas. Further, it would be expected that the students would reexamine their personal values and would reject those found to be in conflict with the conclusions of critical thought and beliefs based on fact rather than distorted stereotypes (Lehmann and Dressel, 1962:2).

To provide an environment that encourages the development of critical thinking, open belief systems and reexamination of personal values, institutions need to assess the incoming students to better understand what experiences stimulate growth. However, in the specific area of values, little has been done with some student groups to promote more understanding and to stimulate growth. As the previously stated theory implies, if our institutions are dedicated to providing experiences leading to enduring behavioral and cognitive change, then the more central concepts of values and self-conceptions also need attention. An initial step is to assess and become aware of the value nature of our student groups. Values theory and research are at a point where they are

> in somewhat the same position as curious astronauts exploring the moon and then the planets beyond who, before they blast off for the return trip home, will gather up as many rocks as they can and, upon returning, hand them over to others who will then undertake to describe these rocks and explain how they got to be wherever in the universe they happen to be. But the first step surely will be to describe ... And when we know enough about the structure of the universe, we should be able to predict in advance the kinds of rocks that astronauts will find in some other corner of the universe, before they even get there (Rokeach, 1973:121).

This study is an attempt to assess and describe the value orientations of Agricultural Technology Students at Michigan State University. To best accomplish this, the American College Personnel Association Value Questionnaire was selected. This instrument, while being relatively new, offers great potential for describing, and measuring change in value

dimensions of college students. This questionnaire does not measure specific or singular values, but discriminates 13 empirically based value dimensions within the college population (more detailed information on this instrument is offered in Chapter IV).

Assuming that values are beliefs organized along a continuum of relative importance, are motivational and determine one's attitudes as well as behaviors, information on the value dimensions of student groups can be a catalyst to colleges in providing an environment that will motivate and enhance the total educational growth of students. In addition, if motivation for change is related to one's self-conceptions, then understanding students' value dimensions can be helpful in establishing enough constructive self-dissatisfaction to motivate them into new learning situations. Powell states,

> ... some students need to have their interest-value systems broadened. Knowing the specific dimensions lacking or overemphasized in their experience would allow for the modification of extra curricular changes tailor-made to their own personal needs (1972:22).

Overview

In Chapter II, literature viewed as relevant to this study is reviewed. While research related to the value characteristics of college students has been done for years, little work has been invested in the description and understanding of vocational-agricultural students. Therefore, Chapter II is divided into two parts. In the first section a brief overview of studies concerned with the general area of value characteristics and change in college students is offered. In the second section, studies relating to the population of this study are examined.

In Chapter III, the design of the research is specified including the measure, sample, testable hypotheses and analysis procedures. In Chapter IV, a more detailed description of the instrument utilized in the study, the American College Personnel Association Value Questionnaire is offered.

CHAPTER II

REVIEW OF LITERATURE

Research studies and reports selected for review are divided into two sections: (1) early and recent studies on student values, and (2) agricultural technology programs, agricultural students and related studies.

Value Studies on Student College Populations

Early Studies

Several studies were conducted in the 1920's and 1930's in regard to college students' attitudes and values. Most of these researchers were interested in determining the influence of college education in general or on students' attitudes and values concerning specific problems. However, as Lehmann and Dressel point out (1963) most of them suffered from serious methodological defects. This overview will include a brief representation of early longitudinal studies under the assumption that they reflected a more valid design than those of a cross-sectional nature.

Nelson (1938) used data from 18 institutions and found freshmen more homogeneous in attitudes than seniors, and on the average, more conservative than upperclassmen. He also discovered large differences in attitudes among the four college classes of students attending state universities and Quaker colleges than among students attending other denominational institutions.

Corey (1940) discovered no reliable change in attitudes of students after completing one year of college but did find a greater amount of liberalism in all changes which did occur.

Burton (1945) obtained data from students at the University of Arizona and found that after four years of college they tended to be more emotionally stable, more self-sufficient, more extroverted, more dominant, and more self-confident. Kuhlen (1941), utilized the Pressey-Interest Attitude Test with Ohio State University students during their freshman and senior years and drew the conclusion that students widened their interests and acquired greater appreciation for basic human values like tolerance and cooperativeness. In a similar manner, Aresnian (1943) found extensive conflicts over religious attitudes among men at Springfield College. Utilizing the religion value mean score of the Allport-Vernon instrument, he found a change over the college experience away from formal, ritualistic, dogmatic belief to a more tolerant, humane social belief.

These studies are reflective of the statement made by Webster, Freedman, and Heist that

> ... most of the earlier longitudinal investigations of changes in student values and attitudes revealed small but significant change in one or a few kinds of attitudes. Usually investigators were limited to interpretation of test-retest scores on the Thurstone attitude scales (Thurstone and Chave, 1929) or on scales of the Allport-Vernon Study of Values (Allport and Vernon, 1931).

They continue by saying,

> ... in sum, research on attitudes and values carried out prior to the end of World War II showed that, in general, students in college changed in the direction of greater liberalism and sophistication in their political, social and religious outlook. There was also evidence of broadening interest during the college years (1962:824).

Recent Studies

The 1960's brought a spurt of studies again interested in the influence of the campus environment upon attitudes, values, characteristics, and personalities of students. As many of these studies were concerned with the impact or change that occurred in a student's value characteristics, little research of a descriptive nature was done in the area of entering college students.

In speaking to this concern, Connell and Heist state:

> Knowledge about the student at the time of entry, beyond the widely used academic aptitude scores and records of high school achievement, seems to have been foreign to the interests of college administrators and faculties ... The collection of comprehensive information on interests, values, motives, attitudes, special aptitudes and cultural background has remained a rarity; and in schools where such a variety of data was collected, it was seldom used in 'fitting' the student to the educational program or in adapting the program to the clientele (1962:226) ... Except for the striking diversity among students and institutions revealed in the Learned-Wood report (1938) little evidence of the great variation in students' characteristics, even in aptitude and achievement, much less in attitude, value, and disposition, within or among institutions, has been accumulated (1962:236).

One of the more prominent works was Jacob's (1957) survey of recent investigations. Jacob reported that there is a general profile of values which represents 75 to 80 percent of all American college students. McConnel and Heist (1962) state that data strongly supports Jacob's conclusion that a national norm of attitudes and values seem to prevail across the gamut of colleges and universities. They comment that according to Jacob the

> ... student generation is 'gloriously contented' in their present activity and in their outlook toward the future. They are 'unabashedly self-centered' aspiring above all to material gratification for themselves and their families. Though conventionally middle-class they have an 'easy tolerance of diversity' and are

> ready to live in a society without racial, ethnic, or income barriers. The more traditional virtues, such as sincerity, honesty, and loyalty are highly valued, but there is little inclination to censor laxity, which students consider to be widespread. A need for religion is generally recognized, but students do not expect religious beliefs to govern daily decisions. Rather, they expect that these decisions will be socially determined. The general tendency is to be 'dutifully responsive toward government' but there is little inclination to contribute voluntarily to the public welfare or to seek an influential role in public affairs. Students by and large set great stock in college in general and in their own college in particular with vocational preparation and skills and experiences in social relations being regarded as the greatest benefits of college education ... (1962:824-825).

Jacob's book has been criticized by some for offering an overly general and undifferentiated summary of students. In addition, some have felt that he did not separate studies of different methodologies or samples (Riesman, 1959). Nevertheless, Jacob's work did generate much interest and served as a valuable source for highlighting a number of very important research problems.

King and Powell observed,

> Within the past two decades, there appears to have been a change in the observable values of college students, moving more in the direction of immediate gratification of impulses, focusing on feelings and emotions, but simultaneously demonstrating a feeling, of responsibility for the welfare of society and the planet.

They continue by stating:

> The values of the contemporary college student have in many respects been shaped by the events of the past decade. Much dramatic evidence exists which suggest the tremendous impact of those events on the students of 1970 (1972:4).

Freedman (1960) pointed out that student attitudes and opinions on various issues of current interest were remarkably influenced by national and international events. In also noting the changing mood of the college

student, Axelrod and Freedman (1969) cited examples of some events from 1958-1964 which were of significance in the development of student activism. Some of these were: (a) the demonstration of students against the House Un-American Activities Committee in San Francisco in 1961; (b) the emergence of Students for a Democratic Society (SDS); (c) the emergence of the Student Nonviolent Coordinations Committee (SNCC); (d) student sit-ins in public places; (e) student participation in voter registration, (f) civil rights marches; (g) demonstrations against discrimination in hiring; and (h) the dramatic moments of Berkely in 1964 in the demonstrations of the Free Speech Movement. Martin, (1971) in looking at these and similar events stated "Gone was the traditional puritan ethnic and peaceful tolerance. A new consciousness was emerging from the throes of this humanitarian revolution, a new quest for identity was visible on the horizon" (1971:2).

In an attempt to view change in college students over time, Gorsuch (1970) compared how college students judged wrongness of 50 specific behaviors over two 11 year periods and found a slight decrease in severity of judgment, especially in connection with sex and religion. Gorsuch concluded that evidence did not suggest that college students have become "wild-eyed radicals."

A large portion of recent studies continued to investigate the change in specific student attitudes and values as a function of being in college. While a few descrepancies existed, the majority of recent data reflected similar findings to many early studies.

Plant (1958) in using the E scale, an ethnic prejudice or ethnocentrism scale, to compare students who withdrew from college with those

who attended for two years, found those who attended became significantly less ethnocentric in attitude while those who withdrew did not. In another study, Plant concluded that college seniors were less ethnocentric than they were as freshmen.

A longitudinal study by the Center for the Study of Higher Education (1962), utilized National Merit Scholarship winners attending a wide variety of colleges, and found data supporting Arsenian's pre-war study of students expressing a decreasing need for religious faith and a lessened belief that colleges should teach religious values. This study also supported the general findings that "... more liberal in the sense of being sophisticated and independent in their thinking, and placing greater value upon individual freedom and well-being" (The American College, 1962:828).

Nevit Sanford stated,

> In the area of attitudes and values, recent studies, as well as those performed twenty-five years ago, show that between freshman and senior years in college there is, in general, change in the direction of greater liberalism and sophistication in political, social, and religious outlook (1962:806).

Lehmann and Dressel (1963) raised an important issue in any generalization one may make about the changes in attitudes and values of students. "Any generalization ... must be made only after consideration has been given to the great differences in the personality characteristics of the students admitted to various colleges and universities in America" (1963:11-12). In addition, Clark (1959) emphasized that the public image of the college is a powerful device for determining who will apply for admission. The social ideology of an institution, since

it is a significant part of this image, may therefore lead to the predominate admission of liberals or conservatives, changers or non changers, and so on. Heist (1962) stated, "... it would appear that both the distinctive climates and the students who change significantly might be due largely to the kind of students admitted to college" (1962:838).

The relationship existing between certain background characteristics and a student's value system has also attracted interest and study. Brookover (1965) stated, "Although there is general agreement that attitudes and values have their origin in the home and the family, a lack of agreement exists as to how or why certain attitudes are adopted while others are modified or altered." He continued by commenting, "Clearly ... there are differences among different social classes and religious groups in attitudes and values" (1965:59-61).

Ikenberry and Lehmann (1959) reported a significant relationship between level of parental education and stereotypic beliefs, dogmatism, and traditional-value orientation. Dressel and Mayhew (1954) reported that an authoritarian personality syndrome, (rigid, unreceptive to new ideas, and compulsive), tended to be associated with orthodox and fundamentalistic sects. Rokeach (1960) found the Catholics were more dogmatic than either Jews or Protestants and that they were more authoritarian than Protestants, Jews, or nonbelievers.

Jacob (1957) has done some of the most significant work concerning the influence of campus environment on students' attitudes, values and character development in his exhaustive review of studies on college students' attitudes and values. From this study Jacob found,

> ... no specific curricular patterns of general education, no model syllabus for a basic science course, no pedigree of instructor and no wizardry of instructional method which should be patented for its impact on the values of students--the impetus to change does not come primarily from the formal educational process (1957).

Other works have concentrated upon the importance of the campus climate in changing attitudes and values. Eddy (1957, 1959) in visiting and interviewing faculty, administrators, and students at 20 colleges and universities throughout the United States concluded that what went on outside the classroom was a significant factor in the development of character. He also stated that to establish the best environment for the development of character, one should strive toward the unity of common goals, and communicate a tradition in which all campus life has a specific contribution. However, Lehmann and Payne (1963), in viewing the college atmosphere as a factor having an impact on the attitudes and values of college students, could not single out any one factor responsible for college students' attitude and value change.

While the majority of studies, concerning the changes in values of college students, reported findings on pre-post, freshman-senior differences, Lehmann and Dressel (1963), who utilized interviews with students in addition to standardized tests, indicated that such conclusions may be misleading. They have stated that the major changes in stereotypic beliefs, critical thinking ability, dogmatism, and value orientation take place in the first two years of college. They reported:

> In nearly all instances, there was a significant improvement in critical thinking ability, a lessening of stereotypic beliefs, and a movement away from the traditional-value orientation in each of the freshman, sophomore, junior, and senior years. The only exception was for changes in value orientations for both

> male and female during the senior year. Although the previous college years demonstrated a trend from 'inner' to 'outer-or-other' directiveness, the senior year did not evidence such a change. In fact, it would appear that after the junior year, a plateau is reached with respect to value orientation of college students. Although the changes from the freshman to senior year are statistically significant, the data suggest that the major changes take place sometime during the first two years of college. In fact, the changes in critical thinking ability and value orientation are of greatest magnitude in the freshman year (1962: 267).

Brookover (1965) reported that,

> ... findings of the longitudinal studies at Michigan State (Lehmann and Dressel, 1962, 1963) and at Vassar (Freedman, Heist, Sanford, 1962) indicate that changes did occur in the attitudes, values, beliefs and opinions of college students from freshman to their senior years. In both studies, however, it was readily evident that the greatest change took place during the freshman and sophomore years (1965:71).

In conjunction with their findings concerning the greater change of values during the first two years of college, Lehmann and Dressel also reported that,

> Before the junior year, courses and instructors were rarely mentioned as having a marked impact upon student attitudes and values. From the junior year on, however, the formal academic experience began to assume increased importance. One might conclude that whereas the formal, academic experiences prior to the junior year were subordinate to the informal, non-academic experiences, the converse is true after the sophomore year (1962:269).

In addition, students reported that the most significant experience in their collegiate lives was their association with differing personalities in their living unit.

> Although the peer group, comprised of the total body of students, did not have too much impact upon the behavior of these students, the analysis of interviews and questionnaire data strongly suggested that discussions and 'bull-sessions' were a potent factor in shaping the attitudes and values of these college students (1962:268).

Feldman and Newcomb (1969) reported

> Through value reinforcement, the peer group can provide support for not changing, yet, it can also challenge old values, provide intellectual stimulations and act as a sounding board for new points of view, present new information and new experiences to students, help to clarify new self-definitions, suggest new career possibilities, and provide emotional support for students who are changing (1969:237).

In his discussion of the effect of the student peer-group influence, Newcomb (1962) cited the conditions of group size, homogenity, isolation, and importance to individuals of attitudes that are group-supported, as having considerable influence over the amount of impact peer groups will have. He concluded by saying,

> ... student peer groups are here to stay, and so are colleges. I do not think that the one is about to become a cancerous growth within the body of the other ... I do think that increasingly the social-psychological motors of student life are racing, disconnected from the wheels of intellectual development, and that the means of exploiting the power delivered by those motors are at our command (1962:487).

Research into social issues such as drugs and sex and into personality types such as hippies, radicals, activists and protestors has concluded that an important effort in understanding the present college student population would lie in the direction of sub-group analysis of college values (King and Powell, 1972). Feldman and Newcomb (1969) reported that several investigators have generated student typologies. However, the most promising attempt to deal with values through college student classification has been the research of Clark and Trow (1966, 1960). They developed a descriptive scheme, or typology, in which they described four types of student subcultures generated from a combination of the following variables: the degree to which students are involved

with ideas, and the extent to which students identify with their college. This attempt classified students by similarity in subculture orientation, rather than by membership in an interaction group. These classifications include:

> The Academic Sub-Culture: The academic is a serious student that identifies with the faculty. He has little interest in extra-curricular activities other than clubs and activities directly related to his discipline and intellectual interests.
> The Vocational Sub-Culture: The vocational is often a first generation college student that is striving to move from a lower class to the upper middle class. As a result, his primary interest is obtaining the diploma. He knows that a college degree will not only help him get a better job, but will enable him to further advance in the business and professional world. He often works while in college and has little time or interest in the out of class life.
> The Collegiate Sub-Culture: The collegiate is the stereotype of the American college student. He is concerned with dating, campus fun and student activities. He is described as an aggressive extrovert and he sees college as an opportunity to improve his social skills for his future in business, law, or education. Many members of fraternities or sororities identify with this sub-culture.
> The Non-Conformist Sub-Culture: The non-conformist is one whose value system is either in flux or at variance with the prevailing system. This student is a seeker, searching for a meaningful philosophy of life and/or meaningful activities. He is often a good student and dedicated to the social betterment of society. More than likely his academic major is in the humanities, social sciences, or in the fine arts (King and Powell, 1972:7-8).

Clark and Trow admitted that the nonconformist culture in their scheme is something of a residual category including such diverse types as fashionable bohemian students, hippies, compulsive rebels, political radicals and activists, apathetic or alienated students and others (Feldman and Newcomb, 1969). Some of these students were not necessarily highly involved with ideas yet could not readily be classified in any of the other three sub-cultures. This was supported in a review of

literature related to Clark and Trow's typology done by MacLean (1969). He found that the academic, vocational, and collegiate sub-cultures were identifiable in cross-validated studies. The non-conformist types, however, seemed to represent inconsistent values which did not fit any pattern. MacLean concluded that other sub-cultures may exist within the non-conformist group which holds slightly different values or convictions.

King and Powell (1972) stated,

> ... the study of values of the contemporary college student must include not only the traditional value paradigm applied to the total student population, but must also include specialized paradigm in order to examine the value patterns of many sub-cultures in the American college today. Hence the need for a more refined instrument for measuring college student values (1972:8-9).

Agricultural Vocational Programs and Agricultural Students

Agricultural Technology Programs

> In 1862, Congress was moved to pass the Morrill Act to provide for the training of such men and women in what were called Colleges of Agriculture and Mechanical Arts. In states that were relatively new, these land-grant colleges often attracted an increasingly wide cross section of students not envisioned by their founders. This magnetism was enhanced in those states, such as Minnesota, Wisconsin, and Nebraska, that combined the technical college with the state university. In contrast, such growth was retarded in states like Massachusetts, which had a tradition of private education and were long unable to see what legitimate functions a public institution might serve beyond those specified by Congress (Reisman and Jencks, 1962:83).

In a historical overview of short courses at Michigan State University, Anderson (1966) found that courses leading to various types of degrees in agriculture have been taught at Michigan State University since 1855. Non-degree short courses covering practically every phase of agricultural endeavor have been taught since 1894. Up to 1947, the

majority of short courses were less than two weeks in length. Since that time, the Short Course Department, now called the Institute of Agricultural Technology, offered primarily 18 month programs. These programs in General Agriculture and Agriculture Industries led to a certificate of completion rather than a degree. For the purpose of this literature overview, the terms short-course students and agricultural technology students were used interchangeably. Presently, the Institute of Agricultural Technology, a department of the College of Agriculture and Natural Resources, offers ten separate programs.

While the institute is a part of the College of Agriculture, its students are not enrolled in the same classes.

> The class separation has been maintained largely because of the belief that students entering the two programs differ in academic ability, personality needs, and vocational goals in later life which makes it inadvisable to merge even portions of the course requirements for the two programs (Anderson, 1965:3).

Short course programs are not a rarity at Michigan State University. In studies describing the type and extent of short course programs (Larson, 1955; Freeh and Henneman, 1963) it was found that 46 of the 67 land grant institutions offered some type of non-degree or short course program. Among non-land grant institutions, 17 colleges or universities, 73 junior colleges, and 11 technical or vocational institutes offered agricultural non-degree programs. However, even with this number of agricultural vocational programs existing, almost no effort had been extended in researching the value characteristics of its enrolled students. Anderson stated, "... there are no known comprehensive studies of agricultural short course students" (1965:18).

Programs in agricultural technology had lower entrance standards than degree programs, a high school diploma being a common admission criteria. In general, agricultural technology students spent more time during the week in direct classroom and laboratory activities. While the courses were usually taught by regular faculty members, the content was directed more at application to problems than for theoretical analysis.

Agricultural Students and Related Studies

While research on college agricultural students is not abundant, when combined with the work done on rural youth, one can begin to gain a better perspective of this college population.

The degree of educational aspiration has not appeared to be high among the rural population. Rural parents, placing less value on education than urban parents (Rogers, 1960), tended to lessen the socialized value of education for their children. Burchindl attempted to explain this depressed level of educational and occupational aspiration in rural youth as a socialization process in which "Farm parents tend to underestimate the value of higher education, lack experience in discussing educational and occupational plans, and provide less encouragement for boys planning to farm than to go to college" (1961:107).

Those rural high school students who aspired to farm seemed to display different personality characteristics than rural students with high non-farm occupational aspirations. Haller and Wolff (1962) commented that those students who had high farm occupational aspirations,

tended to be less stable emotionally, less confident in their social abilities to work and mix with others, had a lower tendency to achieve success in activities, and less self-confidence in expressing their ideas and feelings. They also expressed a hesitancy to move from familiar surroundings to take advantage of new opportunities, negative attitude toward changes in their pattern of living, and a belief in determination of events beyond their control.

A few studies, which looked at students in four-year college majors as they related to one another included agricultural students. However, it seemed surprising to note the general exclusion of the agricultural four-year student from such research.

