THE RELATIONSHIP BETWEEN ATTITUDES AND VALUES AND SELECTED BACKGROUND CHARACTERISTICS

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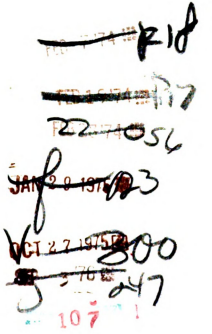
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ABSTRACT

THE RELATIONSHIP BETWEEN ATTITUDES AND VALUES
AND SELECTED BACKGROUND CHARACTERISTICS

by Isabelle K. Payne

This study purported to investigate the relationship between selected background characteristics and change in attitudes and values exhibited by students during their first year in attendance at Michigan State University. The biographical data included in the study related to size of home community, parents' education, father's occupation, religious affiliation, size of high school graduating class, and type of secondary school attended. Complete and usable test re-test data were available for 2,219 freshman students on the Inventory of Beliefs and the Differential Values Inventory. The subjects were classified as: those who became more stereotypic, or more traditional value oriented; those who remained stable and whose re-test scores did not exceed the previously established confidence band of 1.5 standard errors of estimate above or below their predicted scores; and those who became less stereotypic, or less traditional value oriented. Data relevant to male and female students were examined independently. The .05 level of significance was established for statistical computations.

Chi-square analysis of attitude change and selected biographical factors revealed significant relationships among groups of male students

and parents' educational level and father's occupational level. Further Chi-square analyses disclosed significant relationships between types of attitude change among male students and grade school, high school, college, and graduate school with respect to father's education; among groups of male students and all levels of mother's education except grade school compared with high school; and among groups of male students and the following levels of father's occupation: skilled and white-collar workers, skilled and semi-skilled workers, white-collar workers and unskilled workers, and unskilled workers and teachers. There was no significant relationship between type of attitude change among groups of female students and the background characteristics selected for this study.

Significant relationships were found between types of value change among groups of male students and religious affiliation, and level of education of both mothers and fathers. Further Chi-square analyses revealed significant relationships between types of value change and grade school and graduate school, high school and college, high school and graduate school, and college and graduate school relative to father's educational background. With respect to mother's education and types of value change among groups of male students, significant relationships were found between grade school and graduate school, high school and college, and high school and graduate school. Jewish and Protestant, and Jewish and Roman Catholic religious affiliation related significantly to types of value change among groups of male students.

Analysis of data pertaining to female students revealed significant relationship with respect to father's education. Further analyses revealed significant relationships between high school and college, high

school and graduate school, and college and graduate school.

The majority of students became less rigid, compulsive, and authoritarian during their freshman year in college; that is, they became less stereotypic. With regard to traditional value orientation, both male and female students exhibited significant value change and became less traditional, or more emergent, at the end of one year at college.

Results of the study indicate that factors most closely allied with change in stereotypic beliefs and values are familial in nature rather than intellectual: parental education, father's occupation, and religious affiliation. Further study is indicated relative to cause and effect relationship between attitudes and values and curricular majors and academic achievement; comparison of attitude and value change among students differing in personal responsibilities and physical limitations, and among groups of students at Michigan State University and students at church related, private and Junior colleges; and post-graduation follow-ups to determine relative stability of attitudes and values following graduation from college.

THE RELATIONSHIP BETWEEN ATTITUDES AND VALUES AND SELECTED BACKGROUND CHARACTERISTICS

By

Isabelle K. Payne

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CHAPTER I

THE PROBLEM

Introduction

The importance of including the study of attitudes and values in the area of higher education has long been recognized. However, it is only in the past few decades that a concerted effort has been made to measure attitudes and values and to relate them to the process and nature of learning. Renewal of interest in valuative measures seems to have been concomitant with re-emphasis upon the individual as a total being and on his constant interaction, both with other persons and with a complex physical world of changing impact. A resurgence of attention to the study of attitudes and values has been mutually displayed by the social scientist, the psychologist, and the educator until it has now assumed interdisciplinary proportions.

The American desire for the achievement of excellence is predicated on the assumption that the educational system will expose the individual to a context of values in which high performance is encouraged. This is not to say that rigidly defined limits of values should be imposed but that the latitude allowed in the choice of values would encourage development to the individual's greatest potential.

Evidence indicates that the attitudes and values of every individual are subject to growth and change. Change constantly occurs as the individual perceives the way in which others react to him; change is dependent upon and continuous with his past developmental patterns. Attitudes and values are instilled early in life and are most easily modified in adolescence; however, changes can and do take place during adulthood. Research has indicated that many students undergo prodigious changes in attitudes and values while at college (3, 24, 37, 61, 66, 71, 73, 75, 91, 106). It has been shown that the degree to which these characteristics vary depends upon the experiences encountered, the personal contacts made, and the personality structure of the individual under consideration (29, 62, 65, 88, 111). It is difficult to relate these changes directly to college education but it seems reasonable to hypothesize that college can and does influence the direction of change, keeping in mind that change can be only in direct relationship to the influence of background characteristics. The college community provides a wide range of experiences which promotes the process of growth. Values inculcated in the home environment are challenged by competing or conflicting values necessitating new perceptions and new thinking on the part of the student. Many situations incite engagement in behavior and the consideration of concepts which directly oppose one's previously established attitudes and values.

Traditionally, the college population is composed of an academically homogeneous group of students, desirous of personal and professional preparation for effective participation in the American way of life. This group represents certain strata of society who for four years will be

living together in a common milieu. Nevertheless, selective elements such as parental aspirations and accomplishments, social class expectations, and religious determinants may well serve to influence the direction as well as the degree to which beliefs and values vary.