Feldman and Newcomb (1969) in their analysis of four decades of research on the impact of college, reported that students in engineering, education, nursing, business administration, and agriculture placed greater importance on vocational training and career preparation than did students in the liberal arts. They also revealed that agricultural students were among those clearly low in intellectual ability, political-economic and social liberalism. Lehmann and Ikenberry (1959) reported that both males and females with farm backgrounds had the highest traditional-value score while students from predominately urban backgrounds had the lowest mean traditional value scores. (A high score indicated a leaning toward traditional values--that is, personal respectability, respect for others, feelings of guilt, self-denial and thrift. A high scorer also valued hard work as good in itself and necessary for success, placed his personal and individual desires equal to or

above the desires of the group, and was oriented toward the future to the extent that present needs were sacrificed or should be sacrificed for future reward and satisfaction.) Lehmann also reported that of all freshman at Michigan State University in 1958, those from rural homes scored lower on the College Qualification Test than those from urban homes. Males who lived most of their lives on a farm were markedly more stereotypic and dogmatic, were the poorest readers and measured lowest on the College Qualification Test. Generalizations from this data to technical agricultural students must be done with care, in that Anderson (1965) showed significant differences on several psychological and sociological factors between four-year and technical agricultural students.

Donald Elson (1970) in reporting on "The Technical Student in the University Community" at Michigan State University, found that 60 percent of the technical students were from a farm family while only 20 percent were from towns of 5000 or more population. Approximately 23 percent of fathers had less than a high school education, 15.6 percent had some college and 10.8 percent of the technical fathers were college graduates. In the area of fathers' occupation, 43 percent of the students had fathers who were farmers, while only three percent were in the professional category. Elson concluded his paper in stating:

> The technical agriculture student in today's university can be classified as disadvantaged in that he is lacking in maturity, educational background and experiences, and proper attitudes toward new ideas ... A sympathetic instructor is essential to the technical program. Only those individuals who understand the technical student and are willing to devote time to educational advisement will be successful instructors in a technical program. Student services are very important to the technical student and

should be given considerable emphasis in the university community (1970:11).

Probably the most comprehensive study of agricultural short course students was done by Anderson (1965) at Michigan State University, who compared technology students with four-year agricultural students. While Anderson provided a valuable insight into some characteristics of the agricultural technology student, his effort utilized only first-year male students in five programs, whereas presently both males and females are enrolled in ten programs. Dr. Anderson derived both psychological and sociological factors in his research. In using a variety of measures, it was found that technical students were less assertive, slower to grasp ideas and less likely to be successful in the classroom learning situation than degree students. Further comparisons indicated that the technical student was less emotionally mature, less stable, less realistic about life, more worried, more impulsive, less self-confident, more suspicious, and less self-sufficient. The technical students looked with disfavor on physical mobility and change, and were found to be more dogmatic than the degree student.

Discussion of Previous Research

From the review of literature just presented, it becomes apparent that considerable effort has been placed in studying the value characteristics of college students. However, it is also seen that major sub-sections of the total student population have been neglected in the exploration and description of entering students' value orientations, and in the change of such dimensions over the college experience.

This study represented an effort to investigate and describe one such neglected group, agricultural technology majors at Michigan State University. The information generated by this study was not intended for generalization to other student groups or campuses, but was an exploratory effort to become aware of entering and graduating value dimensions of this particular group. This discussion section relates the implications of those studies most pertinent to the present research effort.

While a Study of Values has been one of the most extensively used instruments in previous research on values, one might wonder if it has the discriminating power necessary to assess the diverse and changing college student population (Martin, 1971). Research on the typology offered by Clark and Trow has revealed that more classifications of students, around value dimensions, needed identification. This present study utilized an instrument which was constructed around 13 value dimensions within the college student population. In using the American College Personnel Association Value Questionnaire, this research offered a more comprehensive description of value orientations of agricultural technology students, than could have been derived from some of the more traditional inventories.

While Jacob (1957) reported that a general profile of values representing 75 to 80 percent of all American college students existed, Feldman and Newcomb (1969) revealed that considerable differences between student majors were also present. Lehmann and Dressel (1963) spoke to the differences in personality characteristics of students admitted to

various colleges and universities, while Clark (1959) emphasized that individual colleges held a 'public image' which exerted a powerful impact upon determining who would apply for admission.

The few studies which included four-year agricultural students revealed a population that was different from other majors. While four year agricultural students tended to be lower in intellectual ability, lower in social liberalism, more stereotypic and dogmatic than most other college majors, agricultural technology students displayed characteristics more skewed in that direction. Technology students were more emotionally immature, more suspicious, less likely to be successful in classes, more dogmatic, had greater disfavor of physical mobility and change. These characteristics were similar to ones described by Wolff (1962) in the comparison of rural high school students with high farm and non-farm occupational aspirations. Since 60 percent of the technology students at Michigan State University (Elson, 1970) were from a farm family and only 20 percent from towns of 5,000 or more population, the majority could be classified as rural youth similar to Wolff's high-farm aspiration group.

Because agricultural technology students only took classes together, spent more time during the week in direct classroom-laboratory work, and tended to socialize little outside their own major program, the impact of their peer group might have been heightened. Lehmann and Dressel (1962) reported that while the total student body peer group seemed not to have much impact, discussions and 'bull-sessions' were a potent factor in shaping the attitudes and values of college students.

Feldman and Newcomb (1969) stated that the peer group could either provide support to students for not changing through reinforcing similar values, or could challenge old values, provide intellectual stimulation and help clarify new self-definitions. Rokeach (1973) spoke of this self-conception and dissatisfaction as being central in the motivation to change values, attitudes and behavior.

If the Institute of Agricultural Technology at Michigan State University possessed a 'public image' which attracted a homogeneous student population that spent all classroom and the majority of social time together, the effect of peer group in stimulating or restricting value change may have been intensified. This was of special interest in view of previously cited studies which indicated a conservative student population who lacked confidence in social skills and who were highly resistant to change.

Findings in the area of attitudes and values generally found change in the direction of greater liberalism and sophistication in political, social and religious outlook between freshman and senior years (Sanford, 1962). Additional information suggested that the greatest changes in values, attitudes and beliefs occurred in the first two years of college with instructors and courses rarely mentioned as having impact until junior or senior years (Brookover, 1965; Lehmann and Dressel, 1962, 1963; Freedman, Heist, Sanford, 1962). However, in that four year colleges often do not require a major field of selection until the third year, with the first two years containing many liberal arts or general education courses, it was questioned what differences might be found in technical students who entered into a specific career program for two years.

General Research Hypotheses

From the above evidence, general hypotheses generated were:

1. Entering agricultural technology students studied in this research would possess similar value dimensions, across the ten programs, reflecting a population resistive to change, suspicious, dogmatic, non-intellectual, and emotionally immature. Students in farm oriented programs would be different than those in agri-business programs.

2. A change in this population's value dimensions from orientation to graduation would occur in the direction of becoming more liberal and sophisticated. However, this change might be minimized if the population is homogeneous given that all classes were held together with little social interaction outside the institute's population.

3. There would be a difference between male and female students in that the majority of female students were enrolled in agri-business courses with a different specific course content.

4. Variables affecting graduating value dimensions would include: parent occupation, parent education, residence on campus, agricultural institute student roommate, and weekends spent off campus.

Summary

Literature pertaining to this study was reviewed within two areas: (1) early and recent studies on student values, and (2) agricultural technology programs and agricultural students.

In the first section it was revealed that while there were some minor discrepancies, both pre-World War II and recent studies in the area of attitudes and values indicated that between freshman and senior years there was a general change in the direction of greater sophistication and liberalism in social, political and religious outlook.

While great effort had been placed in understanding the impact of college upon attitudes and values, little emphasis had been placed on

descriptive value information of entering students. A profile of values for the general student population was offered in 1957, but much information indicating a great diversity of value dimensions between students of differing academic majors and orienting sub-groups was also discussed. In addition, it was revealed that a change in observable values of college students has been seen in the past two decades.

Information was presented suggesting that value change might be shaped by current societal events as well as the particular college in which the student is enrolled. Value change was also discussed in relation to the kinds of students admitted to college and that various colleges probably attract different types of student characteristics. Some information was presented indicating that the formal educational process alone does not account for impact on student values, but that the campus climate and extracurricular activities must be considered as well.

It was also discussed that while there was a freshman-senior difference in attitudes and values, the major change took place sometime during the first two years of college. Peer group influence had a greater impact on attitudes and value change in the freshman and sophomore years, while the academic influence of course-work and professors took on greater importance in the junior and senior years.

Research into social issues indicated that an important effort in understanding the college student population would be made through sub-group analysis. While Clark and Trow had devised the most popular typology of students, it was discussed how more discriminating groupings

needed to be recognized. The need for specialized paradigms to examine the value patterns of many sub-cultures in the American college called for the creation and utilization of more refined value instruments.

The second section of the literature review revealed that very little research had been conducted with agriculturally oriented college students. Rural high school students who aspired to farm tended to be less stable emotionally, less confident in social abilities, lower in achieving success in activities, less self-confident in expressing their ideas and feelings, and more negative toward changes in thier patterns of living than rural high school students not aspiring to farm. College students from rural homes tended to display the highest traditional-value scores and had lower scores on the College Qualification Test than those from urban homes.

Technical or non-degree programs were found in 69 percent of the land-grant institutions. Over 100 other types of colleges or vocational institutions had similar programs. Technical courses were vocationally specific with admission requirements being very liberal.

Studies indicated that four-year agricultural students tended to be lower in intellectual ability and higher in stereotypic and dogmatic attitudinal factors than many other four-year college students. An additional study indicated that differences in similar dimensions existed between agricultural technology and agricultural four-year students, with technology students being significantly more dogmatic, less intelligent, less mature and self-confident, and less open to new ideas.

CHAPTER III

DESIGN OF THE STUDY

Sample

The population of students included in this study were those entering the 1972 Institute of Agricultural Technology at Michigan State University. These students were enrolled in one of the Institute's ten programs and had chosen to attend a summer orientation. The Institute's ten programs were:

1. Agricultural Production
2. Soil and Chemical Technology
3. Farm Power Equipment Technology
4. Electrical Technology for Agriculture
5. Elevator and Farm Supply
6. Animal Technology
7. Commercial Floriculture
8. Food Processing
9. Landscape and Nursery
10. Turfgrass Management

(For detailed descriptions of programs, refer to Appendix A.)

For purpose of analysis in this study, in addition to the ten separate programs, two clusters of programs were identified as (a) farm oriented 1-5, and (b) agri-business 6-10 (Appendix A). These clusters were selected to determine if differences existed between farm oriented majors and those students preparing to work in other agricultural businesses.

These programs consisted of four terms of classroom study and two terms of on-the-job placement training (exception: animal technology students maintained a full, on-campus credit load all six terms).

Teaching was handled by regular M.S.U. faculty members. Programs normally began in the fall term, although there were special winter term courses available in production agriculture. Applicants were high school graduates with a recommendation from their high school principal.

Measures

The instrument utilized in the study was the American College Personnel Association Value Questionnaire (King and Powell, 1972) (Refer to Appendix B). The questionnaire consisted of 331 true-false statements which purported to measure 13 value dimensions in the college student population. The instrument was scored by counting the number of true responses with the total of these being the raw score for that scale. These dimensions were: Alienated, Activist, Perceptual Gratification, Active Conformist, Lonely, Gameplayer, Drifter, Fieldcommitted, Self Realizer, Interpersonal Relations, Narcissist, Freedom-Independent, and Humanitarian (for detailed descriptions, refer to Appendix C). Chapter IV of this study describes the instrument in more detail.

In addition to the information provided by the values instrument, questions on a face sheet for each test provided the following data in this research: sex, age, father's occupation, mother's occupation, father's education and mother's education. Three additional questions asked in the testing at graduation included: (1) Did you live on campus? (2) If yes, were your roommates also agricultural technology students? (3) Given an average term of 12 weeks, how many weekends did you spend away from campus per term?

Design

The study used a longitudinal-developmental design. While information of a descriptive nature was provided on the students at the time of entry and graduation of their programs, a developmental view of any changes in value dimensions over their college experience was also discussed. This design is consistent with Issac's defined purpose for developmental research, "To investigate patterns and sequences of growth and/or change as a function of time" (1971:19).

Students enrolled in the 1972 Agricultural Technology Program were asked to attend a special two-day summer orientation program a month preceding the start of their classes. This orientation offered them an opportunity to experience dormatory living, meet fellow students, visit with program coordinators, see the campus and take several tests to better assess entering levels of abilities and assist in the placement in appropriate courses. This was the first year that such a summer orientation had been offered by the Institute of Agricultural Technology.

Students were separated into their specific programs for testing purposes. The American College Personnel Association Value Questionnaire was administered as a portion of the orientation testing package during the first day. Each program co-ordinator administered and monitored the testing. In terms of the value inventory, a standardized face sheet containing directions was read to all groups. Students were assured of confidentiality and were only asked to indicate their student numbers and program majors for purposes of pre-post comparisons. No time limit was specified.

A second testing of these agricultural technology students, on the same values questionnaire, was administered 18 months later during finals week of their graduating term (Winter Term, March 1974). The instrument was administered by the program co-ordinator during the class in which only students of that program were members. As in the previous testing, the standardized face sheet was read and no time limit was specified. It was also stated that taking the instrument was completely voluntary and would in no way reflect upon the grade of the course.

This longitudinal design provided descriptive data for those students who attended summer orientation as part of their entrance into the Institute of Agricultural Technology and those students graduating 18 months later. Developmental data was also available for those students who experienced both testing sessions. It was the purpose of this study to provide descriptive and developmental information on the value dimension of this unique and unresearched college population. It was not the aim of this research to generalize its findings to other student populations.

Testable Hypotheses

The following hypotheses were generated to give direction to the researcher:

Ho-1 No difference in value dimensions will be found among first-year students within the ten programs of the Institute of Agricultural Technology as measured at time of orientation by the American College Personnel Association Value Questionnaire.

Ho-2 No difference in value dimensions will be found between first-year students enrolled in farm oriented programs and students in agri-business programs of the Institute of Agricultural Technology as measured at time of orientation by the American College Personnel Association Value Questionnaire.

Ho-3 No difference in value dimensions will be found among second-year students within the ten programs of the Institute of Agricultural Technology as measured at the time of graduation by the American College Personnel Association Value Questionnaire.

Ho-4 No difference in value dimensions will be found between second-year students enrolled in farm oriented programs and students in agri-business programs of the Institute of Agricultural Technology as measured at time of graduation by the American College Personnel Association Value Questionnaire.

Ho-5 No change in value dimensions will be found from orientation to graduation on students enrolled in the Institute of Agricultural Technology as measured by the American College Personnel Association Value Questionnaire.

Ho-6 No change in value dimensions will be found from orientation to graduation on students enrolled in farm oriented programs or students in agri-business as measured by the American College Personnel Association Value Questionnaire.

Ho-7 No difference in value dimensions will be found between male and female students enrolled in the Institute of Agricultural Technology as measured by the American College Personnel Association Value Questionnaire at:

Ho-7a. time of orientation
Ho-7b. time of graduation
Ho-7c. change between orientation and graduation.

Ho-8 There will be no relationship between value dimensions for students enrolled in the Institute of Agricultural Technology and measured by the American College Personnel Association Value Questionnaire, at the time of graduation, and the variables of:

Ho-8a. parent occupation
Ho-8b. parent education level
Ho-8c. residency on/off campus
Ho-8d. institute of agriculture student roommate
Ho-8e. weekends per term spent off campus

Analysis

The American College Personnel Association Value Questionnaire was administered to first-year students entering the Institute of Agricultural Technology during their summer orientation, August 1972.

The instrument was administered again to the students in March of 1974 during their finals week before graduation. Descriptive data was available for the entire group at time of orientation and graduation, with change analysis restricted to those students which had usable pre and post data.

To test hypotheses 1, 2, 3 and 4 (no difference in students of the ten programs, or program clusters of farm oriented and agri-business, at time of orientation or at time of graduation) a standardized mean scale score was derived by dividing the raw score for each value dimension by the number of possible responses in that dimension. An analysis of variance technique was used for the overall population and two program clusters, on data secured at orientation and upon graduation. In addition, an analysis of covariance was used on graduation data, in looking at the program clusters and overall population, with the initial orientation test score being used as the covariate control. This allowed for an account of variance in the graduation score after removing the effect of the initial variations in groups.

In testing hypotheses 5 and 6 (no change in students or program clusters over time from orientation to graduation) the value data from only those students involved in both testings was used. A matched pair t-test analysis was utilized, for the total population and two program clusters, to assess change on the 13 separate value dimensions between orientation and graduation.

Hypothesis 7 (no sex difference in value dimensions at either testing or over time) was tested by an analysis of variance on

orientation and graduation data. An analysis of covariance was also used with orientation data serving as the covariate. In addition, a matched pair t-test analysis was used to assess change on the value dimensions between orientation and graduation.

On Hypothesis 8 (no relationship between value dimensions and the variables of: (a) parent occupation, (b) parent educational level, (c) residency on/off campus, (d) institute of agriculture student roommate, (e) weekends per term spent off campus, simple frequencies were first secured on the variables to assess which analysis test would be most appropriate. If there was enough variance in the variable groups, then correlational analysis would be utilized. However, if the variables did not lend themselves to correlation techniques, an analysis of variance would be utilized by splitting the variables into reasonable groups. With the frequency distributions secured, the specific variables and analyses used were:

a. parent occupation--an analysis of covariance on pre-post matched data with orientation data being used as the covariate.
b. parent education--an analysis of covariance on pre-post matched data with orientation data used as the covariate.
c. residency on campus--an analysis of covariance on pre-post matched data with orientation data used as the covariate, an analysis of variance on post data.
d. agricultural roommate--an analysis of covariance on pre-post matched data with orientation data used as the covariate, an analysis of variance on graduation data.
e. weekends per term off campus--a Pearson Correlation Coefficient on pre and post data.

An additional analysis of variance was used to assess possible differences in initial value dimensions at time of orientation between those students who graduated 18 months later and those students who did not graduate.

Analyses on the instrument consisted of a Pearson Correlation technique to derive a correlation matrix between the 13 value scales and Hoyt's analysis of variance reliability technique to assess the reliability of the 13 dimensions.

Summary

Students enrolled in the Institute of Agricultural Technology and attending the August 1972 summer orientation were given the American College Personnel Association Value Questionnaire (King and Powell, 1972) which measured 13 value dimensions, as part of a test battery. They were administered the same test 18 months later, March 1974, during finals week of their graduation term. It was hypothesized that there would be no difference in value dimensions for students within the Institute's ten programs, or in program clusters of farm oriented and agri-business at time of orientation or at graduation. It was further hypothesized that there would be no change in value dimensions from orientation to graduation and no sex difference. Additionally, it was hypothesized that there would be no relationship between value dimensions and the factors of: parent occupation, parent education, residency on/off campus, agricultural technology student as a roommate, or weekends spent off campus. Appropriate analysis techniques were utilized including: means, standard deviations, frequencies, analysis of variance, analysis of covariance, correlations, reliabilities and matched pair t-tests.

CHAPTER IV

INSTRUMENTATION: THE AMERICAN COLLEGE PERSONNEL ASSOCIATION VALUE QUESTIONNAIRE

Description

The instrument selected for this study was the American College Personnel Association Value Questionnaire (King and Powell, 1972). This instrument was recently constructed and holds a potential of significance for the area of values research. This section will be used to describe its creation and utilization in greater detail.

Most previous research in the area of values, using a standardized instrument, used the Allport-Vernon-Lindzey Study of Values. While the Study of Values has served an important role, it is questionable if it is sufficient for research with the college student population. Based on the typology of values conceptualized by the philosopher, E. Spranger, this test represented an effort to define psychological measurement along his conceptualized scheme. As Gorlow and Nell stated, "A Study of Values, therefore, does not measure empirically derived values, but rather measures that conceptually defined system of values" (1967:261). Martin has stated,

> It is doubtful to me that the existing repertoire of value surveys and questionnaires and especially the Allport-Vernon-Linzey Study of Values are sensitive and discriminating enough to catch

> the present subtleties of value structure and change on our college campuses. Spranger's six types consisting of theoretical, economic, aesthetic, social, political and religious factors capture some of the basic orientations of the larger society, but the working and essence of the questions in the Study of Values leaves much to be desired with regard to the college population (1971:2-3).

King and Powell stated,

> The Study of Values instrument, ... was not designed specifically for use with college students. College populations may be considerably removed from the general population of young people. Secondly, few changes have been made in the instrument since the 1930's. Consequently, the Study of Values may lack discriminating power when used in sampling college students today (1972:6).

They continued by stating,

> Little has been done in the way of developing value instruments for general use or for specific populations. At the time Buros' (1970) Mental Measurement Yearbook went to press, only two value instruments other than Allport's were in print. Most of the studies of college student values, ... have relied on related personality measures such as the California F Scale, Purpose of Life Test or developed their own value instrument according to the needs of the specific research situation. The other two instruments listed in Buros (1970) were designed for general use. Even if these instruments had been tailored to college students, they are outdated. The student picture has changed greatly from that of the 30's, 40's and 50's when these instruments were developed (1972:17).

In an effort to respond to the lack of value instruments available for use with the contemporary college student population, Commission VIII, of the American College Personnel Association, initiated a project in 1968 to develop such a value questionnaire. Some people involved at that early state of development included: Dr. Jean Baer from the University of Illinois and chairperson of Commission VIII at that time; Dr. John Powell from Michigan State University; Dr. Paul King from University of Missouri, Dr. Ken Eeels from California Institute of Technology,

Dr. Ralph Rust from San Francisco State College, Dr. Paul Correll from University of Missouri at Kansas City, Dr. Catherine Jones from Merritt College in California and Dr. Lucy Zacharia of the University of Illinois at Chicago Circle. However, the collecting points for data were Michigan State University and the University of Missouri under the leadership of Dr. Powell and Dr. King. Statistical work was assisted by Dr. William Martin of Michigan State University.

The first phase of the project was the creation of an open-ended questionnaire to obtain student expressions about themselves and their world which could be translated into useful test items (for a description of the questionnaire, refer to Appendix D). Through commission members, approximately 10,000 student responses to the six item questionnaire were gathered from ten institutions scattered geographically and representing diverse institutional characteristics. Some items generated from the questionnaire contained key words and statements from the student responses. This allowed final questions to be stated in words actually used by students. Further items for the value inventory were generated by using information from counselors about student concerns, regular and underground student newspapers, English themes, existing literature and other instruments. This procedure generated a large pool of items from which 725 were selected. These items were found to cluster around 13 student value dimensions identified by a study group of psychologists meeting for that expressed purpose. A panel of judges further selected items with 331 being retained for the instrument. With the process used in determining the items, the questionnaire possessed face and content validity for use with the college student population.