Statement of the Problem

The problem investigated in this research is the relationship between certain background characteristics and change in attitudes and values exhibited by students during their first year in attendance at Michigan State University. The biographical data included in the study relate to size of home community, parents' education, father's occupation, religious affiliation, type of secondary school attended and the size of the high school graduating class.

Since there is an abundance of data relative to self-study and the occurrence of changes, this research does not purport to examine the numerous ramifications of the self in relation to developmental or personality aspects. Conversely, there is a dearth of research and information relating directly to the influence which socioeconomic, familial, intellective, cultural, or religious factors might have upon attitudes and values. It is the hope of this investigator that this thesis may add to the identification of factors closely related to the area of attitude and value change. The study is longitudinal in scope, concerned with differences between responses emitted by individual students at various points of time under similarly controlled conditions.

Theoretical Background of the Study

Before one can recognize and indicate change which he may be experiencing, he must be fully aware of the forces operating within him. The postulate of the self-concept claims "behavior of the individual is primarily determined by and pertinent to his phenomenological field and, in particular, that aspect of the field which is the individual's concept of himself" (112). It was the decision of the writer to differentiate between theoretical constructs relating to self-concept, attitudes, and values and current empirical studies in the area of attitudes and values. Chapter II, Review of the Literature, is devoted to discussion of empirical research.

Self-Concept

In expressing self-concept theories an attempt has been made to understand the individual by referring to the environment and his responses to it. Prothro and Teska (94) stated: "What we are is not an abstract self determined by our will and our own desires; we are a product of that to which we have been exposed as well. The integrated human being, which is the total pattern of the acting organism, is complicated enough; it is also influenced by its possessions and its environment, so that it becomes infinitely more complex and more delicately balanced." The assumption underlying this frame of reference is that all behavior is completely determined by the phenomenal field, i.e., the complete environment as it is perceived and experienced by the student with himself as the axis. This point was expressed by Cattell (13) when he said: "The self is thus the integrated 'pilot' of the organism, seeking for it

the greatest possible long-term satisfaction." According to Snygg and Combs (113), the phenomenal self is the only frame of reference which the individual possesses. It is the only self he knows. This is to say that the past and present observations of the self are organized into what is known as the individual's self-concept.

Allport (1) emphasized the idea of consistency of the individual personality in a changing environment. The self is really learned from others and, as Valett (120) expressed it, the type of self-concept the individual holds depends largely upon the kinds of selves to which he has been exposed. As the self develops from interaction with the environment, the result of evaluational interaction with others is most important. Rogers (99) stated: " . . .the values attached to experiences, and the values which are a part of the self structure, in some instances are values introjected or taken over from others, but perceived in distorted fashion, as if they had been experienced directly."

Mead (79) expressed the prevailing view of self as follows: "The self is something which has a development; it is not initially there at birth, but arises in the process of social experience and activity, that is, develops in the given individual as a result of his relationship to that process as a whole and to other individuals within the process."

The self gradually develops as a result of social interaction. The primary stage in self-development is the recognition and organization of attitudes of others toward himself. Valett (120) posited that gradually the personifications of "good me," "bad me," "not me," and "I" are formed from a differentiation of portions of the total perceptual field which now becomes the "self." The self-concept defines a person's status

and functions in society; it regulates and helps to control his behavior over long periods of time. Just as the individual devotes more of his time and energy to some activities and less to others, the college student changes, consciously or unconsciously, as a result of his experiences. In other words, the phenomenological field of the student is the product of his own selection. What a person learns and how he behaves are determined by the concept he has of himself and his abilities.

The theory of self-concept was expressively summarized by Symonds (117) when he stated: "The 'Ego' is the objective self as it might be observed by a behaviorist. The 'Self' is the subjective self as it is perceived, conceived, valued, and responded to by the individual himself . . .the 'Self' is wholly subjective and corresponds to the 'phenomenological self'."

Attitudes and Values

Attitudes

One's attitude toward a specific object or an event in a specific situation appears to be the result of the way in which one perceives that object from the standpoint of its effect on one's highest esteemed values. If, in his judgment, the object has no effect upon the values important to him, he will tend to ignore it, or exhibit a neutral attitude toward it. If he conceives it to be destructive to these values he will exhibit a negative attitude toward it. Positive attitudes will attach themselves to those regions of thought and action which are highly valued. Attitudes, as defined by Allport and others (67), became the social psychologist's key concept: a man's personality was here conceived as a more

or less integrated system of attitudes, each of which is relatively permanently disposed to evaluate some entity negatively or positively, and to support this evaluation with results or arguments. The general or specific entity (object of the attitude) was a value, positive or negative, or had value (power to attract or repel).

According to Katz (64) "an attitude is the predisposition of the individual to evaluate some symbol or object or aspect of his world in a favorable or unfavorable manner. Although opinion is the verbal expression of an attitude, attitudes can also be expressed in nonverbal behavior. Attitudes include both the affective, or sensory core of liking or disliking, and the cognitive, or belief, elements which describe the object of an attitude, its characteristics, and its relations to other objects. All attitudes thus include beliefs, but not all beliefs are attitudes. When specific attitudes are organized into a hierarchical structure, they comprise value systems. Thus a person may not only hold specific attitudes against deficit spending and unbalanced budgets but may also have a systematic organization of such beliefs and attitudes in the form of a value system of economic conservations." The intensity of an attitude refers to the strength of the affective component. The centrality of an attitude refers to its role as part of a value system which is closely related to the individual's self-concept.

Bills et al. (8) have referred to an attitude as an evaluation, classifying it in terms of traits, self, and interests. They have differentiated among these by stating: "An attitude toward a trait is a feeling as to whether or not a certain trait constitutes a value; an attitude toward self is a feeling of the individual as to whether or not

a trait which he possesses in specified amount constitutes a value; and an attitude toward an interest determines whether this interest is helpful in maintaining or achieving a value." These writers have considered an interest to be a means by which values are achieved.