The instrument's 331 true-false statements were scored by counting the number of true responses within each value dimension, with the total of these being the raw score for that value scale. These dimensions were Alienated, Activist, Perceptual Gratification, Active Conformist, Lonely, Gameplayer, Drifter, Fieldcommitted, Self-Realizer, Interpersonal Relations, Narcissist, Freedom-Independent and Humanitarian (Appendix C).

Considerable data had been gathered and analyzed. According to King and Powell,

> The instrument has been administered to a pilot sample of 484 students in Michigan and Missouri colleges and universities. Scales have been correlated (simple correlations) with a number of low correlations between the 13 scales, thus suggesting the existence of discriminations between scales as hoped (1972:21) (For these correlations, refer to Appendix E).

Results derived from this present study supported the statement of discrimination between scales. The Pearson Correlation analysis run on graduation data (Table 4.1) indicated low correlations between scales very similar to the results reported by King and Powell. The correlation between the dimensions of Narcissist and Gameplayer were higher on this present matrix (.619). In view of the content of these two, which are similar in some respects, this lower discrimination is not surprising. However, future research on the instrument should look carefully at these two. In Chapter VI this is dealt with in more detail.

In considering the reliability of the value questionnaire, this study used the Hoyt procedure, an analysis of variance technique, to assess reliability within each value dimension. The results are reported on Table 4.2. The reliability in measuring value content within the

Table 4.1--Intercorrelation Matrix on Value Dimensions Measured at Graduation

Value Dimensions		1	2	3	4	5	6	7	8	9	10	11	12	13
Alienated	1	1.000												
Activist	2	.271	1.000											
Perceptual Gratification	3	.367	.406	1.000										
Active Conformist	4	.242	.013	.081	1.000									
Lonely	5	.295	.261	.265	.231	1.000								
Gameplayer	6	.443	.268	.597	.346	.159	1.000							
Drifter	7	.439	.227	.382	.151	.529	.351	1.000						
Fieldcommitted	8	.150	.236	.063	.337	.011	.214	-.136	1.000					
Self-Realizer	9	.047	.201	.297	.311	.005	.289	-.095	.486	1.000				
Interpersonal Relations	10	-.323	.056	-.026	-.023	-.019	.051	-.138	-.074	.132	1.000			
Narcissist	11	.230	.141	.398	.449	.148	.619	.160	.187	.295	.165	1.000		
Freedom Independent	12	.352	.433	.538	-.072	.154	.269	.240	.061	.123	.071	.134	1.000	
Humanitarian	13	-.005	.326	-.038	.226	.186	-.019	-.043	.317	.204	.175	.124	-.018	1.000

± .30 or less	N=57
± .31 to .49	N=17
± .50 or greater	N= 4

Table 4.2--Hoyts Reliability on Value Dimensions Measured at Orientation

Value Dimension	Hoyts Reliability	Standard Error
1. Alienated	.47	.36
2. Activist	.65	.29
3. Perceptual Gratification	.59	.32
4. Active Conformist	.69	.28
5. Lonely	.71	.27
6. Gameplayer	.51	.35
7. Drifter	.37	.40
8. Fieldcommitted	.55	.34
9. Self-Realizer	.50	.35
10. Interpersonal Relations	.37	.39
11. Narcissist	.53	.34
12. Freedom Independent	.62	.31
13. Humanitarian	.40	.38

majority of dimensions was high. However, the three dimensions, Drifter, Interpersonal Relations and Humanitarian, had a Hoyts Reliability of .40 or less and a high standard error. This indicated that these dimensions did not assess the value content contained within them in a highly consistent manner. Consideration was given in interpreting the results from these dimensions and is further elaborated in Chapter VI. The reliabilities of the other dimensions indicated that they did measure their value content in a consistent manner.

The American College Personnel Association Value Questionnaire was selected for use in this research for its ability to assess 13 value dimensions in the college student population. Previous information, and

the results of this study, indicated that the majority of dimensions discriminated between each other in a consistent and reliable manner. This instrument was also selected in that it represented a comprehensive and up-dated effort to construct a measure of value clusters and their change among contemporary college students. It was a goal of this study to not only utilize the discriminating power of this instrument to better understand an unresearched population, but to also provide informative feedback to the authors of the questionnaire.

Powell has commented,

> One of the hoped-for outcomes of the project is to stimulate further interest and research into the area of values ... Hopefully, this will open the door for several other studies. We hope to encourage studies showing changes in values through the college years, relationships between various sub-cultures and values, learning influences which have a bearing on value formation and change, and a greater understanding of values within the content of counseling and psychotherapy (1971:4).

King stated,

> We see this instrument as facilitating research in the broader area of research on student values within certain types of institutions or in certain geographical areas of the country. ... In this day and age when higher education is being criticized for being so impersonal in its educational offerings, we had visualized through the use of this instrument perhaps a more individualized guidance of students in their educational pursuits. Not only do attitudes, interests, and abilities play an important role in how successful and satisfied a person is with his major, but also his philosophy and value configuration (1971:4-5).

Summary

The American College Personnel Association Value Questionnaire was constructed to measure 13 value dimensions of college students. It was an effort to provide a valid instrument for the area of college

student values measurement in that few instruments were available to this specific population. The procedure followed in creating this instrument was reported. Results of correlation and reliability analyses from this study indicated the majority of dimensions discriminated between each other in a consistent and reliable manner. However, the dimensions of Narcissist and Gameplayer had a correlation of .619 indicating possible overlap of content measured. In addition, the dimensions of Drifter, Interpersonal Relations and Humanitarian had low reliability scores and high standard errors. It was noted that consideration of this was used in interpreting results.

CHAPTER V

ANALYSIS OF RESULTS

Description

The primary task for analysis was to assess 13 value dimensions of students enrolled in the Institute of Agricultural Technology at Michigan State University at the time of their orientation and graduation. Variables, including programs, sex of students, parent education, parent occupation, residency on/off campus, agricultural institute roommate, and weekends per term spent off campus were also assessed for possible relationships with dimensions. The data was tabulated on the CDC 6500 at the Michigan State University Computer Center using the Statistical Package for the Social Sciences program.

The procedure followed in this chapter was to restate the hypotheses identified in Chapter III, display the appropriate data and state whether to reject, or fail to reject, the hypothesis. A significance level of .05 was established for rejection of the null hypothesis. A summary of findings in Chapter V is then presented.

A total of 205 students completed usable forms of the American College Personnel Association Value Questionnaire at the time of orientation. There were 113 students who completed usable information from both the orientation and graduation assessment. Of the 205 students at orientation, 138 (67 percent) graduated while 67 (33 percent) did not

graduate 18 months later. Of the 138 students who could have provided pre-post information 113 (82 percent) were secured for the study.

Ho-1 No difference in value dimensions will be found among first-year students within the ten programs of the Institute of Agricultural Technology as measured at time of orientation by the American College Personnel Association Value Questionnaire.

Standardized mean scale scores were derived by dividing the raw score for each scale by the number of possible responses in that dimension (Table 5.1). These standardized scores allowed a more meaningful comparison between value dimensions. Scores displayed a population which responded highest in the value dimensions of Interpersonal Relations, Self-Realizer, Active Conformist, Freedom Independent, Humanitarian, Perceptual Gratification, Fieldcommitted and lowest in Alienated and Narcissist.

An analysis of variance, multivariate test of significance, was used on orientation results to assess overall differences between programs. Results indicated no significant difference on overall orientation scores between majors. An additional analysis of variance, univariate F-tests, was used to assess differences on specific value dimensions between majors (Table 5.2). Results indicated no significant difference on orientation scores.

Data revealed no statistically significant reason for the rejection of the null hypothesis. Therefore, Ho-1 was not rejected.

Ho-2 No difference in value dimensions will be found between first-year students enrolled in farm oriented programs and students in agri-business programs of the Institute of Agricultural Technology as measured at time of orientation by the American College Personnel Association Value Questionnaire.

Table 5.1--Orientation Value Dimensions' Standardized Means and Standard Deviations by Programs.

Value Dimensions		PROGRAMS										
		Agricultural Production	Soil and Chemical Technology	Power Equipment Technology	Electrical Technology for Agriculture	Elevator and Farm Supply	Animal Technology	Commercial Floriculture	Food Processing	Landscape and Nursery	Turfgrass Management	Row Means
		1 N=54	2 N=6	3 N=11	4 N=13	5 N=17	6 N=21	7 N=30	8 N=9	9 N=23	10 N=21	
1. Alienated	m	.183	.206	.273	.245	.185	.154	.232	.217	.238	.227	.216
	sd	.102	.098	.208	.168	.151	.091	.148	.189	.120	.182	
2. Activist	m	.435	.442	.383	.475	.427	.445	.465	.483	.412	.474	.441
	sd	.174	.154	.124	.209	.112	.175	.177	.246	.142	.188	
3. Perceptual Gratification	m	.522	.448	.514	.606	.531	.493	.523	.604	.556	.519	.532
	sd	.153	.128	.101	.109	.152	.113	.113	.147	.138	.159	
4. Active Conformist	m	.614	.575	.615	.613	.622	.578	.574	.632	.636	.550	.601
	sd	.125	.123	.138	.124	.178	.165	.160	.130	.093	.186	
5. Lonely	m	.415	.527	.526	.445	.370	.444	.478	.492	.476	.461	.463
	sd	.180	.231	.163	.172	.140	.193	.152	.186	.163	.228	
6. Gameplayer	m	.403	.296	.413	.476	.398	.344	.338	.459	.414	.381	.392
	sd	.159	.136	.126	.153	.169	.141	.125	.154	.153	.186	
7. Drifter	m	.337	.386	.426	.371	.342	.297	.368	.379	.374	.364	.364
	sd	.151	.194	.126	.153	.160	.173	.156	.190	.165	.201	
8. Field-committed	m	.543	.429	.476	.518	.495	.584	.545	.585	.575	.544	.529
	sd	.144	.134	.117	.115	.146	.110	.152	.117	.149	.138	
9. Self-Realizer	m	.769	.695	.771	.751	.763	.754	.739	.816	.778	.777	.761
	sd	.098	.074	.090	.089	.096	.105	.121	.103	.123	.131	
10. Interpersonal Relations	m	.788	.798	.740	.824	.762	.776	.814	.833	.761	.799	.792
	sd	.116	.153	.176	.119	.137	.130	.148	.147	.130	.127	
11. Narcissist	m	.368	.181	.318	.429	.355	.329	.285	.375	.355	.327	.332
	sd	.160	.170	.090	.118	.155	.165	.135	.186	.188	.206	
12. Freedom Independent	m	.565	.500	.617	.636	.545	.594	.607	.585	.627	.619	.590
	sd	.162	.152	.133	.146	.160	.188	.186	.177	.155	.168	
13. Humanitarian	m	.570	.567	.455	.528	.529	.613	.616	.570	.571	.508	.553
	sd	.187	.151	.200	.160	.176	.141	.160	.138	.147	.184	

m = mean; sd = standard deviation.

Table 5.2--Univariate F-Tests on Orientation Data for Programs. Univariate F-Tests with (9, 195) D.F. N=205

Variate	F	Significance of F
1. Alienated	1.210	.291
2. Activist	.498	.875
3. Perceptual Gratification	1.299	.240
4. Active Conformist	.794	.622
5. Lonely	1.154	.327
6. Gameplayer	1.660	.101
7. Drifter	.728	.683
8. Fieldcommitted	1.451	.169
9. Self-Realizer	.809	.609
10. Interpersonal Relations	.655	.749
11. Narcissist	1.793	.072
12. Freedom Independent	.841	.580
13. Humanitarian	1.420	.181

Standardized mean scale scores were derived for the two program clusters (Table 5.3). An analysis of variance, multivariate test of significance, was used on orientation information from students enrolled in the program clusters to assess the overall difference between the two clusters (Table 5.4).

Results from this procedure indicated a significant difference (.038) in overall value dimensions between students enrolled in farm oriented and agri-business majors on orientation scores. An additional analysis of variance, univariate F-tests, was used to assess any differences in specific value dimensions, between the farm oriented students and those in agri-business programs (Table 5.5). This analysis

Table 5.3--Orientation Value Dimensions' Standardized Means and Standard Deviations by Program Clusters.

Value Dimensions		Farm-Oriented N=101	Agri-Business N=104
1. Alienated	m	.203	.215
	sd	.135	.145
2. Activist	m	.433	.453
	sd	.163	.177
3. Perceptual Gratification	m	.529	.530
	sd	.143	.133
4. Active Conformist	m	.613	.589
	sd	.134	.153
5. Lonely	m	.430	.469
	sd	.177	.180
6. Gameplayer	m	.406	.375
	sd	.157	.153
7. Drifter	m	.355	.355
	sd	.153	.173
8. Fieldcommitted	m	.518	.563
	sd	.139	.137
9. Self-Realizer	m	.761	.765
	sd	.095	.119
10. Interpersonal Relations	m	.787	.793
	sd	.129	.136
11. Narcissist	m	.357	.326
	sd	.155	.172
12. Freedom Independent	m	.573	.609
	sd	.157	.173
13. Humanitarian	m	.545	.579
	sd	.181	.160

m = mean; sd = standard deviation

indicated a significant difference between students in the two clusters on the value dimension Fieldcommitted (.02). Students in the agri-business cluster scored significantly higher on this dimension. No other value dimension was found to be significantly different between clusters.

Table 5.4--Multivariate Test of Significance on Orientation Data: Cluster Effect.

N = 205	F	Hypothesis D.F.	Significance of F
	1.849	13.000	*.038

*Significance at the .05 level

Table 5.5--Univariate F-Tests on Orientation Data for Program Clusters. Univariate F-Tests with (1, 203) D.F. N = 205

Value Dimensions	F	Significance of F
1. Alienated	.403	.527
2. Activist	.659	.418
3. Perceptual Gratification	.004	.948
4. Active Conformist	1.484	.225
5. Lonely	2.378	.125
6. Gameplayer	2.087	.150
7. Drifter	.001	.991
8. Fieldcommitted	5.543	*.020
9. Self-Realizer	.080	.778
10. Interpersonal Relations	.111	.740
11. Narcissist	1.893	.170
12. Freedom Independent	2.517	.114
13. Humanitarian	2.065	.152

*Significant at .05 level.

Statistical data supported the rejection of the null hypothesis, Ho-2.

Ho-3 No difference in value dimensions will be found among second-year students within the ten programs of the Institute of Agricultural Technology as measured at the time of graduation by the American College Personnel Association Value Questionnaire.

Standardized mean scale scores were secured on graduation data across the ten programs (Table 5.6). An analysis of variance, multivariate test of significance, computed on graduation data to assess overall differences, on program effect, displayed no significant results. An additional analysis of variance, univariate F-tests, revealed significant differences on the value dimensions of Alienated (.047) and Active Conformist (.005) (Table 5.7). However, a univariate analysis of covariance, with orientation scores being used as the covariate control, revealed a significant difference at graduation on the value dimensions of Active Conformist (.032) and Fieldcommitted (.038) (Table 5.8). This technique used results from orientation testing to remove initial variations in the programs for analysis of graduation data. In doing this, it indicated that the difference found in the Alienated dimension might have been caused by initial group differences. In adjusting the groups on orientation data, this technique revealed the additional difference in the dimension of Fieldcommitted and also supported the difference found in the Active Conformist dimension.

The standardized means reported in Table 5.6 revealed that Electrical Technology students scored the highest in the Alienated scale while Food Processing students scored the lowest. On the Active

Table 5.6--Graduation Value Dimensions' Standardized Means and Standard Deviations by Program.

Value Dimensions		PROGRAMS										Row Means
		Agricultural Production	Soil and Chemical Technology	Power Equipment Technology	Electrical Technology for Agriculture	Elevator and Farm Supply	Animal Technology	Commercial Floriculture	Food Processing	Landscape and Nursery	Turfgrass Management	
		1 N=36	2 N=3	3 N=6	4 N=5	5 N=7	6 N=15	7 N=17	8 N=3	9 N=15	10 N=6	
1. Alienated	m	.161	.254	.190	.295	.224	.137	.160	.048	.219	.151	.184
	sd	.122	.192	.085	.170	.128	.093	.075	.048	.119	.176	
2. Activist	m	.440	.391	.355	.417	.484	.458	.458	.478	.461	.377	.432
	sd	.147	.130	.149	.133	.198	.184	.123	.340	.195	.184	
3. Perceptual Gratification	m	.529	.521	.615	.575	.585	.506	.520	.583	.588	.495	.552
	sd	.123	.208	.146	.157	.187	.125	.092	.208	.115	.181	
4. Active Conformist	m	.588	.658	.513	.684	.684	.567	.537	.509	.598	.421	.576
	sd	.091	.115	.170	.062	.123	.166	.142	.110	.105	.140	
5. Lonely	m	.361	.441	.351	.459	.351	.431	.477	.387	.384	.230	.387
	sd	.153	.360	.149	.245	.154	.204	.175	.087	.125	.109	
6. Gameplayer	m	.445	.409	.414	.452	.442	.355	.383	.452	.465	.317	.413
	sd	.157	.130	.094	.094	.147	.094	.151	.171	.182	.196	
7. Drifter	m	.297	.303	.386	.418	.338	.288	.307	.303	.318	.152	.311
	sd	.172	.026	.094	.171	.058	.168	.188	.105	.140	.121	
8. Field-committed	m	.571	.538	.417	.423	.522	.577	.541	.538	.523	.462	.511
	sd	.091	.133	.195	.209	.152	.136	.131	.204	.149	.119	
9. Self-Realizer	m	.783	.805	.776	.745	.783	.763	.757	.805	.800	.684	.770
	sd	.094	.131	.121	.126	.153	.122	.105	.020	.111	.168	
10. Interpersonal Relations	m	.798	.810	.774	.829	.765	.805	.815	.905	.781	.810	.809
	sd	.142	.109	.095	.120	.079	.149	.116	.041	.091	.087	
11. Narcissist	m	.384	.458	.368	.400	.476	.336	.299	.403	.383	.271	.378
	sd	.166	.300	.159	.076	.165	.143	.187	.127	.176	.214	
12. Freedom Independent	m	.601	.526	.693	.526	.602	.568	.622	.456	.649	.605	.585
	sd	.157	.241	.254	.112	.080	.162	.161	.132	.152	.237	
13. Humanitarian	m	.567	.756	.444	.533	.600	.596	.569	.556	.524	.489	.563
	sd	.173	.102	.187	.211	.102	.117	.203	.139	.115	.192	

m = means; sd = standard deviation.

Table 5.7--Univariate F-Tests on Graduation Data for Programs.
Univariate F-Tests with (9, 103) D.F. N=113

Variate	F	Significance of F
1. Alienated	1.990	*.048
2. Activist	.448	.905
3. Perceptual Gratification	.144	.578
4. Active Conformist	2.818	*.005
5. Lonely	1.517	.152
6. Gameplayer	1.059	.400
7. Drifter	1.179	.317
8. Fieldcommitted	1.594	.127
9. Self-Realizer	.683	.723
10. Interpersonal Relations	.442	.909
11. Narcissist	1.074	.388
12. Freedom Independent	.881	.545
13. Humanitarian	1.170	.322

*Significant at .05 level.

Conformist scale, Electrical Technology and Elevator and Farm Supply students were the highest, while Turf Grass Management scored the lowest. Scores on the Fieldcommitted scale indicated Animal Technology students highest and Power Equipment students the lowest.

Statistical data supported the rejection of Ho-3.

Ho-4 No difference in value dimensions will be found between second-year students enrolled in farm oriented programs and students in agri-business programs of the Institute of Agricultural Technology as measured by the American College Personnel Association Value Questionnaire.

Standardized mean scale scores were derived on graduation data for the clusters of farm oriented and agri-business programs (Table 5.9).

Table 5.8--Univariate Analysis of Covariance on Graduation Data for Programs: Covary on Orientation Data. Univariate F-Tests with (9, 90) D.F. N = 113

Variate	F	Significance of F
1. Alienated	1.380	.209
2. Activist	.334	.961
3. Perceptual Gratification	1.370	.213
4. Active Conformist	2.166	*.032
5. Lonely	1.160	.330
6. Gameplayer	1.483	.166
7. Drifter	.725	.685
8. Fieldcommitted	2.094	*.038
9. Self-Realizer	.595	.798
10. Interpersonal Relations	.518	.858
11. Narcissist	1.322	.237
12. Freedom Independent	1.675	.107
13. Humanitarian	.969	.471

*Significant at .05 level.

A multivariate analysis of variance on graduation data showed no overall difference between program clusters on student value dimensions. However, the univariate analysis of variance revealed significant differences between clusters on the value dimensions of Active Conformist (.021) and Narcissist (.043) at time of graduation (Table 5.10). The cell means (Table 5.9) revealed farm oriented students responded significantly higher in both the Active Conformist and Narcissist dimensions, than agri-business students.

However, the univariate analysis of covariance results (Table 5.11) did not reveal any specific significant differences in value

Table 5.9--Graduation Value Dimensions' Standardized Means and Standard Deviations by Program Cluster.

Variate		Farm-Oriented N=57	Agri-Business N=56
1. Alienated	m	.189	.162
	sd	.130	.099
2. Activist	m	.432	.451
	sd	.151	.175
3. Perceptual Gratification	m	.548	.535
	sd	.140	.125
4. Active Conformist	m	.604	.547
	sd	.113	.143
5. Lonely	m	.372	.408
	sd	.171	.174
6. Gameplayer	m	.440	.394
	sd	.141	.157
7. Drifter	m	.322	.288
	sd	.153	.163
8. Fieldcommitted	m	.534	.537
	sd	.135	.139
9. Self-Realizer	m	.780	.765
	sd	.106	.118
10. Interpersonal Relations	m	.794	.807
	sd	.126	.115
11. Narcissist	m	.394	.334
	sd	.165	.172
12. Freedom Independent	m	.600	.604
	sd	.163	.168
13. Humanitarian	m	.565	.555
	sd	.174	.155

m = mean; sd = standard deviation.

dimensions on program clusters after the clusters were equalized on orientation testing.

Table 5.10--Univariate F-Tests on Graduation Data for Program Clusters. Univariate F-Tests with (1, 111) D.F. N=113

Variate	F	Significance of F
1. Alienated	1.465	.229
2. Activist	.398	.529
3. Perceptual Gratification	.275	.601
4. Active Conformist	5.509	*.021
5. Lonely	1.274	.261
6. Gameplayer	2.721	.102
7. Drifter	1.308	.255
8. Fieldcommitted	.017	.897
9. Self-Realizer	.509	.477
10. Interpersonal Relations	.324	.570
11. Narcissist	4.206	*.043
12. Freedom Independent	.018	.894
13. Humanitarian	.107	.744

*Significant at .05 level.

Statistical data resulting from the analysis of variance supported the rejection of Ho-4. However, the additional analysis of covariance indicated that differences found in value dimensions at graduation resulted from initial differences in the program clusters.

Ho-5 No change in value dimensions will be found from orientation to graduation on students enrolled in the Institute of Agricultural Technology as measured by the American College Personnel Association Value Questionnaire.

To assess change in student responses on the specific 13 value dimensions, between the time of orientation and graduation, a matched pair t-test analysis was used on pre-post matched information (Table 5.12). Results indicated a significant change between student

Table 5.11--Univariate Analysis of Covariance on Graduation Data For Program Clusters: Covary on Orientation Data. Univariate F-Tests with (1, 98) D.F. N=113

Variate	F	Significance of F
1. Alienated	.661	.418
2. Activist	.033	.857
3. Perceptual Gratification	.380	.539
4. Active Conformist	2.152	.146
5. Lonely	1.884	.173
6. Gameplayer	.369	.545
7. Drifter	.782	.379
8. Fieldcommitted	.004	.949
9. Self-Realizer	.368	.546
10. Interpersonal Relations	1.544	.217
11. Narcissist	1.091	.299
12. Freedom Independent	.823	.367
13. Humanitarian	.581	.448

orientation and graduation responses on seven value dimensions: Alienated (.003), Perceptual Gratification (.018), Active Conformist (.000), Lonely (.000), Gameplayer (.023), Drifter (.039) and Narcissist (.047). Students significantly increased in their responses from orientation to graduation in the dimensions of Gameplayer, Perceptual Gratification and Narcissist while they decreased responses in Alienated, Active Conformist, Lonely and Drifter. It is noted that Chapter IV reported results which indicated a low reliability (.37) and a high standard error (.40) on the Drifter dimension.

Statistical data supported the rejection of Ho-5.

Table 5-12--Matched Pairs T-Test on Orientation-Graduation Data for All Students, N = 113

	Variable	Mean	Standard Deviation	T Value	Degrees of Freedom	Probability
Alienated	pre 1	4.407	2.859			
	post 1	3.690	2.439	3.05	112	*.003
Activist	pre 2	9.663	3.916			
	post 2	10.150	3.742	-1.49	112	.140
Perceptual Gratification	pre 3	16.443	4.524			
	post 3	17.336	4.231	-2.39	112	*.018
Active Conformist	pre 4	23.593	5.112			
	post 4	21.894	4.992	4.21	112	*.000
Lonely	pre 5	16.965	6.322			
	post 5	14.425	6.378	4.50	112	*.000
Gameplayer	pre 6	12.062	4.802			
	post 6	12.938	4.658	-2.30	112	*.023
Drifter	pre 7	7.398	3.377			
	post 7	6.717	3.483	2.90	112	*.039
Field-committed	pre 8	14.354	3.479			
	post 8	13.920	3.546	1.34	112	.183
Self-Realizer	pre 9	22.124	3.109			
	post 9	22.398	3.236	-.89	112	.375
Interpersonal Relations	pre 10	11.018	1.803			
	post 10	11.212	1.682	-.99	112	.323
Narcissist	pre 11	8.106	3.929			
	post 11	8.805	4.103	-2.01	112	*.047
Freedom Independent	pre 12	10.938	3.211			
	post 12	11.443	3.125	-1.68	112	.095
Humanitarian	pre 13	8.460	2.653			
	post 13	8.398	2.466	.25	112	.804

*Significant at .05 level

Ho-6 No change in value dimensions will be found from orientation to graduation, on students enrolled in farm oriented programs or students in agri-business programs of the Institute of Agricultural Technology as measured by the American College Personnel Association Value Questionnaire.

A matched pair t-test analysis was used to assess possible change in student value dimensions, between orientation and graduation, for the two program clusters (Tables 5.13, 5.14). Probability results displayed in Table 5.13 indicated that for students enrolled in farm oriented programs, significant changes in their responses from orientation to graduation occurred in the dimensions of: Perceptual Gratification (.031), Active Conformist (.042), Lonely (.000), Gameplayer (.040) and Freedom Independent (.047). These students increased their responses in the Gameplayer, Perceptual Gratification and Freedom Independent dimensions while they decreased in the Active Conformist and Lonely dimensions.

Table 5.14 displayed probability results for those students enrolled in agri-business programs. Significant changes over time were found in the following dimensions: Alienated (.005), Active Conformist (.000) and Lonely (.014). All three of these dimensions showed significant change in the direction of student's decreasing responses from orientation to graduation assessment.

While farm oriented students significantly increased their responses to the Gameplayer and Freedom Independent dimensions, and decreased in Perceptual Gratification, agri-business students did not. However, agri-business students decreased significantly on the Alienated scale, while farm oriented students did not display such a change. Common

Table 5.13--Matched Pairs T-Test on Orientation-Graduation Data for Program Cluster, Farm Oriented. N = 57

	Variable	Mean	Standard Deviation	T Value	Degrees of Freedom	Probability
Alienated	pre 1	4.561	3.111			
	post 1	3.965	2.732	1.61	56	.113
Activist	pre 2	9.456	3.928			
	post 2	9.930	3.463	-.93	56	.358
Perceptual Gratification	pre 3	16.351	4.897			
	post 3	17.544	4.464	-2.22	56	*.031
Active Conformist	pre 4	24.193	4.756			
	post 4	22.965	4.276	2.08	56	*.042
Lonely	pre 5	16.684	6.283			
	post 5	13.754	6.317	3.91	56	*.000
Gameplayer	pre 6	12.614	5.088			
	post 6	13.649	4.385	-2.11	56	*.040
Drifter	pre 7	7.737	3.441			
	post 7	7.088	3.372	1.47	56	.148
Field-committed	pre 8	14.035	3.333			
	post 8	13.877	3.516	.37	56	.714
Self-Realizer	pre 9	22.158	2.644			
	post 9	22.614	3.063	-1.10	56	.277
Interpersonal Relations	pre 10	11.070	1.591			
	post 10	11.123	1.763	-.19	56	.847
Narcissist	pre 11	8.684	4.023			
	post 11	9.579	3.955	-1.61	56	.113
Freedom Independent	pre 12	10.526	3.083			
	post 12	11.404	3.093	-2.03	56	*.047
Humanitarian	pre 13	8.368	2.938			
	post 13	8.474	2.613	-.29	56	.774

*Significant at .05 level.

Table 5.14--Matched Pairs T-Test on Orientation-Graduation Data for Program Cluster, Agri-Business. N = 56

	Variable	Mean	Standard Deviation	T Value	Degrees of Freedom	Probability
Alienated	pre 1	4.250	2.595			
	post 1	3.411	2.087	2.89	55	*.005
Activist	pre 2	9.875	3.927			
	post 2	10.375	4.025	-1.21	55	.230
Perceptual Gratification	pre 3	16.536	4.152			
	post 3	17.125	4.009	-1.13	55	.262
Active Conformist	pre 4	22.982	5.425			
	post 4	20.804	5.452	3.98	55	*.000
Lonely	pre 5	17.250	6.405			
	post 5	15.107	5.423	2.52	55	*.014
Gameplayer	pre 6	11.500	4.468			
	post 6	12.214	4.853	-1.22	55	.228
Drifter	pre 7	7.054	3.305			
	post 7	6.339	3.584	1.48	55	.145
Field-committed	pre 8	14.679	3.624			
	post 8	13.964	3.608	1.47	55	.148
Self-Realizer	pre 9	22.089	3.543			
	post 9	22.179	3.417	-.20	55	.846
Interpersonal Relations	pre 10	10.964	2.009			
	post 10	11.304	1.606	-1.19	55	.239
Narcissist	pre 11	7.518	3.775			
	post 11	8.018	4.136	-1.20	55	.236
Freedom Independent	pre 12	11.357	3.311			
	post 12	11.482	3.185	-.30	55	.763
Humanitarian	pre 13	8.554	2.340			
	post 13	8.321	2.329	.68	55	.499

*Significant at .05 level.

changes in both clusters occurred in the significant decrease of student responses in the Active Conformist and Lonely dimensions.

Statistical data supported the rejection of Ho-6.

Ho-7 No difference in value dimensions will be found between male and female students enrolled in the Institute of Agricultural Technology as measured by the American College Personnel Association Value Questionnaire at:

Ho-7a. time of orientation
Ho-7b. time of graduation
Ho-7c. change between orientation and graduation.

Time of Orientation--Ho-7a: Standardized mean scale scores were derived for male and female students on orientation and graduation data (Table 5.15). A multivariate analysis of variance used on orientation scores, revealed a significant overall difference (.006) between male and female student responses to the value questionnaire (Table 5.16).

A univariate analysis of variance (Table 5.17) indicated significant differences between males and females in responses to the dimensions Gameplayer (.002), Drifter (.024), Narcissist (.048) and Humanitarian (.002). Male students scored higher in the Gameplayer, Drifter and Narcissist dimensions while female students scored more in the Humanitarian scale. Results stated in Chapter IV revealed low reliability on the Drifter and Humanitarian dimensions. Statistical data supported the rejection of Ho-7a.

Time of Graduation--Ho-7b: On graduation data, a multivariate analysis of variance indicated no overall difference between male and female student responses to the value questionnaire. A univariate analysis of variance (Table 5.18) displayed a difference on the Gameplayer dimension (.035) in that male students scored significantly

Table 5.15--Orientation and Graduation Value Dimensions' Standardized Means and Standard Deviations for Male and Female Students.

Variate		Male N=86 Orientation	Male N=86 Graduation	Female N=27 Orientation	Female N=27 Graduation
1. Alienated	m	.220	.185	.176	.145
	sd	.144	.123	.104	.084
2. Activist	m	.406	.430	.464	.477
	sd	.165	.160	.181	.170
3. Perceptual Gratification	m	.515	.549	.512	.517
	sd	.149	.139	.118	.105
4. Active Conformist	m	.630	.581	.593	.561
	sd	.126	.120	.159	.165
5. Lonely	m	.460	.379	.453	.423
	sd	.169	.162	.179	.202
6. Gameplayer	m	.408	.434	.330	.364
	sd	.160	.151	.124	.136
7. Drifter	m	.352	.307	.286	.301
	sd	.152	.149	.149	.187
8. Fieldcommitted	m	.547	.525	.567	.568
	sd	.132	.137	.140	.132
9. Self-Realizer	m	.765	.776	.755	.760
	sd	.109	.114	.103	.104
10. Interpersonal Relations	m	.781	.797	.807	.815
	sd	.133	.117	.113	.132
11. Narcissist	m	.347	.380	.309	.324
	sd	.167	.167	.152	.179
12. Freedom Independent	m	.573	.599	.585	.612
	sd	.157	.166	.205	.161
13. Humanitarian	m	.546	.553	.622	.583
	sd	.180	.161	.157	.176

m = mean; sd = standard deviation.

Table 5.16--Multivariate Test of Significance on Orientation Data: Students' Sex Effect.

N = 205	F	Significance of F
	2.361	*.006

*Significance at the .05 level.

Table 5.17--Univariate F-Tests on Orientation Data for Male and Female Students. Univariate F-Test with (1, 203) D.F. N=205

Variate	F	Significance of F
1. Alienated	.617	.433
2. Activist	.430	.513
3. Perceptual Gratification	1.118	.292
4. Active Conformist	.934	.335
5. Lonely	.165	.685
6. Gameplayer	9.805	*.002
7. Drifter	5.205	*.024
8. Fieldcommitted	2.167	.143
9. Self-Realizer	1.128	.290
10. Interpersonal Relations	1.805	.181
11. Narcissist	3.947	*.048
12. Freedom Independent	.114	.736
13. Humanitarian	9.393	*.002

*Significant at .05 level.

Table 5.18--Univariate F-Tests on Graduation Data for Male and Female Students. Univariate F-Tests with (1, 111) D.F. N=113

Variate	F	Significance of F
1. Alienated	2.581	.111
2. Activist	1.683	.197
3. Perceptual Gratification	1.210	.274
4. Active Conformist	.445	.506
5. Lonely	1.349	.248
6. Gameplayer	4.546	*.035
7. Drifter	.022	.882
8. Fieldcommitted	2.095	.151
9. Self-Realizer	.440	.509
10. Interpersonal Relations	.475	.492
11. Narcissist	2.250	.136
12. Freedom Independent	.126	.723
13. Humanitarian	.682	.411

*Significant at .05 level.

higher than females at time of graduation. An analysis of covariance, with orientation scores serving as the covariates, showed no differences on value dimensions at graduation for male and female students. This analysis technique, in equalizing the groups based on orientation scores, indicated that the difference in the Gameplayer scale found by the other analysis technique used on graduation data, could have resulted from initial entry differences in male and female students. Statistical data supported the rejection of Ho-7b. However, differences on graduation dimensions may have resulted from initial differences in male and female students.

Change Between Orientation and Graduation--Ho-7c: A matched pair t-test was used to assess change on the specific value dimensions between orientation and graduation for male and female students. Results on male students (Table 5.19) indicated significant change in the following dimensions: Alienated (.010), Perceptual Gratification (.016), Active Conformist (.000), Lonely (.000) and Drifter (.008). Of these significant changes, only the Perceptual Gratification dimension reflected increased male student responses, while the remaining changes reflected a decreased score.

Results of the matched pair t-test in Table 5.20 indicated no significant differences on value dimensions occurred between orientation and graduation assessment of female students. This contrasted with male students who changed significantly on five value dimensions.

Statistical data supported the rejection of Ho-7c.

Ho-8 There will be no relationship between value dimensions for students enrolled in the Institute of Agricultural Technology and measured by the American College Personnel Association Value Questionnaire at the time of graduation, and the variables of:

Ho-8a. parent occupation
Ho-8b. parent educational level
Ho-8c. residency on/off campus
Ho-8d. institute of agriculture student roommate
Ho-8e. weekends per term spent off campus.

Parent Occupation--Ho-8a: Frequencies gathered on parent occupation (Table 5.21) at time of graduation displayed the largest percentage (34.5 percent) of fathers worked in operative or related occupations (those involved in physical, mechanical, or skilled industrial positions). The next largest portion were fathers working in farm or farm manager occupations (27.4 percent). Frequencies on Mothers'

Table 5.19--Matched Pairs T-Test on Orientation-Graduation Data for Male Students.
N = 86 D.F. = 85

	Variable	Mean	Standard Deviation	Mean Difference	Standard Error	T Value	Probability
Alienated	pre 1	4.628	3.018				
	post 1	3.895	2.590	.733	.279	2.63	*.010
Activist	pre 2	9.349	3.803				
	post 2	9.895	3.672	-.547	.400	-1.37	.175
Perceptual Gratification	pre 3	16.465	4.757				
	post 3	17.581	4.458	-1.116	.454	-2.46	*.016
Active Conformist	pre 4	23.930	4.777				
	post 4	22.070	4.552	1.861	.470	3.96	*.000
Lonely	pre 5	17.023	6.257				
	post 5	14.035	5.983	2.988	.635	4.71	*.000
Gameplayer	pre 6	12.640	4.947				
	post 6	13.454	4.692	-.814	.456	-1.79	.078
Drifter	pre 7	7.744	3.354				
	post 7	6.744	3.287	1.000	.369	2.71	*.008
Field-Committed	pre 8	14.233	3.443				
	post 8	13.651	3.560	.581	.395	1.47	.144
Self-Realizer	pre 9	22.198	3.158				
	post 9	22.512	3.310	-.314	.350	-.90	.372
Interpersonal Relations	pre 10	10.930	1.865				
	post 10	11.151	1.634	-.221	.227	-.97	.333
Narcissist	pre 11	8.326	4.010				
	post 11	9.128	4.014	-.802	.430	-1.86	.066
Freedom Independent	pre 12	10.884	2.988				
	post 12	11.384	3.163	-.500	.352	-1.42	.159
Humanitarian	pre 13	8.186	2.694				
	post 13	8.291	2.415	-.105	.285	-.37	.714

*Significant at .05 level.

Table 5.20--Matched Pairs T-Test on Orientation-Graduation Data for Female Students.
N = 27 D.F. = 26

	Variable	Mean	Standard Deviation	Mean Difference	Standard Error	T Value	Probability
Alienated	pre 1	3.704	2.181				
	post 1	3.037	1.765	.667	.430	1.55	.133
Activist	pre 2	10.667	4.169				
	post 2	10.963	3.917	-.296	.511	-.58	.567
Perceptual Gratification	pre 3	16.370	3.764				
	post 3	16.556	3.367	-.185	.590	-.31	.756
Active Conformist	pre 4	22.519	6.034				
	post 4	21.333	6.257	1.185	.792	1.50	.146
Lonely	pre 5	16.778	6.641				
	post 5	15.667	7.488	1.111	1.201	.93	.363
Gameplayer	pre 6	10.222	3.836				
	post 6	11.296	4.223	-1.074	.667	-1.61	.119
Drifter	pre 7	6.296	3.268				
	post 7	6.630	4.115	-.333	.665	-.50	.620
Field-Committed	pre 8	14.741	3.633				
	post 8	14.778	3.423	-.037	.505	-.07	.942
Self-Realizer	pre 9	21.889	2.991				
	post 9	22.037	3.019	-.148	.660	-.22	.824
Interpersonal Relations	pre 10	11.296	1.589				
	post 10	11.407	1.845	-.111	.397	-.28	.782
Narcissist	pre 11	7.407	3.640				
	post 11	7.778	4.291	-.370	.493	-.75	.459
Freedom Independent	pre 12	11.111	3.896				
	post 12	11.630	3.053	-.519	.573	-.90	.374
Humanitarian	pre 13	9.333	2.353				
	post 13	8.741	2.640	.593	.513	1.16	.258

Table 5.21--Frequency of Parent Occupation on Graduation Data. N = 113

Category Label	Fathers' Occupations			Mothers' Occupations		
	Absolute Frequency	Relative Frequency (Percent)	Cumulative Adjusted Frequency (Percent)	Absolute Frequency	Relative Frequency (Percent)	Cumulative Adjusted Frequency (Percent)
1. Professional	8	7.1	7.1	5	4.4	4.4
2. Farmers and Farm Managers	31	27.4	34.5	0	0	4.4
3. Managers, Officials	14	12.4	46.9	1	.9	5.3
4. Clerical, Kindred	1	.9	47.8	11	9.7	15.0
5. Sales Workers	5	4.4	52.2	1	.9	15.9
6. Craftsmen, Foremen	4	3.5	55.8	0	0	15.9
7. Operatives and Kindred	39	34.5	90.3	6	5.3	21.2
8. Service Workers	5	4.4	94.7	11	9.7	31.0
9. Retired, Unemployed	2	1.8	96.5	0	0	31.0
10. Housewife				76	67.3	98.2
11. Deceased	3	2.7	99.1	2	1.8	100
12. No Record	1	.9	100	0	0	100
	113	100		113	100	

occupations revealed the majority of mothers (67.3 percent) were housewives. Given the low range of occupation among mothers, the remaining analyses were run on fathers' data.

With the frequencies revealed, fathers' occupations were clustered into five cells for the purpose of analysis. Standardized mean scale scores were derived on graduation data (Table 5.22). A multivariate test of significance showed no overall difference in student value dimensions based on fathers' occupation. An analysis of covariance, univariate F-tests, also revealed no difference on specific value dimensions, with the initial orientation scores equalized (Table 5.23).

Based on the results of the data found, Ho-8a was not rejected.

Parent Education--Ho-8b: Frequencies gathered on parent educational level (Table 5.24) revealed the largest portion of fathers (40.7 percent) were high school graduates with no further formal education. Twenty-seven percent of the fathers had not graduated from high school, 9 percent were college graduates and 10.6 percent had technical training. Mothers included 53.1 percent high school graduates and 11.5 percent college graduates. Nineteen percent were not high school graduates while 2.7 percent had received technical training.

For reasons of analysis, educational levels were clustered into five categories. Standardized mean scale scores were derived on graduation data (Table 5.25). A multivariate analysis of covariance, orientation data used as covariate, revealed no overall difference on graduation value dimensions based on fathers' education. A univariate analysis of

Table 5.22--Graduation Value Dimensions' Standardized Means and Standard Deviation by Fathers' Occupation.

Variate		Cluster 1 N=8 Professional Technical	Cluster 2 N=31 Farmers Farm Managers	Cluster 3 N=14 Managers Officials	Cluster 4 N=39 Operatives Kindred Workers	Cluster 5 N=21 All Others*
1. Alienated	m	.179	.180	.235	.166	.147
	sd	.121	.144	.130	.087	.102
2. Activist	m	.484	.456	.481	.405	.445
	sd	.222	.140	.193	.150	.160
3. Perceptual Gratification	m	.586	.536	.596	.530	.519
	sd	.195	.134	.101	.139	.103
4. Active Conformist	m	.655	.582	.553	.575	.555
	sd	.089	.129	.157	.131	.131
5. Lonely	m	.432	.411	.504	.352	.337
	sd	.160	.193	.155	.144	.175
6. Gameplayer	m	.540	.426	.461	.384	.392
	sd	.183	.154	.116	.154	.122
7. Drifter	m	.330	.330	.344	.280	.281
	sd	.102	.208	.132	.142	.135
8. Fieldcommitted	m	.519	.538	.558	.536	.520
	sd	.168	.102	.139	.146	.158
9. Self-Realizer	m	.793	.772	.773	.766	.777
	sd	.092	.109	.144	.117	.097
10. Interpersonal Relations	m	.884	.797	.791	.769	.840
	sd	.101	.122	.127	.121	.101
11. Narcissist	m	.396	.344	.387	.358	.393
	sd	.165	.182	.197	.167	.155
12. Freedom	m	.632	.591	.684	.587	.581
	sd	.116	.145	.134	.192	.165
13. Humanitarian	m	.550	.576	.524	.549	.584
	sd	.150	.121	.212	.174	.180

*All Others: clerical, sales, craftsmen, foremen, service workers, retired, unemployed, disabled, deceased, and no record.

m = mean; sd = standard deviation.