Rosenberg (101) postulated that occupational choices are influenced by certain surmounting attitudes which condition the individual's perception of diverse aspects of the world. One such attitude would be faith in people---whether one feels that human beings are basically selfish and untrustworthy or generous and kind. The importance of awareness of an individual's degree of faith in people lies in the fact that occupational activity is, to a large extent, a system of interpersonal relationships; consequently, the way one feels about people will influence one's feelings about various kinds of work. Basic attitudes which influence one's orientation toward many aspects of social life are obviously relevant to occupational choice.

Values

Values have been studied at varying points along the age continuum. Only a few of the significant influences in the formation and reorganization of value structures have been isolated. Children are born into a society where norms and values are established but there is considerable uncertainty as to how they acquire the fairly stable value systems of adult life. Horowitz and Horowitz (52), Sherif (109), and Thompson (119) believe that direct personal experiences with intent to learn do not seem to be essential to the acquisitional process, nor is reinforcement employing indoctrination always remembered later.

Woodruff (130) pointed out that the whole problem of values must be studied from the point of view of the individual, for it is a highly subjective phenomenon. Earlier in his writing, Woodruff (128) defined a "value" as a generalized condition of living---an object, a condition, or an activity---which the individual feels has an important effect on his well being. Williams (124) has posited: "Values are not the concrete goals of action but rather the criteria by which goals are chosen. Values are important, not trivial nor of slight concern." Sorenson and Dimock (114) stated the learning of values is different from learning skills and the acquisition of knowledge. Values seem to be developed out of the total experience. Feelings for them are generated or dulled by many factors but they can be nurtured with clear objectives and intelligent leadership. Values exist on a continuum for each individual; they proceed from a positive through a neutral area to the highest negative effect. The individual tends to seek out the positive, ignore the neutral, and overlook the negative values.

It has been asserted by Sarnoff and Katz (107) that values are relatively enduring codes. The affect is derived from association with need gratification or deprivation with emotional arousal. To these writers, value systems are the organization of beliefs about affective symbols and can achieve such a level of organization that they may pervade many aspects of the personality. These systems can refer to the environment or they can refer to the self-image. Hiller (45) has extended the frame of reference by expressing the thought that intrinsic valuations refer to qualities that are inseparable from the person, whereas extrinsic valuations of individuals are circumscribed and influenced by the particular culture of a given society.

Parker (90) concurred that: "There are two grand divisions of values . . . values of action and values of imagination. The former are fulfillment of desires which involve adjustment to the environment and interaction with it, the use of real things or persons as means or ends, accompanied by belief in the reality of such things or persons. Values of imagination, on the other hand, are satisfactions which depend more on free creation than on adjustment to the environment; the use of imaginary or 'substitute objects' rather than real objects, and an attitude of 'make believe' rather than belief."

The attitudes and values which one possesses not only limit the range of acceptable solutions; they also determine the approach used in solving a problem. They dictate, to a considerable degree, the acceptability of solutions to any problem regardless of the type of judgment which the solution requires. The characteristics of human personality such as attitudes, beliefs, interests, and values must be recognized as affective variables that differ among individuals. Only as each individual recognizes these affective characteristics and relates them to the differences between himself and others can he fully understand and evaluate his own views.

The Hypotheses

The hypotheses are as follows:

I. there are no significant relationships between types of attitude change and the familial and/or educational backgrounds of students.

II. there are no significant relationships between types of value change and the familial and/or educational backgrounds of students.

III. there is no significant difference in test re-test mean scores used to measure stereotypy and traditional values of students with regard to the following variables: size of home community, parents' education, father's occupation, religious affiliation, type of secondary school attended, and size of high school graduating class.

Definition of Terms

Attitudes

An attitude is a reaction toward or against a referent in a particular manner and to a particular degree of intensity. One's attitude toward a specific person, object, or event in a specific situation appears to be the result of the way in which he perceives the referent from the standpoint of its effect upon the values which he regards highly.

Values

As defined by Woodruff (128), a value is a generalized condition of living---an object, a condition or an activity, which may affect an individual's well being. A value has been described as part of the concept one has of a referent, a function of the unique experience of the person. Both the concept and its values are products of the neutral process of the individual, construed and idealized through interaction of the person with the referent. All values are ego-centric, deriving their importance from the manner in which the individual perceives they have affected him. They are the personal constructs of the individual. Woodruff (128) has posited that value functions in human behavior specifically and concretely and attaches to experiences which have proven effective in the past.

Traditional versus Emergent Values

On the basis of research data, and in light of the perceptive work of other sociologists and anthropologists, Spindler (115) postulated that a major shift in American values has been and is taking place. These values are dichotomized under their respective headings with the necessary explanatory notes in parentheses.

TRADITIONAL VALUES	EMERGENT VALUES
Puritan morality (Respectability, thrift, self-denial, sexual constraint; a puritan is someone who can have anything he wants, as long as he doesn't enjoy it!)	Sociability (One should like people and get along with them. Suspicion of solitary activities is characteristic.)
Work-Success ethic (Successful people worked hard to become so. Anyone can get to the top if he tries hard enough. So people who are not successful are lazy, or stupid, or both. People must work desperately and continuously to convince themselves of their worth.)	Relativistic moral attitude (Absolutes in right and wrong are questionable. Morality is what the group thinks is right. Shame, rather than guilt-oriented personality, is appropriate.)
Individualism (The individual is sacred, and always more important than the group. In one extreme form, the value sanctions egocentricity, expediency, and disregard for other people's rights. In its healthier form, the value sanctions independence and originality.)	Consideration for others (Everything one does should be done with regard for others and their feelings. The individual has a built-in radar that alerts him to other's feelings. Tolerance for the other person's point of view and behaviors is regarded as desirable, so long as the harmony of the group is not disrupted.)
Achievement orientation (Success is a constant goal. There is no resting on past glories. If one makes $9,000 this year he must make $10,000 next year. Coupled with the work-success ethic, this value keeps people moving and tense.)	Hedonistic, present-time orientation (No one can tell what the future will hold; therefore, one should enjoy the present---but within limits of the well-rounded, balanced personality and group.)

Future-time orientation (The future, not the past, or even the present, is most important. There is a "pot of gold at the end of the rainbow." Time is valuable, and cannot be wasted. Present needs must be denied for satisfactions to be gained in the future.)

Conformity to the group (Implied in the other emergent values. Everything is relative to the group. Group harmony is the ultimate goal. Leadership consists of group - machinery lubrication.)

Change

Change, in both educational and psychological research, is confounded by the phenomenon of regression. Those individuals who initially score low will tend to improve their score while those who initially score high will tend to obtain a lower score at a later date. The phenomenon of moving toward the mean from both ends of a continuum has been termed regression. In an attempt to partially overcome the regression effect in this study, predicted scores were made on the basis of initial test scores and the correlation of the initial test with the second test. Separate regression equations were computed for both males and females for each of the major instruments. A priori, it was decided that confidence bands would be calculated 1.5 standard errors of estimate above and below the regression line. If an individual's actual re-test score was 1.5 standard errors of estimate above his predicted score, he would be considered as having changed in a positive direction. A similar approach was used to identify subjects who changed in a negative direction. To illustrate: a subject received a score of 35 on the pre-test and, by means of the regression equation calculated for the group, his predicted score is 43.48. The standard error of estimate is 9.87. If this subject received a post-test score of 60, the difference between his predicted

post-test score and actual post-test score is 60 - 43.48 = 16.52. This difference of 16.52 is more than 1.5 standard errors of estimate and for purposes of this study the subject would be considered a positive "changer" on this measure because he changed more than was predicted. Conversely, students labeled "stable" are only relatively so because even though these individuals may have changed, the difference between their pre-test and re-test scores did not exceed 1.5 standard errors of estimate above or below their predicted scores.

Scope and Limitations of This Study

The efforts of this study were directed toward an investigation of the relationship between selected biographical characteristics and changes in attitudes and values during students' first year in college as indicated by test re-test data. The data were also analyzed to ascertain whether, during the first year in college, subjects comprising one category of a variable have changed more than those in other categories of the same variable, i.e., have students of one religious affiliation, Catholic, Jewish, or Protestant, changed significantly as a group during this period.

The limitations within the study appear to fall into four main categories. The first is concerned with the inadvisability of using a control group. The size of the original sample, coupled with the longitudinal aspect of the study, presented insurmountable obstacles in the measurement of changes in attitudes and values for high school graduates who did not attend college. One can only speculate as to whether like changes may have occurred within a similar group of high school graduates

who sought employment, entered the armed services, married, and, in the case of female students, assumed the role of homemaker.

For the final analysis of the data the limits of significant change were established as 1.5 standard errors of estimate above or below the individual's predicted score. On this basis, the total number of changes exhibited by the sample equaled 559.

The third limitation concerns the longitudinal scope of the study. At the end of the sophomore year, 417 subjects were again re-tested. Upon comparison of these data with re-test scores obtained at the end of the freshman year and establishment of change groups it was found that the actual number of subjects identified as having changed at the end of the sophomore year was too small to warrant consideration. Therefore, it was necessary to limit this study to the use of re-test data obtained at the end of the freshman year.

It seems advisable to mention a fourth limitation encountered by those attempting to survey or measure attitudes of other persons. The most common approach to measuring attitudes is to elicit from the respondent some judgment on an affective-evaluative scale. There is no guarantee that the position which the individual characterizes himself as occupying is really the position he believes he is in; nor is there any certainty, assuming the individual does have some present feeling toward the attitude object, that this feeling is or will be stable over a period of time and under altered circumstances.

The Importance of This Study

Currently, there is renewed interest in the changing values of American college students and causative factors implementing this change.

Jacob (60) mentioned several such factors set forth by psychologists and, particularly, social psychologists. Briefly, these are: World War II and the ensuing family changes, the business-industrial-urban complex which has taken over and strongly influenced the American way of life, mass media and their depleted fare of implicit and explicit values, and higher education's preoccupation and abdication of a role in value formation. Jacob stated: "By default, the campus society, rather than the educational process, becomes the principal determinant of whatever impact the college experience may have on students' basic outlook and criteria for conduct."

Research (71) has shown that relationship between attitudes and values and college grades indicates that these factors operate only to a limited degree in determining grades. The more traditionally value-oriented and less stereotypic student is more likely to receive better grades than the student possessing the opposite value-attitude pattern structure. This finding suggests the importance of further study of non-cognitive variables in relation to scholastic performance.

Much of the research in the area of change which college students experience has been directed toward factors in the immediate college community. Focus has been upon events and people encountered in college life. The literature reveals little evidence of consideration for the relationship of background characteristics to these changes. The cultures which students bring to the college campus present an important facet of study since they are representative of norms of many different types. Several questions evolving from the hypotheses arise at this point indicating the importance of this particular phase of the study of attitudes

and values:

1. which biographical data are most characteristic of students displaying a tendency toward high traditional or high emergent values?

2. which biographical data are most characteristic of students displaying a tendency toward low traditional or low emergent values?