Table 5.23--Univariate Analysis of Covariance on Graduation Data for Father's Occupation: Covary on Orientation Data. N=113

Variate	F	Significance of F
1. Alienated	.085	.987
2. Activist	.649	.629
3. Perceptual Gratification	.014	1.000
4. Active Conformist	.439	.780
5. Lonely	2.220	.073
6. Gameplayer	.868	.486
7. Drifter	.229	.921
8. Fieldcommitted	.560	.693
9. Self-Realizer	.134	.970
10. Interpersonal Relations	1.715	.153
11. Narcissist	1.306	.273
12. Freedom Independent	.236	.917
13. Humanitarian	.158	.959

covariance (Table 5.26) indicated a significant difference on the dimension of Drifter (.010). The standardized mean scores indicated that cluster 5, technical training, had the highest score (.473), while the less than high school group had the next highest (.356). Both groups, some high school and high school graduates, were low with a standardized mean of .260 while the college education group had a mean score of .318. However, Chapter IV indicated that this value dimension had a low reliability (.37) and high standard error (.46).

The statistical data supported the rejection of Ho-8b. It was also noted that the significant difference was on a dimension with low reliability.

Table 5.24--Frequency of Parent Educational Level on Graduation Data. N = 113

Category	Fathers' Education			Mothers' Education		
	Absolute Frequency	Relative Frequency (Percent)	Cumulative Adjusted Frequency (Percent)	Absolute Frequency	Relative Frequency (Percent)	Cumulative Adjusted Frequency (Percent)
1. Less than high school	17	15.0	15	8	7.1	7.1
2. Some high school	14	12.4	27.4	13	11.5	18.6
3. High school graduate	46	40.7	68.1	60	53.1	71.7
4. Some college	10	8.8	77.0	13	11.5	83.2
5. College graduate	8	7.1	84.1	10	8.8	92.0
6. Beyond B.A. degree	2	1.8	85.8	3	2.7	94.7
7. Technical Training	12	10.6	96.5	3	2.7	97.3
8. No record	4	3.5	100	3	2.7	100
	113	100		113	100	

Table 5.25--Graduation Value Dimensions' Standardized Means and Standard Deviations By Father's Education.

Variate		Cluster 1 Less than High School N=17	Cluster 2 Some High School N=14	Cluster 3 High School Graduate N=46	Cluster 4 Some College College Graduate Beyond B.A. Degree N=20	Cluster 5 Technical Training N=12
1. Alienated	m	.238	.126	.159	.202	.171
	sd	.125	.069	.117	.128	.092
2. Activist	m	.455	.419	.433	.474	.395
	sd	.199	.107	.174	.175	.086
3. Perceptual Gratification	m	.564	.496	.532	.572	.552
	sd	.116	.138	.138	.135	.143
4. Active Conformist	m	.608	.583	.568	.558	.610
	sd	.115	.099	.141	.151	.128
5. Lonely	m	.399	.357	.375	.380	.473
	sd	.164	.154	.166	.172	.217
6. Gameplayer	m	.474	.396	.389	.466	.422
	sd	.144	.121	.138	.169	.185
7. Drifter	m	.356	.260	.260	.318	.432
	sd	.149	.153	.134	.113	.246
8. Field-Committed	m	.591	.547	.544	.462	.519
	sd	.154	.118	.116	.161	.127
9. Self-Realizer	m	.795	.759	.792	.731	.770
	sd	.102	.129	.109	.108	.108
10. Interpersonal Relations	m	.782	.832	.790	.839	.768
	sd	.135	.099	.110	.127	.156
11. Narcissist	m	.434	.369	.353	.350	.372
	sd	.173	.172	.175	.159	.182
12. Freedom Independent	m	.598	.613	.590	.653	.579
	sd	.167	.168	.157	.157	.160
13. Humanitarian	m	.596	.605	.545	.520	.606
	sd	.214	.198	.147	.136	.157

m = mean; sd = standard deviation.

Table 5.26--Univariate Analysis of Covariance on Graduation Data for Father's Education: Covary on Orientation Data. N=113

Variate	F	Significance of F
1. Alienated	1.240	.300
2. Activist	.396	.811
3. Perceptual Gratification	.632	.641
4. Active Conformist	.632	.641
5. Lonely	.893	.472
6. Gameplayer	1.086	.368
7. Drifter	3.550	*.010
8. Fieldcommitted	1.927	.113
9. Self-Realizer	.620	.649
10. Interpersonal Relations	1.048	.387
11. Narcissist	.554	.697
12. Freedom Independent	.321	.863
13. Humanitarian	1.323	.267

*Significant at .05 level.

Residency on/off Campus--Ho-8c: Frequencies on graduation information indicated that 88 students (77.9 percent) lived on campus while 25 students (22.1 percent) did not live on campus. Standardized mean scale scores were derived on graduation data (Table 5.27). A multivariate analysis of variance indicated a significant overall difference (.038) on value dimensions of those students residing on and off campus (Table 5.28).

However, a univariate analysis of variance on graduation data indicated no significant differences on specific dimensions (Table 5.29).

Table 5.27--Graduation Value Dimensions' Standardized Means and Standard Deviations by Residency On/Off Campus.

Variate		Residency On Campus N=88	Residency Off Campus N=25
1. Alienated	m	.183	.150
	sd	.123	.083
2. Activist	m	.448	.419
	sd	.166	.151
3. Perceptual Gratification	m	.534	.569
	sd	.133	.129
4. Active Conformist	m	.564	.619
	sd	.130	.131
5. Lonely	m	.399	.357
	sd	.175	.160
6. Gameplayer	m	.416	.420
	sd	.150	.156
7. Drifter	m	.304	.311
	sd	.163	.145
8. Fieldcommitted	m	.545	.503
	sd	.131	.153
9. Self-Realizer	m	.771	.777
	sd	.112	.113
10. Interpersonal Relations	m	.808	.774
	sd	.120	.118
11. Narcissist	m	.367	.367
	sd	.171	.174
12. Freedom Independent	m	.601	.606
	sd	.158	.188
13. Humanitarian	m	.562	.552
	sd	.164	.167

m = mean; sd = standard deviation.

Table 5.28--Multivariate Analysis of Variance on Graduation Data for Student Residency On/Off Campus.

N = 113	F	Hypothesis D.F.	Significance of F
	1.904	13.000	*.038

*Significance at the .05 level.

In addition, when orientation results were used to equalize the groups, a multivariate analysis of covariance revealed no overall difference (Table 5.30).

Table 5.29--Univariate Analysis of Variances on Graduation Data for Student Residency On/Off Campus. Univariate F Tests with (1, 111) D.F. N=113

Variate	F	Significance of F
1. Alienated	1.525	.220
2. Activist	.595	.442
3. Perceptual Gratification	1.342	.249
4. Active Conformist	3.483	.065
5. Lonely	1.186	.279
6. Gameplayer	.015	.902
7. Drifter	.050	.842
8. Fieldcommitted	1.816	.181
9. Self-Realizer	.045	.832
10. Interpersonal Relations	1.582	.211
11. Narcissist	.000	.994
12. Freedom Independent	.020	.889
13. Humanitarian	.073	.787

Table 5.30--Multivariate Analysis of Covariance on Graduation Data for Student Residency On/Off Campus: Covary on Orientation.

N = 113	F	Hypothesis D.F.	Significance of F
	1.310	13.000	.223

This indicated that any overall difference in students residing on or off campus resulted from initial differences between the groups. A univariate analysis of covariance revealed no significant differences on specific value dimensions between these groups (Table 5.31).

Table 5.31--Univariate Analysis of Covariance on Graduation Data for Student Residency On/Off Campus: Covary on Orientation Data. Univariate F-Tests with (1, 98) D.F. N=113

Variate	F	Significance of F
1. Alienated	.521	.472
2. Activist	.490	.486
3. Perceptual Gratification	.507	.478
4. Active Conformist	2.601	.110
5. Lonely	2.178	.143
6. Gameplayer	.180	.672
7. Drifter	.142	.707
8. Fieldcommitted	.910	.343
9. Self-Realizer	1.112	.294
10. Interpersonal Relations	1.253	.266
11. Narcissist	.010	.919
12. Freedom Independent	.000	.989
13. Humanitarian	.000	.989

Statistical data supported the rejection of Ho-8c. It was noted that graduation differences found between students residing on and off campus may have been due to initial differences in the groups.

Institute of Agriculture Student Roommate--Ho-8d: Frequencies secured on graduation data indicated that 29 students (25.7 percent) had a roommate who was also a student in the agricultural institute, while 84 students (74.3 percent) did not. Standardized mean scale scores were derived on graduation data (Table 5.32). A multivariate analysis of variance on graduation information revealed no overall difference between these groups of students. A univariate analysis of variance indicated a significant difference (.027) on the dimension Interpersonal Relations (Table 5.33) with nonagricultural roommate students scoring higher. In Chapter IV it was revealed that this dimension had a low reliability score (.37) and a high standard error (.39). A univariate analysis of covariance computed on graduation data and covarying on orientation scores revealed no specific difference on value dimensions between student roommate groups (Table 5.34). This indicated that the difference found on the Interpersonal Relations dimension at graduation might have resulted from initial differences in these two groups.

Statistical data supported the rejection of Ho-8d. The difference found may have been caused by initial differences in these groups.

Weekends Per Term Spent Off Campus--Ho-8e: Frequencies derived on graduation data (Table 5.35) for weekends per term spent away from campus revealed a mean score of 5.04 weekends. While 15.9 percent of

Table 5.32--Graduation Value Dimensions' Standardized Means and Standard Deviations by Agricultural Institute Roommate.

Variate		Institute Roommate N=29	Non Institute Roommate N=84
1. Alienated	m	.195	.169
	sd	.129	.111
2. Activist	m	.429	.446
	sd	.175	.159
3. Perceptual Gratification	m	.547	.540
	sd	.104	.141
4. Active Conformist	m	.567	.579
	sd	.104	.140
5. Lonely	m	.388	.391
	sd	.180	.171
6. Gameplayer	m	.424	.415
	sd	.163	.146
7. Drifter	m	.332	.296
	sd	.202	.141
8. Fieldcommitted	m	.528	.538
	sd	.118	.143
9. Self-Realizer	m	.751	.780
	sd	.105	.113
10. Interpersonal Relations	m	.759	.815
	sd	.136	.112
11. Narcissist	m	.348	.374
	sd	.153	.177
12. Freedom Independent	m	.606	.601
	sd	.127	.176
13. Humanitarian	m	.517	.575
	sd	.165	.163

m = mean; sd = standard deviation.

Table 5.33--Univariate Analysis of Variance on Graduation Data for Agricultural Institute Roommate. Univariate F-Tests with (1, 111) D.F. N=113

Variate	F	Significance of F
1. Alienated	1.121	.292
2. Activist	.230	.632
3. Perceptual Gratification	.071	.791
4. Active Conformist	.182	.671
5. Lonely	.006	.938
6. Gameplayer	.071	.790
7. Drifter	1.134	.289
8. Fieldcommitted	.119	.731
9. Self-Realizer	1.368	.245
10. Interpersonal Relations	5.000	*.027
11. Narcissist	.489	.486
12. Freedom Independent	.022	.882
13. Humanitarian	2.663	.106

*Significant at .05 level.

the students stayed on campus every weekend, 12.4 percent spent every weekend away. A Pearson Correlation Coefficient was used to assess any relationship between weekends spent away from campus and specific value dimensions scores at graduation (Table 5.36). Results revealed very low coefficients which indicated no relationship between students spending time off campus during the weekends and their responses to specific value dimensions at graduation.

Statistical results did not support the rejection of Ho-8e.

An additional analysis was done to assess whether any differences in value dimensions were present at orientation between students who

Table 5.34--Univariate Analysis of Covariance on Graduation Data for Agricultural Institute Roommate: Covary on Orientation Data. Univariate F-Tests with (1, 98) D.F. N=113

Variate	F	Significance of F
1. Alienated	3.505	.064
2. Activist	.598	.441
3. Perceptual Gratification	.945	.333
4. Active Conformist	.011	.916
5. Lonely	1.501	.223
6. Gameplayer	1.225	.271
7. Drifter	3.625	.060
8. Fieldcommitted	.010	.922
9. Self-Realizer	2.223	.139
10. Interpersonal Relations	2.772	.099
11. Narcissist	.233	.630
12. Freedom Independent	.365	.547
13. Humanitarian	.540	.464

graduated from the institute 18 months later and those who failed to graduate. Standardized mean scale scores were derived and reported in Table 5.37. A multivariate analysis of variance used (Table 5.38), revealed an overall significant difference between students who graduated and those who did not graduate.

A univariate analysis of variance used on orientation data (Table 5.39), showed significant difference between graduates and non-graduates on the dimensions of Activist (.002), Perceptual Gratification (.013) and Drifter (.046). Students who did not graduate from the institute 18 months after orientation responded significantly higher in

Table 5.35--Frequency of Weekends Spent Off Campus Per Term on Graduation Data. N=113

Number of Weekends Off Campus	Absolute Frequency	Relative Frequency (Percent)	Cumulative Adjusted Frequency (Percent)
0	18	15.9	15.9
1	6	5.3	21.2
2	13	11.5	32.7
3	11	9.7	42.5
4	13	11.5	54.0
5	5	4.4	58.4
6	13	11.5	59.9
7	2	1.8	71.7
8	5	4.4	76.1
9	3	2.7	78.8
10	9	8.0	86.7
11	1	.9	87.6
12	14	12.4	100
	113	100	

mean 5.04
standard deviation 3.99
variance 15.900

all three of these dimensions, than did students who did graduate. The dimension of Drifter had a low reliability score indicated in Chapter IV.

Table 5.36--Pearson Correlation Coefficient on Graduation Value Dimensions and Weekends Spent Off Campus Per Term. N=113

Variate	Coefficient
1. Alienated	.059
2. Activist	.051
3. Perceptual Gratification	.034
4. Active Conformist	.149
5. Lonely	.141
6. Gameplayer	.129
7. Drifter	.066
8. Fieldcommitted	.096
9. Self-Realizer	-.031
10. Interpersonal Relations	-.112
11. Narcissist	.073
12. Freedom Independent	-.011
13. Humanitarian	.067

Summary

It was the main objective of this study to use the American College Personnel Association Value Questionnaire in assessing 13 value dimensions of students enrolled in the Institute of Agricultural Technology at Michigan State University. Information for analysis was gathered at orientation and at graduation 18 months later. In addition to the overall value description of the students in ten programs, the effects of program clusters, sex of student, parent occupation, parent education, residency on/off campus, agricultural institute roommate and weekends spent off campus were analyzed.

Table 5.37--Orientation Value Dimensions' Standardized Means and Standard Deviations for Graduates and Non-Graduates.

Variate		Graduate N=138	Non-Graduate N=67
1. Alienated	m	.201	.226
	sd	.130	.160
2. Activist	m	.418	.496
	sd	.164	.150
3. Perceptual Gratification	m	.513	.564
	sd	.138	.133
4. Active Conformist	m	.605	.591
	sd	.145	.142
5. Lonely	m	.453	.443
	sd	.173	.193
6. Gameplayer	m	.379	.413
	sd	.153	.158
7. Drifter	m	.339	.383
	sd	.153	.179
8. Fieldcommitted	m	.546	.530
	sd	.141	.137
9. Self-Realizer	m	.762	.765
	sd	.105	.113
10. Interpersonal Relations	m	.789	.793
	sd	.130	.138
11. Narcissist	m	.332	.360
	sd	.162	.169
12. Freedom Independent	m	.585	.160
	sd	.167	.164
13. Humanitarian	m	.562	.563
	sd	.179	.156

m = mean; sd = standard deviation.

Table 5.38--Multivariate Analysis of Variance on Orientation Data: Graduated, Non-Graduated Effect.

N = 205	F	Hypothesis D.F.	Significance of F
	1.791	13.000	*.047

*Significance at the .05 level.

Table 5.39--Univariate Analysis of Variance on Orientation Data for Graduates and Non-Graduates. Univariate F-Tests with (1, 203) D.F. N=205

Variate	F	Significance of F
1. Alienated	1.457	.229
2. Activist	9.948	*.002
3. Perceptual Gratification	6.272	*.013
4. Active Conformist	.432	.512
5. Lonely	.120	.729
6. Gameplayer	2.137	.145
7. Drifter	4.403	*.046
8. Fieldcommitted	.582	.446
9. Self-Realizer	.033	.855
10. Interpersonal Relations	.049	.825
11. Narcissist	1.305	.255
12. Freedom Independent	.593	.442
13. Humanitarian	.001	.973

*Significant at .05 level.

It was found that no differences in the 13 dimensions were present among first-year students within the ten programs at time of orientation. However, it was found that an overall difference, and specific difference on dimension Fieldcommitted, existed at orientation between those students enrolled in farm oriented and agri-business programs.

Using a univariate analysis of variance test at graduation, it was found that second-year students within the ten programs displayed significant differences on the dimensions Alienated and Active Conformist. An analysis of covariance indicated significant differences on Active Conformist and Fieldcommitted. It was discussed that this technique, in statistically equalizing the groups around orientation results, revealed that the difference in Alienated might have resulted from initial differences in the students. It was also discussed that the difference in Fieldcommitted resulted only after the extraneous variations from orientation results were removed.

Results of a univariate analysis of variance used on graduation data revealed a significant difference between second-year farm oriented and agri-business students on the Active Conformist and Narcissist scales, with farm oriented students scoring higher in both dimensions. However, after removing the variations from orientation results, using an analysis of covariance, no specific significant differences were found between second-year cluster students. This indicates differences found on Active Conformist and Narcissist might have resulted from initial differences between the farm oriented and agri-business students.

Matched pair t-tests were used to assess change from orientation to graduation on students' responses in the overall programs. Results indicated a significant difference on the seven value dimensions of Alienated, Perceptual Gratification, Active Conformist, Lonely, Gameplayer, Drifter and Narcissist. Students increased their scores in Gameplayer, Perceptual Gratification and Narcissist while they decreased responses in Alienated, Active Conformist, Lonely and Drifter. It was noted that Chapter IV indicated a low reliability and high standard error on the Drifter dimension.

Matched pair t-tests were also used on farm oriented and agri-business student responses to assess change from orientation to graduation. Farm orientated students significantly increased responses in Gameplayer, Perceptual Gratification and Freedom Independent while they decreased scores in Active Conformist and Lonely dimensions. Results of agri-business students revealed a significant decrease in responses on Alienated, Active Conformist and Lonely dimensions from orientation to graduation.

In assessing male and female students, with a multivariate analysis of variance, results indicated an overall significant difference between their responses at time of orientation. Additionally, a univariate analysis of variance displayed significant difference in male and female first-year students on the dimensions Gameplayer, Drifter, Narcissist and Humanitarian. Male students scored higher in Gameplayer, Drifter and Narcissist, while female students scored higher in the Humanitarian scale. Low reliabilities found in Chapter IV on the Drifter and Humanitarian scales were noted.

Graduation data on second-year male and female students showed no overall difference between the two groups, but revealed a significantly higher male student response to the dimension of Gameplayer. However, an analysis of covariance, which covaried on orientation scores, revealed no significant difference, thus indicating the difference on Gameplayer might have been the result of initial differences in male and female students.

A matched pair t-test was used to assess change on the specific value dimensions between orientation and graduation for male and female students. Results indicated male students changed significnatly on the five dimensions of: Alienated, Perceptual Gratification, Active Conformist, Lonely and Drifter with only the Perceptual Gratification scale being higher at graduation. Results for female students indicated no significant changes in responses on value dimensions from orientation to graduation.

Frequencies were computed from graduation information on parent occupation and educational levels. Thirty-five percent of fathers worked in operative and related occupations, while 27 percent worked in farm or farm manager occupations. Sixty-seven percent of mothers were housewives. Forty-one percent of fathers were high school graduates with no further formal education, 9 percent were college graduates and 11 percent had technical training. Fifty-three percent of mothers were high school graduates, 12 percent college graduates and 3 percent had technical training. Twenty-seven percent of fathers and 19 percent of mothers had not graduated from high school.

With the low range of occupations for mothers, fathers' data was used for analysis. Multivariate and univariate analysis of variance showed no significant differences in student value responses based on fathers' occupation. No overall difference was found between students' responses based on fathers' education. However, a significant difference on responses to the Drifter dimension was found using a univariate analysis of variance based on fathers' occupation. The 'technical training' group scored highest in this dimension with the 'less than high school' next highest. The 'some high school' and 'high school graduate' groups were lowest in the Drifter responses. It was noted the Drifter dimension had a low reliability and high standard error.

On the question of whether residency on or off campus affected graduation value dimensions of students, a multivariate analysis of variance indicated an overall significant difference. However, in removing the variance on orientation scores with an analysis of covariance technique, no overall difference remained. This indicated that the overall difference found might have resulted from initial differences between students living on or off campus. No significant specific value differences were found between groups.

The question of the affect of having an institute of agriculture student roommate on graduation value dimension responses of students was assessed. Results indicated no overall difference between those students having, or not having, an agricultural technology roommate. However, a univariate analysis of variance used revealed a significantly higher score in the Interpersonal Relations scale, by students not

having an agricultural institute roommate. An additional univariate analysis of covariance displayed no significant difference on any dimension thus indicating the difference found might be accounted for by initial group differences. It was also noted that the Interpersonal Relations dimension had a low reliability and high standard error.