3. do students possessing certain background characteristics tend to be more or less stereotypic in their beliefs?

This chapter has presented an introduction to the problem and the hypotheses to be tested. The four remaining chapters are entitled "Review of The Literature," "Method of Investigation," "Analysis of The Data," and "Summary, Conclusions, and Implications of The Study."

CHAPTER II

REVIEW OF THE SIGNIFICANT LITERATURE

The relevance of the study of attitudes and values to college life has received increasing attention during the past few decades. Literature concerning these affective variables tends toward theorization and observation rather than toward a presentation of empirical data. Limited research has dealt primarily with effects of cultural and intellectual influences of the campus on the student. Much less interest has been directed toward the relationship of previous educational experiences, socioeconomic and religious influences, or family relationships to attitudes and values.

A review of significant literature presents a composite background of relevant studies dealing with attitudes and values of college students and with some characteristics which may effect their change.

Size of Home Community

The community, like any other social structure, is controlled by interaction of people intent on attaining certain goals they hold in common. The attainment of these objectives must be achieved through means acceptable to the people in the community. Consequently, the ends sought and the means used in seeking them vary greatly from one social structure

to another. A most important principle is that in any given value system some goals are obligatory, some are preferred, some are permissible, and some are taboo (89).

Hollinshead (49) stated that urban residence implies a slightly greater social expectancy of college attendance than does rural residence. There is slight and probably decreasing tendency for farm families to be less favorable toward higher education for their children than city families of the same socioeconomic level. In considering the educational characteristics of American people, Wayland and Brunner (123) concurred that rural farm areas in the United States have lower educational levels than urban areas. These investigators considered two different related dimensions of rurality in the United States: (1) characteristics of the style of life associated with living on a farm; (2) selectivity of residence for subcultural groups on farms. From this study one may draw the implication that areas of higher income and higher socioeconomic status are those in which education is more highly valued. Most people live in small communities, both in the United States and in the world. Nearly three of every five persons in the United States live in communities of fewer than 25,000 and nearly two of every five live in communities with fewer than 2,500, even though the United States is one of the most highly urbanized countries in the world.

A study conducted by the American Council on Education (133) revealed that in cities with populations of more than 1,000,000, 44 per cent of the high school seniors applied for admission to college; in small towns, 26 per cent applied for admission; and of the children of farmers, 21 per cent applied for admission to college.

Berdie (7) reported the differences regarding plans for college attendance among metropolitan, rural nonfarm, and farm groups were large. One half of the metropolitan boys were planning to attend college whereas only 20 per cent of the farm boys were planning on college. Approximately 40 per cent of the girls residing in metropolitan areas were planning to attend college as compared with 24 per cent of the girls from farm areas. Regarding plans for college attendance, students from rural nonfarm areas tended to resemble metropolitan students to a greater extent than farm students.

The relationships of socioeconomic status and urbanism to academic performance were investigated by Washburne (122). Subjects were selected from a state-supported institution located in a city of approximately 7,000 in a relatively sparsely settled area of the Southwest, and from a privately endowed institution located in a major Northeastern city. Each sample consisted of 100 randomly selected entering male freshmen. Urbanism was correlated positively and significantly with academic success for the students at the Southwestern college. For the Northeastern college group urbanism correlated positively with academic success but the correlation was lower in magnitude. The study indicated the more urban the residence background of the student, the better his academic performance was likely to be. This relationship disappeared when the city considered was at the 500,000 population mark. Mohandessi and Runkel (83) also studied some socioeconomic correlates of academic aptitude, using schools whose mean test scores were in the upper or lower quarters among schools participating in the state-wide testing program of the University of Illinois. The study showed the mean academic aptitude of

the school to be positively related to distance from larger towns, community population, and size of the school. In addition, the mean academic aptitude score of private schools was significantly greater than the mean score for public schools.

Miller (82) studied social class differences among college students with respect to class identification and value differences. The findings of this investigation indicated students from rural areas are more likely to identify themselves as working class than those from large cities, and the Index of Socio-Economic Status differences with respect to class identification are smaller among the former group.

The trend toward college attendance has been slightly greater in urban than in rural areas. The educational and occupational aspirations of urban youth are likely to be greater; this trend is due, in part, to the effect of the socioeconomic milieu in which they live.

Parents' Education

Research has not indicated that students capable of good academic work must come from parents of high ability; excellent academic ability is found in all strata of society. Hollinshead (50) summarized motivational reasons for not going to college. Practically all of the superior youths who do not continue their education beyond high school are children of parents who have had less than a high school education. The culture in which these people participate has little contact with higher education and they are not accustomed to postponing the earning period in favor of a long and costly period of vocational preparation. Hollinshead stated that one of the crucial factors in ascertaining college

attendance is family attitude. If college is a family tradition and there is respect for learning, the child will attend college even at considerable sacrifice.

The results of a study sponsored by the American Council on Education (133) showed that 65 per cent of the children whose fathers had attended college applied for admission to college, whereas only 21 per cent of the children of fathers who had only grade school education applied for college admission.

Berdie (7) summarized that metropolitan boys and girls planning to attend college tended to come from homes where the parents had had some college training more often than did farm boys and girls planning to attend college.

Brown (11) studied three groups of female students with differing grade point averages based on a 4.00 scale: above 3.50, 3.15-3.49, and 2.50 and lower, respectively. No statistically significant differences were found among the three groups of students with respect to educational achievement of either parent. The group attaining the highest grade point average contained the highest percentage of both parents who pursued graduate study following college graduation. A greater percentage of mothers and fathers of the middle group terminated their educational experiences following college graduation than did the others; this group also exceeded other groups in the percentage of both parents who did not complete high school. The group with the lowest grade point average showed the greatest percentage of both parents who had completed only two years of high school.

According to recent research the percentage of students applying for admission to college is greater among children of parents with some college training than among parents with none. There is, however, little evidence to substantiate the fact that high achieving students must come from parents of high ability.

Father's Occupation

People in all occupational strata have generally high aspirations for their children's education; however, the higher the individual's position on the occupational scale, the higher the aspiration he has for his children. Berdie (6) reported " . . .there is a marked tendency for children of fathers high on the occupational ladder to attend college to a far greater extent than do children of fathers in other occupations. Inasmuch as there are many more children coming from nonprofessional homes, it is safe to assume that a large proportion of our students do not come from professional homes in spite of the fact that most of the children from professional homes do go to college." Since familial characteristics which are more conducive to high level aspirations are more typical of the middle class than of the working class, familial differences can be viewed, at least in part, as interceding between the parents' social class and children's occupational aspirations and views. In regard to this, Wilson (125) stated " . . .while the association between youths' educational and occupational aspirations and their parents' position is strong, regardless of what dimension of social stratification is employed, there is considerable variation in aspirations among youths within a single class."

Lorimer (74) reported that at Michigan State University a larger percentage of Honors College seniors than seniors with lower scholastic averages indicated their fathers were engaged in professional pursuits. The absence of talented college students from the white-collar and skilled groups was attributed to economic rather than cultural factors by Mulligan (87). He concluded that in general the scarcity of talented students from farming, semi-skilled, and unskilled groups is due to cultural rather than purely economic factors.

Caplow (12) stated that although as recently as 1900 higher education was limited to children of upper-middle class and upper class families, the tendency to remove social and financial barriers has resulted in a more representative college population. Havighurst (41) summarized estimates regarding the relationship between college entrance and social class origin. This analysis suggested that since 1940 little increase in college attendance has occurred among upper and upper-middle class youth, the 80 per cent college attendance having been reached in 1940 by these groups. Havighurst, however, noted a sharp increase in the proportions of lower-middle and working class youth entering college--an increase of more than 50 per cent was expected from these social groups by 1960.

Kornhauser (70) reported distinct differences in the desires or value preferences of individuals within various occupational strata. Approximately 350 Chicago males were subdivided into four income groups: wealthy, upper, middle, and lower. The consequent result of the study indicated comparatively large differences in the value preferences among groups. Security and independence were most strongly desired by the lower

and middle income groups; social approval was most valued by the upper and wealthy income groups.

Coster (18) studied three income groups comprised of 878 pupils from 9 Indiana high schools. Responses to questionnaire items related to interpersonal relationships varied significantly among different income levels as did responses pertaining to general impressions of schools and estimates of the types of jobs available following high school graduation. Similar response was received from the three groups relative to attitudinal items concerning school, school personnel, school programs, and the value of education.

Berdie's (7) study in 1950, involving about 25,000 high school seniors, revealed that more city boys than city girls planned to attend college; a greater number of farm girls than farm boys planned to matriculate. Among high ability high school graduates 90 per cent of those from high socioeconomic levels planned to enter college; only 55 per cent of the high ability graduates whose fathers were factory laborers indicated this intention. After examination of such factors as paternal occupations, parental attitudes toward college, and geographic factors, Berdie concluded that the decision as to whether a student attends college is largely dependent upon the home from which he comes.

Centers (15) explored attitude differences of occupational strata with respect to certain cultural norms and stereotyped beliefs commonly supposed to be held rather uniformly throughout the American population. Small but statistically significant differences were observed among occupational strata concerning anti-Negro prejudice.

Lower occupational categories expressed views unfavorable to this group more frequently than higher categories. Differences also existed among occupational groups with respect to their projection as to the occupation in which their children would succeed. The upper two occupational groups were unanimous in the belief that their children's opportunities were as good or better than those of others. The lower occupational groups expressed this belief much less frequently. Centers (16) also cited evidence that whereas the characteristic value of the middle class is self-expression, that of the working class is security. Rossi (102) pointed out that "advantaged" students from middle and upper class backgrounds come to college "well inoculated against the official aims of undergraduate education."

The studies reported substantiate the fact that children from homes in the higher socioeconomic strata and those from urban homes tend to seek higher levels of education. This trend is generally concluded to be due to cultural rather than purely economic reasons.

Religious Affiliation

Hoult (53) defined religion in the following manner: "Religion is the belief in, and the attempt to relate favorably to (a) values thought to have some transcendental importance, and (b) ultimate power or powers thought responsible for all, or some significant aspect of, the fundamental order of the universe." The values upheld by particular religious groups are reflected in the behavior of group members, and therefore have an impact on social structure, to the extent that the values involved are compatible with other important cultural and social

emphases. Hoult substantiated this by stating that men act in accordance with their attitudes; for normal people, these attitudes are individualized manifestations of prevailing social values.

Religious education is in a sense a culmination of all facets of learning. Gilliland (32) reported that students in large universities and smaller denominational colleges reveal that they came to college with more or less definite ideas about God and the church. Ferman (26) indicated that religious attitude changes occurring on the campus are closely related to influences which the students bring to the campus with them. He cited this as an area for study which might evolve a more complete understanding of student life on the campus.

One of the most obvious differences in the educational level of members of religious groups is between Protestant and Catholic groups. Research has shown that Catholicism is, on the average, associated with relatively low educational achievement. A study by Haveman and West (40) indicated that Catholics go to college less frequently than do Jews and Protestants, and upon graduation tend to accept more humble positions with lower salaries. A recent sociological analysis of the occupational and class structure of American Catholics has made the point that Catholics, although they have raised their social status, have not done so in proportion to their numbers (63). The American Council on Education found that 68 per cent of the high school graduates from Jewish homes, 36 per cent of those from Protestant homes, and 25 per cent of those from Catholic homes applied for admission to college (51). Stetter (134) concurred with these results in a Connecticut study in which 57 per cent of the Catholic, 63 per cent of the Protestant, and 87 per cent of the Jewish high school graduates applied for admission to college.