A Pearson Correlation Coefficient was used to assess the relationship between weekends spent away from campus and specific value dimension scores at graduation. Results revealed low correlation coefficients which indicated no relationship between number of weekends spent off campus and their responses to value dimensions at graduation.

An additional analysis was done to assess differences in value dimensions at orientation between those students who graduated 18 months later and those who did not graduate. A multivariate analysis of variance revealed an overall difference between students who graduated and those who did not, on value responses at orientation. A univariate analysis of variance indicated significant differences between students on the dimensions of Activist, Perceptual Gratificatation and Drifter. Students who did not graduate from the institute responded significantly higher in all three of these dimensions. It was again noted that the Drifter dimension had a low reliability score indicated in Chapter IV.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Summary

The major purpose of this study was to describe and analyze 13 value dimensions of students enrolled in the Michigan State University Institute of Agricultural Technology. This was accomplished by administering the American College Personnel Association Value Questionnaire to students at the time of their entry orientation and again 18 months later upon their graduation.

Values were theorized as being beliefs organized along a continuum of relative importance, that motivate and determine one's attitudes and behaviors. Components of the total belief system have the primary purpose of maintaining and enhancing one's total conception of self. Assuming the importance values play, it was suggested that information on the value dimensions of student groups could serve as an aid to colleges in providing an environment that would motivate and enhance the total educational growth of students.

The literature review indicated that while effort had been placed in studying the value characteristics of college students, major sub-sections of the total student population had been neglected. One such neglected group included the population of this study, agricultural technology students. It was also revealed that while great effort had

been placed in understanding the impact of college upon attitudes and values, little emphasis had been placed on descriptive value information of entering students. Value change was also discussed in relation to the kinds of students admitted to college and that various colleges most likely attract different types of students. Information presented supported a freshman-senior difference in attitudes and values in the direction of greater liberalism and sophistication in political, social and religious outlook. The major change took place some time during the first two years of college with peer group influence having a major impact. Research indicated that efforts need to be made in sub-group analysis, but more discriminating groupings need to be recognized requiring the development and utilization of more refined value instruments. Studies indicated that rural high school students wanting to farm occupationally differed from rural students not wanting to farm in being less confident in social abilities, lower in achieving success in activities and more negative toward changes in patterns of living. Research described agricultural four-year students as lower in intellectual ability and higher in stereotypic and dogmatic attitudes than many other four-year college students. An additional study comparing four-year and technical agricultural students indicated technology students being significantly more dogmatic, less intelligent, less mature and self-confident, and less open to new ideas.

This study administered the American College Personnel Association Value Questionnaire to students enrolled in the Institute of Agricultural Technology at summer orientation and again 18 months later

during finals week of their graduation term. Null hypotheses stated that there would be no difference in value dimensions for students within the Institute's ten programs, or in program clusters of farm oriented and agri-business at time of orientation or at graduation. It was further hypothesized that there would be no change in value dimensions from orientation to graduation and no sex difference. Additionally, it was hypothesized that there would be no relationship between graduation value dimensions and the factors of: parent occupation, parent education, residency on/off campus, agricultural technology students as a roommate, or weekends spent off campus. Appropriate analysis techniques were utilized including: means, frequencies, matched pair t-tests, analysis of covariance, correlations, and reliabilities.

A separate section was used to describe the American College Personnel Association Value Questionnaire administered in this study. This instrument was recently constructed and holds a potential of significance for the area of values research and individual counseling. This questionnaire, which measures 13 value dimensions, was an effort to provide a valid instrument for the area of college student values measurement in that few measures were available to this specific population. Results of correlation and reliability analyses from this study indicated the majority of dimensions discriminated in a consistent and reliable manner. The dimensions Narcissist and Gameplayer had a correlation which indicated some possible overlap of content measured. The dimensions Drifter, Interpersonal Relations and Humanitarian had lower reliability scores and higher standard errors. It was noted that consideration of this was used in interpreting results.

Analyses results indicated no differences in the 13 dimensions among first-year students within the ten programs at orientation. An overall difference and specific difference on the Fieldcommitted dimension existed at orientation between farm oriented and agri-business students.

Second-year students within the ten programs displayed significant differences on Alienated and Active Conformist dimensions at graduation. However, an analysis of covariance technique indicated the Alienated dimension difference might have resulted from initial group variations, while it also added a new dimension difference of Fieldcommitted. Graduation results on second-year students revealed significantly higher scores on Active Conformist and Narcissist scales for those in farm oriented programs. Once again, an analysis of covariance revealed that these differences may have been the result of initial variations between these groups.

Results on orientation to graduation change in value dimensions for students in the overall programs indicated significant differences on seven dimensions: Alienated, Perceptual Gratification, Active Conformist, Lonely, Gameplayer, Drifter and Narcissist. Gameplayer, Perceptual Gratification and Narcissist dimensions reflected increased scores while decreases were found in Alienated, Active Conformist, Lonely and Drifter. Results on change in students based on program clusters revealed farm oriented students significantly increased responses in Gameplayer, Perceptual Gratification and Freedom Independent while they decreased scores in Active Conformist and Lonely dimensions.

Agri-business students decreased their responses on Alienated, Active Conformist and Lonely dimensions from orientation to graduation.

Results displayed a significant overall difference between male and female students on orientation value dimensions. Specific differences were also revealed with male student scores significantly higher on Gameplayer, Drifter and Narcissist dimensions, while female students responded significantly higher on the dimension Humanitarian. Graduation data showed no overall difference, but indicated a specific difference on Gameplayer with male scores being significantly higher. However, after orientation scores were used to eliminate initial variance between groups, no difference on this dimension remained. Data analyzed on change between orientation and graduation value responses indicated male students significantly decreased scores on the Active Conformist, Lonely and Drifter scales and significantly increased scores on the Perceptual Gratification dimension. Female students did not significantly change on any value dimensions.

No significant differences in student value responses were found based on fathers' occupation. While no overall difference was found in student responses based on fathers' education, a significant difference in responses to the Drifter dimension was revealed. Students with fathers having technical training scored highest in this scale with students having fathers with less than high school education next highest. Lowest scores found in responses to Drifter were students having fathers with some high school education and high school graduates.

An overall difference was revealed on value dimensions between students residing on campus and those not living on campus. However,

when the variance in the groups on orientation scores was removed, no difference remained thus indicating that difference found resulted from initial group variations.

Results from the question on effect of having an agricultural student roommate indicated significantly higher scores in the Interpersonal Relations scale by students not having an agricultural technology roommate. However, an analysis of covariance indicated that this difference might have resulted from initial variance between groups.

Correlation coefficients indicated no relationship between weekends spent away from campus and specific value dimension scores at graduation.

Those students who graduated 18 months after orientation were found to be significantly different on three dimensions than those students who did not graduate; students who graduated scored significantly lower on the scales of Activist, Perceptual Gratification and Drifter.

Conclusions

1. There were no differences among first-year students enrolled within the ten programs of the Institute of Agricultural Technology on 13 value dimensions measured by the American College Personnel Association Value Questionnaire at summer orientation.

2. There was a significant overall and specific difference between first-year students enrolled in farm oriented and agri-business programs of the Institute of Agricultural Technology on value dimensions measured by the American College Personnel Association Value Questionnaire at summer orientation.

3. There were significant differences in second-year students enrolled within the ten programs of the Institute of Agricultural Technology on value dimensions measured by the American College Personnel Association Value Questionnaire during finals week of graduation.

4. There were significant differences between second year students in farm oriented and agri-business programs of the Institute of Agricultural Technology on value dimensions measured by the American College Personnel Association Value Questionnaire during finals week of graduation.

5. There were significant changes in value dimensions from orientation to graduation on students enrolled in the Institute of Agricultural Technology as measured by the American College Personnel Association Value Questionnaire.

6. There were significant changes in value dimensions from orientation to graduation on students enrolled in farm oriented programs and students enrolled in agri-business programs of the Institute of Agricultural Technology as measured by the American College Personnel Association Value Questionnaire.

7a. There was a significant overall difference, and specific differences, in value dimensions between first-year male and female students enrolled in the Institute of Agricultural Technology as measured by the American College Personnel Association Value Questionnaire at orientation.

b. There was no overall difference, but there was a significant specific difference, between second-year male and female students measured by the same instrument during finals week of graduation.

c. There were significant changes in value dimensions from orientation to graduation on male students, while there were no significant changes in value dimensions from orientation to graduation on female students as measured by the American College Personnel Association Value Questionnaire.

8. For students enrolled in the Institute of Agricultural Technology who were measured during finals week of graduation by the American College Personnel Association Value Questionnaire:

a. there was no significant difference in value dimensions based on fathers' occupation;

b. there was a significant difference on a value dimension based on fathers' education;

c. there was significant overall difference, but no specific differences, on value dimensions based on whether the students resided on or off campus;

d. there was a significant specific difference in a value dimension based on whether or not students had an agricultural roommate;

e. there were no significant relationships between specific value dimensions and number of weekends spent off campus.

9. There was an overall significant difference, and significant specific differences, on value dimensions of first-year students measured at orientation by the American College Personnel Association Value Questionnaire, between those students who graduated and those who did not graduate 18 months later from the Institute.

Discussion

Results from this study indicated the overall population of students who entered the Institute of Agricultural Technology at Michigan State University were similar on 13 value dimensions measured by the American College Personnel Association Value Questionnaire (King and Powell, 1972).

These students responded highest in the value dimensions of Interpersonal Relations, Self Realizer and Active Conformist. Characteristic components of these value dimensions included showing affiliative needs, valuing friendships and having a personal belief that relations with others are good. In addition, being goal oriented, not acceding to social pressure unless personally meaningful, showing good ego strength, being traditionally oriented in supporting status quo and showing middle class social values while condemning others who do not, were also included. In Chapter IV it was revealed that three dimensions, Drifter, Humanitarian and Interpersonal Relations, had low reliabilities and high standard errors. Care was taken in the interpretation of results including these dimensions.

Lowest value scores of the entering student population were on the Alienated and Narcissist dimensions. The Alienated dimension

reflected characteristics including passive, withdrawn, uncommitted, a feeling of hopelessness and other characteristics opposite of Interpersonal Relations. Characteristics in the Narcissist dimension included concern with looks, physique, valuing self well above others, selfish and unable to form deep relationships with others. Both of these dimensions revealed contrasting characteristics to the dimensions on which entering students scored high.

The results reported above both supported and contradicted some previous findings. Lehmann and Ikenberry (1959) reported that both male and female college students with farm backgrounds had high traditional-value scores. This indicated a leaning toward personal respectability, respect for others, valuing hard work as good in itself, placing personal and individual desires equal to or above the desires of the group, and an orientation toward the future. Elson (1970) stated that agricultural technology students depended upon people around them for help in making decisions. In addition, according to Elson, by the time they reached college they had the specific goal of being a farmer or working with farmers. Anderson spoke of this goal orientation when he commented

> He has made up his mind so early in life, and so firmly, he now dislikes change. Changes or physical mobility which would take him away from what he knows are not rated highly in his value system (1965:88-89).

Anderson, in comparing Michigan State University agricultural four-year and technology students, concluded that technology students were less emotionally mature, more suspicious, more dogmatic and less stable than degree students. Anderson's study included five technical programs and excluded all female students. In that the present study included ten

technical programs and female students, who were found in this research to be significantly different than male students on value dimensions, some variations from Anderson's results would be expected.

In summary, first-year agricultural technology students responded to items indicating strongest preferences in the value dimensions of Interpersonal Relations, Self Realizer and Active Conformist. Characteristics in these dimensions tended to support previous research findings of technology students being goal oriented in agricultural occupations; traditionally oriented to maintain status quo and middle class social values, sometimes to the extent of being dogmatic and not open to change or physical mobility; and valuing relations with others as good, to the extent of sometimes being too dependent on others in making decisions for them. This description might have indicated the type of 'public image' the Institute of Agricultural Technology portrays in attracting certain characteristics of students (Clark, 1959).

While results indicated no difference in first-year students across all programs, significant differences were revealed between first-year students clustered in farm oriented and agri-business programs. These results were important in that previous studies done on this college population had only included farm oriented programs and students. These results lended support to Haller and Wolff's (1962) contention that different personality characteristics exist between rural students with high farm occupational aspirations and those rural students with high non-farm occupational aspirations. In this study, agri-business students scored significantly higher in the value dimension Fieldcommitted. This indicated that agri-business students responded positively to more

questions reflecting an identification with a special field of interest, a commitment or involvement in sports, job or some other area to the exclusion of more socially oriented concerns, probably resulting in few friends and a somewhat narrow orientation to life.

Additional analyses on orientation data revealed the important findings of significant differences, overall and specific, on value dimensions between students who did graduate 18 months later and those who did not graduate from the Institute. Students who did not graduate scored significantly higher in the dimensions of Activist, Perceptual Gratification and Drifter. These students identified themselves more with questions reflecting characteristics of militancy, concern about working for change, and deep commitment. In addition, questions reflected a personal existentialist where self, being and a policy for the here and now create a selfishness in the sense that social and interpersonal concerns tend to be closed out. Questions in the Drifter dimension, which proved to have lower reliability, reflected the characteristics, along for the ride, uninvolved, following the path of least resistance, and attaching oneself to what is going on but never committing to it. These characteristics were in major contrast to the dimensions of Interpersonal Relations, Self Realizer and Active Conformist, which were highest in the overall student responses. Whether this group of students did not graduate because of conflict with peers, disagreement with faculty and staff, or individual inability to stay committed to the course of study was not known. However, if students with a high probability of not graduating could be identified, then

individualized educational programming, or alternative student choices, could be supported and explored. These results also indicated support for Rokeach's (1973, 1968, 1960) contention of the power value's measurement and research holds in understanding and predicting behavior. He theorized that values are fundamental components of an individual's belief system which are motivational and determine attitudes as well as behavior. In this respect, when students who did not graduate indicated their belief and value preferences at orientation by responding to value characteristics significantly different from students who would graduate, they revealed a motivational base which led to decisions and behaviors resulting in non-graduation. It would be of importance to the Institute to explore whether these students' value characteristics resulted in their decision not to accept or achieve within the programs, or if it was the programs that would not accept, or allow to achieve, students who displayed these belief characteristics.

Analysis was done on second-year students to assess what changes in value dimension responses had occurred from orientation to graduation and to provide a descriptive analysis of student value dimensions for those who graduated from the Institute of Agricultural Technology. Data from this group of students represented a significantly different population from orientation results, which included non-graduating students. An analysis of covariance technique was used to assess if the significant differences found at graduation resulted from initial group variations, or reflected differences from orientation to graduation, by statistically using orientation results as covariates to "control"

groups. The Statistical Package for the Social Sciences publication referred to this procedure as

> inserting covariates into a design to remove extraneous variations from the dependent variable, thereby increasing measurement precision. Regression procedures are used to remove variations in the dependent variable due to one or more covariates, and a conventional analysis of variance is then performed on the 'corrected' scores (1975:409).

Chapter V revealed that significant changes occurred in value responses from orientation to graduation for students within the ten programs. These changes included increased scores in Gameplayer, Perceptual Gratification and Narcissist, and decreased scores in the dimension of Alienated, Active Conformist, Lonely and Drifter. These changes corresponded with previous research indicating a difference over time in college in the direction of greater liberalism and sophistication in political and social outlook, with a general broadening of interest (Sanford, 1962). A longitudinal study by the Center for the Study of Higher Education reported students became "... more liberal in the sense of being sophisticated and independent in their thinking, and placing greater value upon individual freedom and well-being" (1962:828). Results of this study indicated a change in student responses, from orientation to graduation, on value dimension characteristics which reflected an increased concern with self, including looks and physique, in valuing self above others, of being more political and manipulative in working as a strategist, valuing relationships as solid, but only entering into them superficially. Results indicated decreased responses on items which reflected being less afraid of the world around oneself, not so overwhelmed, not spending so much time alone, less traditionally

and authoritatively oriented, less passive, more committed, an increased feeling of hope for change and improvement, an increased involvement to what is going on, and an increased willingness to face challenge and resistance. In that this population had the initial tendency to use relationships with others to the extent of being dependent on them for decisions, the increased scores to the scale Narcissist was seen as a positive movement toward increased self value and functioning. This was highlighted given that the Narcissist scale was one of the three lowest scales at graduation.

The changes over time reported in Chapter V for farm oriented and agri-business students reflected similar findings to the discussion above. A significantly decreased score on the Lonely dimension was found in students within the ten programs, as well as in both program clusters. It appeared that while having technology students take all classes together might have limited their interaction with students of degree majors outside the institute, it seemed to bring about a "comradeship" and an increased interaction among the technology students themselves. This might have influenced their significant decrease in the Lonely dimension which represented less fear of the world around oneself, less overwhelmed in one's personal life and the world in general, less time alone, wanting more interpersonal relationships and finding them easier to attain.

With all the changes that occurred between orientation and graduation value dimension responses, second-year students within the ten programs were found to be significantly different on some specific

value scales. This contrasted with the orientation findings on first-year students, of no significant differences on value dimensions within students of the ten programs. Results on graduation data indicated that while second-year students still responded highest in the scales Interpersonal Relations and Self Realizer, as did first-year students, the next highest dimension responded to at graduation was Freedom Independent, rather than the Active Conformist scale of first-year students. This change again supported previous research in that it reflected a decrease in supporting the status quo as desirable, less traditional and authoritatively oriented, an increased desire to be freed from control and authority, and less bothered by personal inhibitions or social pressures.

Analysis of graduation data on farm oriented and agri-business second-year students revealed significant differences in the Active Conformist and Narcissist scales, with farm oriented students scoring higher in both. These results again supported the contention of Haller and Wolff (1962) that personality differences existed between high farm occupational aspiration and high non-farm aspiration groups among rural students. They stated rural students wanting to farm occupationally tended to be less stable emotionally, less confident in their social abilities to work and mix with others, expressed a hesitancy to move from familiar surroundings and displayed a negative attitude toward changes in their patterns of living. The results of the graduation differences between farm oriented and agri-business student value dimensions reflected similar characteristics.

Results reported in Chapter V on male and female students revealed significant differences in value dimensions at orientation and at graduation. While there was an overall difference, and four specific value scale differences, at orientation, there was no overall difference and only one specific scale difference at graduation. At orientation, first-year male students scored significantly higher in the Gameplayer, Drifter and Narcissist scales, while female students were higher in the Humanitarian dimension. At graduation, second-year male students were found to be significantly higher in the Gameplayer scale, but this was attributed to initial differences in the two groups. In addition, results of analysis used to assess changes in scores from orientation to graduation indicated male students significantly increased responses in the Perceptual Gratification dimension while they decreased responses in the scales of Alienated, Active Conformist, Lonely and Drifter. Results on female students revealed no significant differences from orientation to graduation on their value dimension scores. It is noted that the smaller number of female students required greater difference in scores to have been significant changes. This information indicated that while there was significant difference in first-year male and female students, males changed more than female students on graduation data in their value responses. The male change was in the direction of those value dimensions held by female students. These results both supported and contradicted some previous findings. Lehmann and Dressel in studying four-year students at Michigan State University concluded

> Although subjects, in general, regardless of sex and amount of college education changed by their attitudes, values, beliefs, and

> opinions between 1958 and 1962, the females underwent a more marked change during this period than did their male counterparts (1963:160).

In another study Lehmann and Dressel stated, "Males are significantly more stereotypic, dogmatic, and unreceptive to new ideas than females. Males are significantly more traditional-value oriented than females" (1962:265).

No significant differences were found in second-year students' value dimensions based on differing fathers' occupations. However, there was a significant difference found on the Drifter dimension based on fathers' education. Students having fathers with 'technical training' had the highest scores, the 'less than high school education' the next highest, while the 'some high school' and 'high school graduated' groups were lowest in responses to the Drifter dimension. These findings, while showing an effect on fathers' education, were not consistent with some previous results. Lehmann and Dressel reported a significant relationship between socio-economic status as measured by fathers' occupation and/or level of parent education and attitudes and values. They stated, "Those students from lower social stratum tend to be more stereotypic and have higher traditional-value scores than students from upper-middle or upper-social stratum" (1962:266).

A significant overall difference was found at graduation on value dimensions between those students residing on campus and those not residing on campus. This difference did not remain after orientation scores were used to remove initial variations. This indicated that the overall difference probably was the result of initial differences between

groups, and did not reflect any differential impact of living on campus and value dimensions of second-year students.

Data on second-year students who had an agricultural student roommate showed a significantly lower score on the value dimension Interpersonal Relations than students not having an institute roommate. It was indicated that this difference was from initial group variations rather than related to the effect of roommate. However, it was of interest to note, that the decision to have an agricultural roommate when first entering the university might have been related to a lower value preference for affiliative needs, a belief in friendships and a shared experience with others.

It was found that little correlation existed between value dimensions of second-year students and the number of weekends spent off campus per term. The variables of residency on or off campus, agricultural institute roommate and weekends per term spent off campus were selected in that they represented possible effects of influences outside the institute. It had long been a concern of some Agricultural Technology staff that their students spent too much class time together, too much time at home on weekends and tended to socialize only within the institute's population. Little or no effect between some of these variables and second-year students' value dimensions were found.

Limitations

While the study achieved its main purpose of assessing and describing agricultural technology students at summer orientation, graduation and change over time, some limitations must be noted. The results

of this research applied only to the population of this study and should not be generalized to other student populations. Limitations inherent in the measurement of conceptual factors are acknowledged. The questionnaire used in this study measured 13 value dimensions found in the college student population. While the majority were found to discriminate value content in a consistent and reliable manner, the three dimensions Drifter, Interpersonal Relations and Humanitarian were found to have lower reliability than the other dimensions. Any results including these three must be interpreted with caution. In addition, inherent to any measurement requiring responses on paper is the possibility of receiving false information.

Implications

This study was initiated as a first step in better understanding the value characteristics of the specific population of agricultural technology students at Michigan State University. Results revealed a group of students who entered the university with similar value dimensions, but graduated with some very specific differences. Further research on this population is implied. While the present study offered a descriptive and developmental view within this student population, additional research comparing them to other sub-components of the total college population is necessary. Profiles provided in this study helped define the order of value dimensions within this population. However, comparisons of these profiles to other groups is needed to reveal the comparative degrees of intensity within dimensions as well.