The existence of stratification in American society is well known and accepted. One corollary evolving from this basic fact is that individuals from lower strata are not likely to attain high economic goals; higher education must be obtained with money, the commodity in which classes are lacking. A study reported by Wagner and Doyle (121) explored certain aspects of the participation of Catholics in American higher education. Its central purpose was to ascertain whether the study interests of young American Catholics differed from academic preferences of the Protestant majority. The study failed to yield evidence that the social circles from which Catholic students came preferred the liberal arts program to scientific, technical, and business courses. Conversely, evidence indicated that these circles tend to utilize the opportunities of higher education as much as, possibly more than, the Protestant majority. Closely related to this finding is the fact that Prince (93) found significant differences in mean value scores among students from public, private, and parochial schools.

Kane (63) stated upper and middle class families produce about 10 per cent of the children in the United States and send 80 per cent of them to college. The lower-middle class produces about 30 per cent of the American children but sends only 25 per cent of them to college. Classes below this level produce 60 per cent of the children but educate only 5 per cent at the college level. Catholics appear to belong mainly to the lower-middle and lower class. This appears to have two implications: Catholics belong to those classes producing the largest number of children and providing them with the least college education. Pope (92) worked with poll data encompassing 12,000 cases, collected in

1945-1946. He concluded that the percentage of Catholics belonging to the lower class must be raised to 66 per cent for the whole of the United States. For well-known historical and cultural reasons, Catholicism does not stress the importance of the individual and his compulsive drive for self-realization as do Protestantism and high educational standards. Cattell, Bruel, and Hartman (14) pointed out that all one can say is that there is a subtle something which apparently underlies BOTH Protestantism and the educational standards with which it is often associated. That something has "the character of a tradition-breaking freedom of thought or independence of mind."

From analyses of Allport-Vernon-Linzey scales administered to students at American International College, Spoerl (116) concluded that Jewish students score significantly lower than either Catholics or Protestants with respect to religious values. They possess significantly higher aesthetic values than either Catholic or Protestant students, and significantly higher social values than Catholic students. This author asserted that possibly Jewish students "are not less religious but rather differently religious."

Judaism, however, must be recognized as an organized religion with a function which Christian churches lack. Christianity need not suffer if the state takes over the preservation of some of the educational, secular, and social functions which once belonged to the churches, because the Western world as a whole is dominated by the Christian tradition.. Jews living in Christian countries are a minority group in a culture that is predominantly Christian; hence they cannot depend on the state to maintain their cultural traditions, but rather must depend upon

the Jewish religious community. Thus, the responsibility for the maintenance and preservation of Jewish culture and religious beliefs remains solely with its participants. It would seem to emit a more direct sense of urgency in the training of the younger generation; to provide greater motivation to perpetuate the true concept of Judaism and all activities in which Jews are interested as Jews. Kohn (69) stated that the complexity of the problems presented by the need of living Jewish life in an environment dominated by a Christian culture calls for the creation of a Jewish communal organization on a local or regional basis, although congregations for common worship and for religious education should have their place within the regional community.

Alper (2) substantiated this in the following manner: "Education is more than schooling, and the success of the educational process depends upon the participation in it of the Jewish community and of such Jewish communal units as congregations, community centers, and, above all, of Jewish homes. The total environment, with which the human organism interacts, exerts educational influences that contribute to the formation of character. Moreover, no effective Jewish education is possible without the existence of a Jewish milieu."

A somewhat different point of view is presented by Rudavsky (104) who believed that " . . .the fundamental religious values have been replaced by the goal of success and adjustment. The new religiosity in America, as Will Herbert (44) pointed out, takes the form of a deplorable psychological cult of the 'peace of mind' and 'count your blessings' variety."

Woodruff (129) demonstrated that religious experiences have an important effect on the value patterns of young people. Various denominations seem to produce diverse effects and, within any denomination, variations seem to exist which are due to factors which are not constant for all members of a denomination. Woodruff further asserted that, as far as the groups in this study were concerned, religious influence appeared to be a relatively strong one; however, the most noticeable effect was upon one's values in determining the manner in which the individual related religious ideas and practices to the rest of his life activities. Dukes (22) maintained that Woodruff's investigation " . . .can hardly be said to furnish unequivocal demonstration of this effect," inasmuch as many other factors such as socioeconomic status, region, and type of college vary along with religion.

Rhodes (96) studied the relationship between authoritarianism and religious preferences of high school seniors. These data led to the conclusion that association between authoritarianism and fundamentalism is not independent of the influence of socioeconomic status and rural residence. The difference between fundamental and nonfundamental subjects tends to decrease as status and urban influence decreases. The second finding of the study showed greater variation among Protestants than between Protestants and Catholics with respect to authoritarianism.

The studies cited above support the thesis that whatever the basic ideology of religion may be, there are bound to be values inculcated in the minds of the younger generation which will in some way influence their beliefs and attitudes.

Size and Type of High School Attended

Education may or may not effect a change upon stereotypes and values of students, depending upon the personality structure and social differences of the individuals involved. It has been postulated that schools cause changes. It seems more likely that the relationship of the school to the individual is mediated by self and the fact that certain types of people are destined to enter certain social or cultural situations.

Getzels (30) stated that the child's learning or "interiorizing" of social values is an intimate and complex process; " . . .the fundamental mechanism by which we interiorize values in schools as elsewhere, is identification. One cannot so much teach values as offer appropriate models for identification."