This study revealed significant differences on value dimensions between students who graduated and students who did not. Further exploration of these differences should be made. If students can be identified at orientation, or before, as possessing values which are "at risk" indicators to non-success within the Institute, then individualized counseling and educational planning can be provided in an attempt to prevent failure. Further research into these differences may also provide insights into alternative programming and course content that could be offered by the Institute to provide success opportunities for students who presently do not graduate.

Results of this study revealed a difference in farm oriented and agri-business students. Further research on these clusters might add insight and further understanding of the technology population which may be overlooked in only studying the overall population.

While differences in male and female students' value characteristics have been recognized previously, this study revealed little value change in female students from orientation to graduation, while male students changed in several dimensions. Further exploration of this would be helpful to the Institute in better understanding why the present environment offered is differentially stimulating and supporting to values growth in male and female students. If the Institute is still male oriented, in that having a large number of female students is a relatively new addition to the population, then the school should adapt its program in a manner that will be constructive to both male and female students' growth.

This study used an instrument which holds significant promise for the field of values research and individual student counseling. Results in this research have already revealed one such promising use, the measurement and identification of students who have value dimensions which are related to not graduating. Further research using this instrument can be done in describing other student populations at various types of institutes, assessing developmental changes in value systems over time, discriminating other value-laden student groupings on various campuses, and studying non-college youth of similar age groups. However, further research and refinement on the instrument itself is also needed. Results of this study indicated low reliabilities on three value dimensions, and some possible overlap of content discrimination between two dimensions. Additional research and refinement on this questionnaire would assist greatly in providing a much needed instrument for use with the college student population.

LIST OF REFERENCES

LIST OF REFERENCES

Allport, G.W., Vernon, P.E., and Lindzey, G. A study of values. Boston: Houghton, Mifflin, 1960.

Allport, G.W. Pattern and growth in personality. New York: Holt, Rinehart, and Winston, 1961.

Anderson, Donald. The history and development of short courses at Michigan State University. College of Agriculture, Michigan State University, 1966.

Anderson, Duane. A comparative descriptive analysis of first year agriculture short course and degree students at Michigan State University. Doctoral dissertation, Michigan State University, 1965.

Aresnian, S. Changes in evaluative attitude. Journal of Applied Psychology. 1943, 27, 338-349.

Axelrod, J. and Freedman, M.G. Search for relevance. San Francisco: Jossey-Bass, 1969.

Brookover, W.B., Gottlieb, P., Lehmann, I.J., Richards, J.F., Thaden, J.F., and Verner, A.M. The College Student. New York: The Center for Applied Research in Education, 1965.

Brown, Norm. Student survey of College of Agriculture and Institute of Agricultural Technology. Michigan State University, 1969.

Burchindl, L. Differences in educational and occupational aspiration of farm, small-town, and city boys. Rural Sociology, June 1961, XXVI, 107-121.

Burton, M.V. The effect of college attendance upon personality as measured by the Verneuter Personality Inventory. Journal of Educational Research, 1945, 38, 708-711.

Campbell, D. and Stanley, J. Experimental and quasi-experimental designs for research. Chicago: Rand-McNally and Company, 1963.

Clark, B.R. College image and student selection. In T.R. McConnell (Ed.), Selection and educational differentiation. Berkeley,

California: Field Service Center and Center for the Study of Higher Education, 1959.

Clark, B.R. The Open Door College: A Case Study. New York: McGraw-Hill, 1960.

Clark, B.R. and Trow, M. The organizational context. In T.M. Newcomb and E.K. Wilson (Eds.), College peer groups: problems and prospects for research. New York: McGraw-Hill, 1966.

Corey, S.M. Change in the opinion of female students after one year at a university. Journal of Social Psychology, 1940, 11, 341-351.

Dressel, P.L. and Mayhew, L.B. General education: explorations in evaluation. Washington, D.C.: American Council on Education, 1954.

Elson, D. The technical student in the university community. Paper presented at the annual conference of the National Association of Colleges and Teachers of Agriculture, 1970.

Elson, D. An evaluation of the Landscape and Nursery Technician program at Michigan State University. Doctoral disseration, Michigan State University, 1971.

Eddy, E.P. Changing values and attitudes on the campus. In Long range planning for education, Washington, D.C.: American Council on Education, 1957.

Eddy, E.P. The college influence on student character. Washington, D.C.: American Council on Education, 1959.

Feldman, K. and Newcomb, T. The impact of college on students. San Francisco, Jossey-Bass, 1969.

Freeh, L.A. and Henneman, H.A. Non-degree or less than B.S. degree programs--offered by agricultural colleges or their equivalent in land grant colleges and universities. Chicago: Farm Foundation, 1963.

Gorlow, L. and Noll, G. A study of empirically derived values. Journal of Social Psychology, 1967, 73, 261-269.

Kerlinger, F.N. Foundations of Behavioral Research: Second Edition. New York: Holt, Rinehart, and Winston, 1973.

Haller, A.O. and Wolff, C. Personality orientations of farm, village, and urban boys. Rural Sociology, 1958, XXIII, 355-362.

Hollen, C. Value change, perceived instrumentality, and attitude change. Doctoral dissertation, Michigan State University, 1972.

Ikenberry, S.O. and Lehmann, I.J. Critical thinking, attitudes, and values in higher education, a preliminary report of research. Michigan State University, 1959.

Isaac, S. and Michael, W. Handbook in research and evaluation. San Diego, California: Robert Knapp, 1971.

Jacob, P. Changing values in college: an exploratory study of the impact of college teaching. New York: Harper and Row, 1957.

King, P.T. Speech on Values. A paper presented to the American Personnel and Guidance Association, Atlantic City, 1971.

King, P. and Powell, J. Values measurement and identification among and within college populations. A proposal for funding a research project on contemporary student values submitted to the Department of Health, Education and Welfare, 1972.

Kuhlen, R.B. Changes in the attitudes of students and relation of test responses to judgments of associates. School and Society, 1941, 53, 514-519.

Larson, V.C. A survey of short course programs in the United States and Canada. Doctoral dissertation, Michigan State University, 1971.

Lehmann, I.J. and Dressel, P. Critical thinking, attitudes and values in higher education. Cooperative research project No. 590, Office of Education, U.S. Department of Health, Education and Welfare, Michigan State University, 1962.

Lehmann, I.J. and Dressel, P. Changes in critical thinking ability, attitudes and values associated with college attendance. Cooperative research project No. 1646, Office of Education, U.S. Department of Health, Education and Welfare, Michigan State University, 1963.

Lehmann, I.J. and Payne, I.K. An exploration of attitudes and value changes of college freshmen. Personnel and Guidance Journal, 1963, 41, 403-408.

Lehmann, I.J. and Mehrens, W. Educational research: readings in focus. New York: Holt, Rinehart, and Winston, 1971.

Lemon, N. Attitudes and their measurement. London: B.T. Batsford, Ltd., 1973.

Martin, W. College student values: an historical and conceptual perspective. A paper presented to the American Personnel and Guidance Association, Atlantic City, 1971.

Martin, W. Faculty fellowship research grant proposal. Canisius College, 1974.

McConnell, T.R. and Heist, P. The diverse college student population. In N. Sanford (Ed.), The American College. New York: John Wiley and Sons, 1962.

Morris, C. Varieties of human values. Chicago: The University of Chicago Press, 1956.

Newcomb, T. Student peer-group influence. In N. Sanford (Ed.), The American College. New York: John Wiley and Sons, 1962.

Plant, W.T. Changes in ethnocentrism associated with a two-year college experience. Journal of Genetic Psychology, 1958, 49, 162-165.

Powell, J.R. Contemporary Students and A Study of Their Value Orientations: A Preliminary Report From Commission VIII, American Personnel Association, 1971.

Riesman, D. and Jencks, C. The viability of the American college. In N. Sanford (Ed.), The American College. New York: John Wiley and Sons, 1962.

Rogers, E. Social change in rural society. New York: Appleton-Century-Crofts, Inc., 1960.

Rokeach, M. The open and closed mind. New York: Bosie Books, 1960.

Rokeach, M. Belief, attitudes and values. San Francisco: Jossey-Bass, 1968.

Rokeach, M. The nature of human values. New York: The Free Press, 1973.

Sanford, N. The American college: a psychological and social interpretation of the higher learning. New York: John Wiley and Sons, 1962.

Sharp, L. and Krasnegor, R. The use of follow-up studies in the evaluation of vocational education. Washington, D.C.: Bureau of Social Science Research, May, 1966.

Smith, M.B. Social psychology and human values. Chicago: Aldine, 1969.

Stewart, J. Toward a theory for values development. A doctoral dissertation, Michigan State University, 1974.

Webster, H., Freedman, M., and Hesit, P. Personality changes in college students. In N. Sanford (Ed.), The American College. New York: John Wiley and Sons, 1962.

Werkmeister, W. Man and his values. Lincoln: University of Nebraska Press, 1967.

Williams, R.M. Values. In E. Sills (Ed.), International encyclopedia of the social sciences. New York: Macmillian, 1968.

APPENDICES

APPENDIX A

TECHNICAL TRAINING PROGRAMS

INSTITUTE OF AGRICULTURAL TECHNOLOGY

TECHNICAL TRAINING PROGRAMS
INSTITUTE OF AGRICULTURAL TECHNOLOGY

1. Agricultural Production

The demand for technically trained individuals in the field of production agriculture is increasing rapidly and the opportunities that exist for skilled personnel are greater than ever before.

The majority of the Agricultural Production graduates return to the home farm. However, many requests are received for young persons who are capable, industrious and have practical experiences and specialized training as provided through the Agricultural Production Program. This program is designed to train specialists by offering majors in Crops, Fruit or Vegetable Production, Animal Husbandry, and Dairy.

2. Soil and Chemical Technology

This program is designed to train young people for a variety of jobs in the soil, fertilizer and pest management industries. Students will be able to select a summer work experience that will help prepare them for a career in the field of their choice.

The increased emphasis on the production of food and fiber has created a demand for trained technicians in many specialized fields. The Soil Conservation Service and the chemical industry need trained technicians to give advice on the effective use and safe levels of essential chemicals used in the production and storage of agricultural products.

3. Farm Power Equipment Technology

Technical ability is needed to sell big capacity, high speed and precision built tractors and farm equipment and to manage inventories of repair parts and provide the service for operating efficiency. The strong demand for trained personnel continues, especially with the introduction of light construction, lawn and garden and recreational equipment by power equipment dealers. Join the dealership team for a technical level job with both excellent pay and opportunity for advancement.

4. Electrical Technology for Agriculture

Training is provided in residential, farm, commercial and industrial wiring, including lighting, motors and controls, agricultural equipment, heating, ventilation and business operation procedures. Most

graduates become employed with rural electrical contractors and agricultural equipment distributors. The program is recognized by the State Electrical Administrative Board and graduates receive credit for two of the four years experience required to take the journeyman electrician examination.

5. Elevator and Farm Supply

Elevator and farm supply firms are seeking aggressive young people with specialized training to serve modern agriculture. Over 300 graduates of the program are employed as managers, assistant managers, feed men, grain merchandisers and salespersons with elevators, farm supply stores and grain and bean brokerage firms.

This 18-month program consists of 12 months on campus plus six months of paid work experience. An MSU staff member coordinates the on-campus courses and supervises the work experience phase of the training.

Young persons entering this field will find a broad range of career opportunities open to them.

6. Animal Technology

An 18-month training program designed to prepare young men and women for a career as an assistant to a veterinarian. This program is somewhat different than the other technical programs in that admission requirements are much more demanding, and it does not include a placement training period. Graduates will find employment opportunities primarily in small animal hospitals, with some jobs available in universities, governmental agencies, pharmaceutical companies, research laboratories and medical schools.

7. Commcercial Floriculture

The floriculture industry is one of the nation's most rapidly diversifying and expanding industries with more than 1500 retail and wholesale florists in Michigan alone. Over one-third of all floral products are sold in non-traditional retail outlets.

There are excellent employment opportunities for young persons with special training in the production and marketing of flowers and related products, ranging from production work in commercial greenhouses to marketing in wholesale establishments. The future in this industry is determined by the graduate's skill and ambition.

8. Food Processing

This program is designed to train young people for a variety of jobs involved with the diverse field of the food processing industry. Job opportunities are available in either private food processing industries or with governmental inspection and monitoring agencies.

9. Landscape and Nursery

Opportunities for advancement are excellent for those interested in working with plants as trained landscape horticulturalists. The demand for such trained personnel is due to the rapid expansion in industrial and home landscapes, as well as city, state and federal environmental improvement projects. Graduates of the program work as owners, managers, buyers or salespersons in retail firms, commercial landscape construction and nursery production firms, as well as for private enterprises.

10. Turfgrass Management

This program provides the fundamentals of turfgrass technology necessary for the supervision and management of golf courses, parks, athletic fields, highway roadsides and related commercial enterprises. Responsible, year-around positions with excellent opportunities for advancement are available.

Farm Oriented

1. Agricultural Production
2. Soil and Chemical Technology
3. Farm Power Equipment Technology
4. Electrical Technology for Agriculture
5. Elevator and Farm Supply

Other Agri-Business

6. Animal Technology
7. Commercial Floriculture
8. Food Processing
9. Landscape and Nursery
10. Turfgrass Management

APPENDIX B

THE AMERICAN COLLEGE PERSONNEL ASSOCIATION

VALUE QUESTIONNAIRE

THE AMERICAN COLLEGE PERSONNEL ASSOCIATION
VALUE QUESTIONNAIRE

Directions

This questionnaire contains a number of descriptive statements. Read each statement and decide whether it:

1. Generally describes your feelings and/or behavior, or other people, or your current beliefs or issues, or

2. Does not generally describe your feelings and/or behavior, or other people, or your current beliefs or issues.

Please mark your answers by indicating T (for true) or F (for false) in the space provided. If the statement generally is characteristic of you, your beliefs, or you agree with it, mark T. If it is not generally characteristic of you, your beliefs, or you do not agree with it mark F.

Before beginning, please complete the Information Sheet. All information will be confidential and you will not be identified by name.

Before beginning the questionnaire please answer the questions below.

(-3) I.D. Number _____

(4) Sex _____

(5) Age _____

(6) Year in college _____

(7) Major _____

(8-11) Extra-curricular activities (political, social, religious, honorary, etc.) _____

_____

(12) Father's Occupation _____

(13) Mother's Occupation _____

(14) Father's Education _____

(15) Mother's Education _____

(16) Your religious preference _____

ALL INFORMATION WILL BE CONFIDENTIAL

Begin Work.

T or F

_____ 1. (1A) Becoming well rounded educationally is less important to me than knowing a lot about one thing.

_____ 2. (2A) I am the sort of person who would join the Peace Corps or go overseas to help underdeveloped countries.

_____ 3. (3A) It seems as though I cannot do anything well.

_____ 4. (4A) God is the giver of all my tangible blessings.

_____ 5. (5A) I respect a star athlete as much for his ability as I do a famous scientist.

_____ 6. (6A) Fundamentally, the world we live in is a pretty lonesome place.

_____ 7. (7A) I don't reveal much about myself to people.

_____ 8. (8A) After college, I'd like a nice comfortable home and two cars.

_____ 9. (9A) No one should make serious plans because of the uncertainty of the future.

_____ 10. (10A) I prefer spending time with friends more than by myself.

_____ 11. (11A) My friends tend to know where they're going in life.

_____ 12. (12A) My desire to learn takes precedence over almost everything else in life.

_____ 13. (13A) I don't like to have people tell me what to do.

_____ 14. (14A) High grades are worth working for no matter what the cost.

_____ 15. (15A) I would like to be more of a scholar.

_____ 16. (16A) Power is happiness; happiness is power.

_____ 17. (17A) To influence others you must understand what goes on behind the scenes.

_____ 18. (18A) I like people to know about my achievements.

_____ 19. (19A) I usually try to bend people to accept my point of view.

_____ 20. (20A) I rarely gamble unless I know the odds are in my favor.

T or F

_____ 21. (21A) My body is very attractive to myself and others.

_____ 22. (22A) Let's destroy the racist, capitalistic, imperialistic, money sucking pigs and put power in the hands of the people.

_____ 23. (23A) The power of big corporations should be drastically reduced and people should stop being so materialistic.

_____ 24. (24A) I think American society and everything about it should change because we are so far behind.

_____ 25. (25A) Our government is destroying itself, the people of this country, and the people all over the world.

_____ 26. (26A) I am too busy with studies to do much serious dating.

_____ 27. (27A) You should walk over the other fellow before he walks over you.

_____ 28. (28A) What I enjoy most is a physical relationship with my (girl) (boy) friend.

_____ 29. (29A) Small town hypocrites need to be educated and find out their ideas aren't right.

_____ 30. (30A) I place the welfare of society over the welfare of the individual.

_____ 31. (31A) Homosexuals are degenerates.

_____ 32. (32A) I would rather remain free from commitments to others.

_____ 33. (33A) I really don't please anyone.

_____ 34. (34A) I like a fast man (or woman).

_____ 35. (35A) Sometimes you have to walk over people to get what you want.

_____ 36. (36A) It's good to know people in the right places.

_____ 37. (37A) You can't take your responsibilities too seriously.

_____ 38. (38A) Women have as much right to sexual freedom as men do.

_____ 39. (39A) If dropping names can help you get ahead, then do it.

T or F

_____ 40. (40A) I am a real push-over with others.

_____ 41. (41A) Learning to disobey authorities is an important first for children.

_____ 42. (42A) There are two kinds of people--weak ones and strong ones.

_____ 43. (43A) To give one's self to the service of others is truly rewarding.

_____ 44. (44A) I get butterflies entering a room where people are gathered and talking.

_____ 45. (45A) I worry a great deal.

_____ 46. (46A) My closest friends are those with whom I can share thoughts and feelings.

_____ 47. (47A) It's not worth it to take a stand on any issue.

_____ 48. (48A) Nobody is ashamed of anything anymore.

_____ 49. (49A) Rules tie me down.

_____ 50. (50A) I don't want any restrictions on my activities.

_____ 51. (51A) I do not like to accept old truths until I have tested them for myself.

_____ 52. (52A) Pain and sacrifice are necessary if one is going to succeed.

_____ 53. (53A) I feel superior to most people I meet.

_____ 54. (54A) I am afraid of having people reject me.

_____ 55. (55A) You really have to commit yourself to your field of interest.

_____ 56. (56A) Getting along with others is eventually more important than any intellectual accomplishments.

_____ 57. (57A) I feel we need a sexual revolution in this country to shake people up.

_____ 58. (58A) I still don't know what I'm looking for in life.

_____ 59. (59A) You don't have to be in love to have sexual intercourse.

T or F

_____ 60. (60A) One of my main goals in life is to make a real contribution to my chosen field.

_____ 61. (61A) I cannot be content with being second-rate in my profession.

_____ 62. (62A) I am eager to start my life away from home.

_____ 63. (63A) People should do their own thing and they would be happier.

_____ 64. (64A) I plan to devote my life to the welfare of society when I graduate.

_____ 65. (65A) I worry a lot about the morality of war.

_____ 66. (66A) Happiness is a bottle of vodka, a warm fire, and someone you love to keep you company.

_____ 67. (67A) Man is a helpless and miserable creature.

_____ 68. (68A) Let's do away with the class system and have equality for all men.

_____ 69. (69A) It's more typical of me to try to find happiness for the moment rather than to plan for it in the future.

_____ 70. (70A) People need to take more pride in their country.

_____ 71. (71A) I treasure my ability to know what is right and what is wrong.

_____ 72. (72A) A pleasant state of mind is the only thing to live for.

_____ 73. (73A) I would rather have peace of mind than to be successful.

_____ 74. (74A) I work hard for good grades to make my parents happy.

_____ 75. (75A) The laws of society keep people from having a good time.

_____ 76. (76A) The entire value system of the middle class should be revised.

_____ 77. (77A) The world would be a better place if all custom and tradition were thrown out.

_____ 78. (78A) I haven't been really involved in anything during college.

T or F

_____ 79. (79A) Social issues don't bother me much.

_____ 80. (80A) I really feel uncomfortable when people are too dependent on me.

_____ 81. (81A) I wish more people could be like me.

_____ 82. (82A) I am at my best when everyone is paying attention to me.

_____ 83. (83A) I'd like to see the blacks and whites either get along or fight it out.

_____ 84. (84A) A really meaningful relationship is impossible.

_____ 85. (85A) The restrictions imposed on me by society are an affront to my independence and creativity.

_____ 86. (86A) Success is most often a matter of simply trying harder.

_____ 87. (87A) I am generally self-confident.

_____ 88. (88A) We should always protect our nation from outside attacks in any way we can.

_____ 89. (89A) If I had to choose between happiness and greatness, I'd choose greatness.

_____ 90. (90A) Where there's a will, there's a way.

_____ 91. (91A) I believe there is a reasonable solution for every problem.

_____ 92. (92A) I think students should be able to use all drugs legally.

_____ 93. (93A) A man who has not worked for some great cause has not really lived.

_____ 94. (94A) America's main problems are social injustice and a completely corrupt law system.

_____ 95. (95A) I feel so insecure I am unable to visualize my future.

_____ 96. (96A) I am really overburdened with things to worry about.

_____ 97. (97A) I plan my moves carefully before trying anything.

_____ 98. (98A) I'd like to have a split-level ranch style home.

_____ 99. (99A) I have frequently thought of suicide.

T or F

_____ 100. (100A) When I get involved or excited about an idea, you can't break me away from it.

_____ 101. (101A) I would rather read a book than to go dancing.

_____ 102. (102A) Unfortunately it's necessary to restrict the rights of certain political groups, even though freedom of speech is a noble goal.

_____ 103. (103A) Assuming I had sufficient leisure time, I would like to use it to develop a particular skill.

_____ 104. (104A) If you're going to accomplish something worthwhile, you save it for the weekends.

_____ 105. (105A) I spend a lot of time trying to find out what people are really like.

_____ 106. (106A) Being with someone of the opposite sex is very important to me.

_____ 107. (107A) Knowing others only causes discord.

_____ 108. (108A) If a person is sharp enough to cheat someone out of a large sum of money, he should be allowed to get away with it.

_____ 109. (109A) I spend a lot of time thinking about myself.

_____ 110. (110A) I think students should specialize in a field as soon as they start college.

_____ 111. (111A) Life is more meaningful when you're devoted to your field.

_____ 112. (112A) Nothing is as important to me as being free.

_____ 113. (113A) Maybe some minority groups do get rough treatment but it's no business of mine.

_____ 114. (114A) I have known what I wanted to be in life since I have been in high school.

_____ 115. (115A) Knowing a person's weaknesses is a valuable skill in getting what you want.

_____ 116. (116A) I would compromise if it meant no real violation of what I believe in.

T or F

_____ 117. (117A) I would rather work out a new way to solve a problem than follow a known way.

_____ 118. (118A) Social relationships are more important than intellectual matters for me.

_____ 119. (119A) I'd like it if I could find someone who would tell me how to solve my personal problems.

_____ 120. (120A) I feel most content when I have a definite purpose in life.

_____ 121. (121A) I would like to know if people really like me.

_____ 122. (122A) I really feel uptight when putting on a stunt at a party even if others are participating.

_____ 123. (123A) I follow the crowd only as much as I absolutely have to.

_____ 124. (124A) Standing up for what one believes in is more important than having others like you.

_____ 125. (125A) It is difficult to like and respect a person with bad manners and habits.

_____ 126. (126A) I believe that I have a definite place in life and that I must find it.

_____ 127. (127A) I know I'll make a great contribution to the world some day.

_____ 128. (128A) I can understand why people would take advantage of someone who lays himself open to it.

_____ 129. (129A) If I had to choose where to go on a date, I'd pick a real expensive place.

_____ 130. (130A) I am usually confident of my abilities.

_____ 131. (1B) Success in college and getting married are my main goals for the future.

_____ 132. (2B) I am more interested in practical things than theoretical things.

_____ 133. (3B) I would be in favor of dividing the wealth if it could make everybody equal.

T or F

_____ 134. (4B) I would only defend an important issue if I stood to gain something from it.

_____ 135. (5B) I'll do my own thing regardless of what people think of me.

_____ 136. (6B) It's hard for me to be under someone's authority.

_____ 137. (7B) You really have to look out for yourself to make it in this world.

_____ 138. (8B) Most people just don't give a damn for others.

_____ 139. (9B) Even if there is a rule that says I can't, I will, and let the administration be damned.

_____ 140. (10B) Man's search for a purpose or ideal in life is a story that is basically without meaning.

_____ 141. (11B) Too much of this radical business is going on in the colleges.

_____ 142. (12B) Happiness is getting anything I want.

_____ 143. (13B) I like to figure things out without any help from others.

_____ 144. (14B) The discrimination against racial minority groups in the United States is a real concern for me.

_____ 145. (15B) I don't have much of a direction in life.

_____ 146. (16B) Popularity is a necessity for getting ahead in the world.

_____ 147. (17B) We should live by the standards set by our founding fathers.

_____ 148. (18B) We must take some drastic action to remove the Establishment from power.

_____ 149. (19B) I am uncertain what I am going to do with my life--that is, get married, have a career, etc.

_____ 150. (20B) Getting ahead in the world is very important to me.

_____ 151. (21B) I prefer friendly, warm and outgoing groups.

_____ 152. (22B) Every date should be a conquest.

T or F

_____ 153. (23B) I like to do whatever I feel and believe.

_____ 154. (24B) Nothing can be done about the world situation, so why try.

_____ 155. (25B) Nothing is going to change except for the worse.

_____ 156. (26B) Lots of good things come my way; but I just can't decide what to do.

_____ 157. (27B) I feel very upset when I think about the starvation in the world today.

_____ 158. (28B) I am not very interested in anything right now.

_____ 159. (29B) I don't believe in premarital sex.

_____ 160. (30B) If everybody worked hard enough, we could solve most of America's problems.

_____ 161. (31B) Children should have more respect for their parents.

_____ 162. (32B) There's too much diplomatic talk going on in the world and not enough talk "straight from the shoulder."

_____ 163. (33B) It is extremely important that I achieve my educational and vocational goals.

_____ 164. (34B) I wish I could be a beachcomber.

_____ 165. (35B) To be apathetic about society's problems is a serious fault.

_____ 166. (36B) I often feel as if the world is passing me by.

_____ 167. (37B) If I could get by with cheating on an exam, I would probably do it.

_____ 168. (38B) I don't blame anyone for trying to grab all he can get in this world.

_____ 169. (39B) If I do not finish what I start, it sticks in my mind until I do it.

_____ 170. (40B) I prefer a person of the opposite sex who is "justifiably conceited."

_____ 171. (41B) I believe the individual is more important than society.

T or F

_____ 172. (42B) Being contented and feeling loved are the truly important things in life.

_____ 173. (43B) The way to get the most out of life is to take pleasure wherever one can find it.

_____ 174. (44B) The Establishment is not going to budge, no matter what we do or say.

_____ 175. (45B) I occasionally make public protests over issues when I think they deserve it.

_____ 176. (46B) My ability to be genuine is my most valuable personal trait.

_____ 177. (47B) I feel great when I accomplish something new.

_____ 178. (48B) Happiness is satisfaction with one's values, goals and achievements.

_____ 179. (49B) I look at sex strictly as physical pleasure for me.

_____ 180. (50B) I usually talk a lot at meetings so things usually go my way.

_____ 181. (51B) I live life the way I choose regardless of what others think.

_____ 182. (52B) I am pretty inhibited in social gatherings.

_____ 183. (53B) If you don't like something, why stick with it.

_____ 184. (54B) Life is so impersonal that my struggles don't seem to mean much.

_____ 185. (55B) I feel hopeless about starting up a conversation with someone I'd really like to know.

_____ 186. (56B) I feel irritated when people ask me to get involved in things.

_____ 187. (57B) I feel uneasy in the company of cocky and self-assured people.

_____ 188. (58B) I often cross the street in order not to talk with someone I know.

_____ 189. (59B) The hippy life looks pretty good to me.

T or F

_____ 190. (60B) My first thought is the satisfaction of my pleasures and desires.

_____ 191. (61B) I focus on the "here and now."

_____ 192. (62B) I envy the happiness others seem to have.

_____ 193. (63B) I frequently feel low.

_____ 194. (64B) It's not the past that is important, but it is what I achieve in the future that counts.

_____ 195. (65B) I want a discussion to accomplish something constructive.

_____ 196. (66B) Every person should take his share of community responsibilities.

_____ 197. (67B) Duty to my fellow man is of high importance to me.

_____ 198. (68B) Most affairs outside of marriage are purely physical.

_____ 199. (69B) The very idea of giving a talk in public scares me.

_____ 200. (70B) If people would only tell me what to do, then there would be no problem.

_____ 201. (71B) I miss opportunities because I can't make up my mind soon enough.

_____ 202. (72B) Striking up a conversation with a stranger is really hard.

_____ 203. (73B) I value most the ability to be truthful and outspoken even when my ideas do not agree with the ideas of those around me.

_____ 204. (74B) The mother's primary role should be centered in home activities.

_____ 205. (75B) I'd like to go as far in my field as I can.

_____ 206. (76B) If ones I love are unhappy, I couldn't be happy either.

_____ 207. (77B) You should fit moral codes to each specific situation.

_____ 208. (78B) It is hard for me to be natural when I am with new people.

_____ 209. (79B) No one is really content.

T or F

_____ 210. (80B) The future doesn't hold anything for me.

_____ 211. (81B) I couldn't stand going to a big party without having new clothes.

_____ 212. (82B) Voting is a part of good citizenship.

_____ 213. (83B) I like to stir up some action when I feel bored.

_____ 214. (84B) It takes a long while before I warm up to people.

_____ 215. (85B) I worry a lot about my reputation and social image.

_____ 216. (86B) I can't think of any way in which I would like to change.

_____ 217. (87B) People should give to helpful causes.

_____ 218. (88B) Sure, if I'm needed I'd sell the underground newspaper.

_____ 219. (89B) My ideal person is one who knows what he wants in life and goes after it.

_____ 220. (90B) Inwardly, I really dislike putting myself out to help other people.

_____ 221. (91B) I really dig a swinging party.

_____ 222. (92B) I don't like to be pressured by any kind of authority into making personal decisions.

_____ 223. (93B) Students should be voting members of faculty hiring and firing committees.

_____ 224. (94B) There is not enough privacy in our lives today.

_____ 225. (95B) I'd rather work for a cause I believe in than for a company which gives me a big salary.

_____ 226. (96B) Our government should never be disobeyed.

_____ 227. (97B) Sexual relations should be permitted only after marriage.

_____ 228. (98B) Many of today's social problems would be solved if people were more moral.

_____ 229. (99B) Events happen too fast for me to really grasp them.

_____ 230. (100B) I am overwhelmed about the suffering and death going on in the world today.

T or F

_____ 231. (101B) I look for friends who can be useful to me.

_____ 232. (102B) I generally feel useless.

_____ 233. (103B) I would rather be an expert in some area than be popular.

_____ 234. (104B) In a group people pay little attention to me.

_____ 235. (105B) What keeps me going is my own sense of ambitiousness.

_____ 236. (106B) I am more realistic than idealistic.

_____ 237. (107B) Doing well at some activity is more important than what a person is doing.

_____ 238. (108B) Wife swapping between consenting couples is permissible.

_____ 239. (109B) I take the world as it comes.

_____ 240. (110B) I don't fit in at dances or parties.

_____ 241. (111B) I enjoy showing off in some way if I get the chance.

_____ 242. (112B) I seem to be easily distracted from my work or studies.

_____ 243. (113B) I would risk life, property and freedom to fight for the principle of equality among men.

_____ 244. (114B) Most of my fantasies are about becoming an important and well known person.

_____ 245. (115B) I don't speak up in class unless I really have something important to say.

_____ 246. (116B) Some students have rebellious ideas, but as they get older they settle down.

_____ 247. (117B) We would have a more peaceful world, if moral values could be improved.

_____ 248. (118B) I like to forget about a schedule and do things when I want to.

_____ 249. (119B) I hardly ever initiate a conversation.

_____ 250. (120B) I am really disturbed about the consequences of our expanding population.

T or F

_____ 251. (121B) I know I'm sexually desirable.

_____ 252. (122B) It is important for me to pay someone back if he does me a wrong.

_____ 253. (123B) Understanding how friends feel about various problems they have to face is important.

_____ 254. (124B) Individuals should be free to decide about premarital sex.

_____ 255. (125B) Life certainly gives me a raw deal.

_____ 256. (126B) I want to live my life without conforming too much to other people's values.

_____ 257. (127B) Having a lot of money is essential to me in order to buy the things I want.

_____ 258. (128B) It's fun to be the life of the party.

_____ 259. (129B) A good philosophy is: don't lend anything to anyone.

_____ 260. (130B) The family structure is really disintegrating today.

_____ 261. (1C) It isn't difficult for me to understand the dedication of a Mozart or a Rembrandt.

_____ 262. (2C) I wish I knew what life had in store for me.

_____ 263. (3C) When it comes right down to it, I don't give a damn about anyone else but me.

_____ 264. (4C) Everything has a rational basis for its occurrence.

_____ 265. (5C) People need to learn how to enjoy life each day and to get the most out of it.

_____ 266. (6C) Pledging a social group is a good way to make the right connections.

_____ 267. (7C) I like for people to notice and make comments about my appearance.

_____ 268. (8C) I am an indifferent person.

_____ 269. (9C) Appearance is a very important personal value to me.

T or F

_____ 270. (10C) A person is better off if he doesn't trust anyone.

_____ 271. (11C) War and conflict will always exist because of man's essential human nature.

_____ 272. (12C) The only meaning to existence is the one which man gives to it.

_____ 273. (13C) Nobody really cares about me.

_____ 274. (14C) The father should remain the breadwinner in the home.

_____ 275. (15C) I feel guilty sometimes for not being more involved in activities.

_____ 276. (16C) At all times I try to be perfectly poised.

_____ 277. (17C) Abortion makes living easier.

_____ 278. (18C) Close friendships can often become a burden.

_____ 279. (19C) I am looking for a comfortable life to spend with someone I love who also loves me.

_____ 280. (20C) People should have as many new experiences as they can.

_____ 281. (21C) It's best not to trust anybody very much.

_____ 282. (22C) People really don't care about other people as much as they pretend.

_____ 283. (23C) I have a sense of drifting with no particular goal in life.

_____ 284. (24C) In order to feel happy I must love and be loved.

_____ 285. (25C) The problems of the world are more important than personal friendships, these days.

_____ 286. (26C) America must always stand for its basic principles.

_____ 287. (27C) To reach the top is the only thing that matters.

_____ 288. (28C) I feel I need to find my identity.

_____ 289. (29C) There should be more emphasis on joy and fulfillment these days.

T or F

_____ 290. (30C) Having a personal relationship is too much effort.

_____ 291. (31C) I rarely feel guilty when I have a lot of fun.

_____ 292. (32C) If someone had my values, I think I could fall in love with that person.

_____ 293. (33C) When I look in the mirror I admire myself.

_____ 294. (34C) Happiness is the status quo.

_____ 295. (35C) I get as much enjoyment out of studying and learning as I do socializing.

_____ 296. (36C) I find more satisfaction in doing one thing well than many things moderately well.

_____ 297. (37C) It is all important to be aware and know what one is feeling.

_____ 298. (38C) One of my chief concerns is to remain loose.

_____ 299. (39C) My individuality is my most prized asset.

_____ 300. (40C) I usually go along with the crowd.

_____ 301. (41C) I regard strangers as better than I.

_____ 302. (42C) I feel anxious most of the time.

_____ 303. (43C) I am more talented than most people.

_____ 304. (44C) I am not a motivated person.

_____ 305. (45C) I feel I should be independent of others in making my own decisions.

_____ 306. (46C) I can understand how a person could devote all of his life to his profession.

_____ 307. (47C) The entire structure of American society needs to be revamped.

_____ 308. (48C) Few people care what society wants.

_____ 309. (49C) Self understanding is the key to maturity.

_____ 310. (50C) There is nothing wrong with me.

T or F

_____ 311. (51C) I'd rather date a lot of different persons than keep a steady one.

_____ 312. (52C) I appreciate a cheerful comment from a friend when I feel low.

_____ 313. (53C) It's important to have a well rounded education in order to be of use to society.

_____ 314. (54C) Happiness is having faith in oneself as an individual.

_____ 315. (55C) Religious beliefs and morals need more emphasis today.

_____ 316. (56C) Being kind is more important than success.

_____ 317. (57C) Only considering one's own happiness is a pretty selfish thing.

_____ 318. (58C) Adultery, as long as never found out, is okay.

_____ 319. (59C) I really enjoy writing letters to my friends.

_____ 320. (60C) I like to do things for my friends.

_____ 321. (61C) I can really con people into my way of thinking.

_____ 322. (62C) Life must be viewed as a game.

_____ 323. (63C) We have a right to revolt when peaceful dissent doesn't get us anywhere.

_____ 324. (64C) Having the right connections makes all the difference in the world.

_____ 325. (65C) I frequently struggle with my feelings of shyness.

_____ 326. (66C) I want to discover new people and learn all about them.

_____ 327. (67C) Often I feel that I never have any real goal in life.

_____ 328. (68C) It seems ridiculous to be enthusiastic about school work.

_____ 329. (69C) My voice would never be heard even if I stood up for my rights.

_____ 330. (70C) I am glad I am better than most people.

_____ 331. (71C) It's not worth it doing things for other people because you will only get it in the neck in the long run.

APPENDIX C

VALUE DIMENSIONS OF AMERICAN COLLEGE PERSONNEL ASSOCIATION VALUE QUESTIONNAIRE

VALUE DIMENSIONS OF AMERICAN COLLEGE
PERSONNEL ASSOCIATION VALUE QUESTIONNAIRE

I. Alienated--passive, withdraw, uncommitted. Isn't involved and doesn't care. Hasn't committed to anything and feels hopeless, a sense of futility shown, feels there's little possibility of change or improvement--people can't help much. To some extent, an opposite of No. 10.

II. Activist--militant, concerned about working for change, may be deeply committed. Probably involved in various campus movements and talks idealogically about world issues. SDS members, other political activists and protestors; some other types of campus dissidents may fit here.

III. Perceptual Gratification--a personal existentialist. Self and being are important, but he cannot be seen as altogether narcissistic. Selfish in the sense that social and interpersonal concerns tend to be closed out. A policy for the here and now and me. May use LSD, smoke pot, concentrate on sensory experiences. Some element of disregard for social laws. May be prone to partying and could have some elements of a delinquent flavor.

IV. Active Conformist--supporting the status quo is desirable, is traditionally-authoritatively oriented. Probably from general middle-class. Believes universities generally doing a good job, actively involved in traditional collegiate affairs, shows middle class social values and may condemn others who don't follow these values. Somewhat achievement oriented.

V. Lonely--afraid of the world around him, unhappy and wishes he were not. Feels overwhelmed by the happenings in the world, both his personal world and the world in general. He is affected by them, but finds it hard to take constructive action. May spend time alone, does daydreaming, wants interpersonal relationships, but finds them hard to attain.

VI. Gameplayer--political, a wheeler-dealer, a manipulator. Stirs up issues, works as a strategist. May be a "big man on campus," back-clapper, values relationships for where they will take him and what he can get from them. Probably has Roberts' Rules of Order memorized. Tends to be superficial in relationships, but nonetheless values them as solid.

VII. Drifter--along for the ride, uninvolved, following the path of least resistance. He attaches himself to what is going on, but never commits to it. He may be a fringe protester on occasion or a drifter from one group to another, or from one issue to another.

VIII. Fieldcommitted--special field of interest, may be committed to an intellectual area, have narrow aesthetic interests, be primarily involved in sports, a job, or some other area to the exclusion of more socially oriented concerns. This may include some types of engineering and science students, some business areas, etc. Or, wants to spend all his time studying or pursuing some singular interest. Probably has few friends. Generally inactive in other pursuits. A somewhat narrow orientation to life.

IX. Self-Realizer--goal oriented for himself in a meaningful way, but is not a 6 or 11. Integrates personal and social values, but doesn't accede to social pressures unless they are personally meaningful. Has a quality of movement and striving with personal involvement. Shows good ego strength.

X. Interpersonal Relations--shows affiliative needs, some sense of altruism, is personally focused on relations with others as good, growth-producing and valuable. Not "thing" oriented. Values friendships, shared experiences with others, has an interactional concern and love.

XI. Narcissist--concerned with looks, physique, values self well above others. Selfish--excludes others. Loving himself or his ego, self-centered, unable to form deep relationships with others, overly sensitive. May be a classical narcissist but in a narrow sense.

XII. Freedom Independent--desires to be unfettered by personal inhibitions or social pressures. Shows desire to be completely freed from control and authority and excludes any particular interest in social values. Finds it difficult to make a commitment to longer range values other than these--i.e. other life processes.

XIII. Humanitarian--generic social interest and concern, unselfish in a humanitarian way, concerned with peace and general welfare. Has involvement in some projects and organizations which may help to alleviate human suffering. May be candidates for Peace Corps, Vista, Teachers' Corps, etc. Concerned with broad social issues rather than direct personal concern for another individual. May be seen as civic-minded, interested in community affairs, but more in an organizational than extremely personal way.

APPENDIX D

QUESTIONNAIRE USED IN THE CONSTRUCTION OF THE AMERICAN COLLEGE PERSONNEL ASSOCIATION VALUE QUESTIONNAIRE

QUESTIONNAIRE USED IN THE CONSTRUCTION

OF THE AMERICAN COLLEGE PERSONNEL

ASSOCIATION VALUE QUESTIONNAIRE

1. What do you value most about yourself?

2. Are there important ways in which you would like to see yourself changed? If yes, in what ways?

3. What concerns you most at present? (a) In your personal life; and (b) in the world around you?

4. Are there important ways in which you would like to see American society changed? If yes, in what ways?

5. What do <u>you</u> mean by happiness? How important is it to you?

6. What do you most want to get out of your college experience this year?

APPENDIX E

INTERCORRELATION MATRIX ON VALUE DIMENSIONS FROM PILOT SAMPLE OF COLLEGE STUDENTS FROM MICHIGAN AND MISSOURI

INTERCORRELATION MATRIX ON VALUE DIMENSIONS FROM PILOT SAMPLE OF COLLEGE STUDENTS FROM MICHIGAN AND MISSOURI.

Value Dimensions		1	2	3	4	5	6	7	8	9	10	11	12	13
Alienated	1	1.000												
Activist	2	.296	1.000											
Perceptual Gratification	3	.331	.436	1.000										
Active Conformist	4	.260	-.118	.102	1.000									
Lonely	5	.401	.116	.135	.276	1.000								
Gameplayer	6	.394	.178	.532	.380	.179	1.000							
Drifter	7	.474	.256	.314	.112	.573	.258	1.000						
Field Committed	8	.137	.154	.131	.283	.042	.235	-.150	1.000					
Self Realizer	9	.098	.183	.337	.358	-.055	.294	-.063	.445	1.000				
Interpersonal Relations	10	-.132	.113	.067	.184	.009	.026	-.066	.039	.192	1.000			
Narcissist	11	.195	.064	.276	.359	.043	.497	.064	.243	.256	.093	1.000		
Freedom Independent	12	.266	.500	.489	-.176	.190	.251	.257	.056	.179	.022	.005	1.000	
Humanitarian	13	.020	.383	.074	.111	.102	-.035	-.009	.296	.191	.301	.044	.203	1.000

APPENDIX F

A GRAPH OF ORIENTATION AND GRADUATION VALUE DIMENSIONS' STANDARDIZED MEANS FOR STUDENTS ENROLLED IN THE INSTITUTE OF AGRICULTURAL TECHNOLOGY

A GRAPH OF ORIENTATION AND GRADUATION VALUE DIMENSIONS' STANDARDIZED MEANS FOR STUDENTS ENROLLED IN THE INSTITUTE OF AGRICULTURAL TECHNOLOGY.