Students of different social strata tend to be segregated by school districts. Consequently, school populations acquire modally different values and aspirations. Hyman (57) reported that consistent and strong evidence has been accumulated showing that members of different socioeconomic groups adhere to differing values which reinforce their status. The "American core culture" is described by anthropologists as possessing a similar, self-perpetuating homogeneity (80, 83, 98). The public school subculture may be drawn from the "old middle class" and from the lower-middle class students who are upwardly mobile.

It is a truism that public school students achieve higher college grades than boys with a private school background even when intelligence is held constant. At Harvard, the Dean of the College reported that when all grades were raised appreciably during the Depression there

was no change in private-public school contrast (135). Seltzer (108), working with freshman students at Harvard, matched groups on scholastic aptitude and found public school student grades higher. The hypothesis that differences in values exist between upper and middle class adolescents as they enter college was investigated by Wilson (126). For a sample of 165 students, the data revealed significant differences in values between public high school graduates and private school graduates. Public school graduates were heavily over-represented in receiving high honors and academic grades at the A level. This trend also remained constant when a measure predicting scholastic aptitude included previous grades (19, 23, 38, 39, 95).

Kluckhohn (68) has offered the most relevant ideas as aids in understanding the previously discussed differences. Like other social scientists (25, 48, 81), Kluckhohn feels that the dominant value system is the "official" American "success culture," radiating from a focus somewhere in the lower-middle class. She stated that "dominant values emphasize the Future as the important time, the Individual as the important person, and Doing as the important aspect of personality. The alternative system relevant to the present problem is one radiating from some point in the Eastern upper class. There the time most valued is the Past, the persons who matter bear a Lineal relation to oneself, and Being is the most valued aspect of the person."

McArthur (76) found, in an eighteen year follow-up study that the Strong Vocational Interest Blank had accurately predicted public school careers but had predicted very little about the future of private school students. An item analysis of the Strong Vocational Interest

Blank indicated that public school boys chose clusters of items having to do with success and science whereas private school boys chose clusters of social, aesthetic, and status-seeking items.

Students enrolled in parochial schools of the Roman Catholic Church are attracted from all levels of society. The choice of a parochial school education is not a sigh of rejection of the public schools but conversely, a choice of something qualitatively different. It is apparent, however, that the parochial school Catholic is more closely identified with his church than the public school Catholic. The church and its leadership are for him a significant reference group. Rossi and Rossi (103) reported no evidence that parochial schools tended to alienate individuals from their communities.

In 1952 the total enrollment in Catholic secondary schools had exceeded the 500,000 mark with approximately 50,000 more girls than boys in attendance. According to their own classification, the schools listed themselves as 64 per cent comprehensive, 31.6 per cent academic, 3.8 per cent commercial, and 0.2 per cent vocational (46).

McNeil (78) studied inter-group relationships and the reduction of negative stereotypes of some students toward others in a public high school. Results of the first phase of the study indicated that twelfth graders were more negative in their reactions than tenth graders. Ethnic (Negro, Mexican, and Chinese) and religious (Methodist and Catholic) stereotypes of the twelfth graders more than doubled those of the tenth graders. Two years later the same instrument was administered to the previous tenth grade students under like conditions. The findings from this second inquiry were very similar to the first; as twelfth graders, students tended to express more prejudices.

Boyer (9) surveyed attitudes of 569 public high school students in a large Midwestern city. This study revealed that 84 per cent were satisfied with high school and that of the dissatisfied students two-thirds were boys. These findings suggest a need for better counseling and increased variety in course offerings. The greater proportion of these students indicated religion played an important role in their lives and relationships with their parents were wholly satisfactory.

Results from a study by Hoyt (56) revealed no differences in measured college ability between graduates of large and small schools. Women consistently averaged higher than men in high school rank in all sizes of schools, although the two sexes earned approximately equal average scores in a college aptitude test.

The literature reveals considerable evidence to support the fact that public school graduates achieve greater academic success in college than do graduates from private schools. Size of the school appears to have less influence on college success. Social class differences tend to direct the choice of the type of high school attended.

Research in Changes in Attitudes and Values

A widespread concern about attitudes and values of students is evident in recent literature. Many of the studies focusing upon characteristics of, or change in, college students, however, have not been based on research although the number of investigations in these areas is rapidly increasing. Izzard (59) cited a number of studies (4, 54, 55, 110) which have shown that people misperceive, change their opinions, or otherwise behave so as to indicate that they are changing or conforming

in response to the pressure of a group, to authority, or to some other form of influence. These researchers have demonstrated that a number of social conditions will bring about such a change.

Jacob (61) reviewed and summarized a vast number of studies and concluded that colleges and universities have little effect on student values. Jacob pictured the college population as being contented, self-centered, materialistic, politically irresponsible, and tolerant of diversity. The students place high value on moral virtues but are not inclined to censor laxity which they consider prevalent. Finally, students tend to be convinced of the value of college in general, and their own college in particular, regarding vocational preparation and social skills as the greatest benefits of a college education. Riesman (97) criticized Jacob's survey in that his view of students was over-censorious and he had not sufficiently differentiated among types of data under consideration. Barton (5) pointed out the need for more systematic empirical research in an attempt to answer some questions evolving from Jacob's report.

Jacob's conclusions were supported by a study by Gillespie and Allport (31) in which views on the future of college and university students in ten countries including the United States were surveyed. The trait most sharply distinguishing American students from those of other countries was the accent on what the investigators called "privatism"; this term is the counterpart of that which Jacob called "unabashed selfishness," the desire to attain a rich, full life for one's self and one's family. There was a marked contrast in the outlook of students from lesser developed countries whose concern is to contribute something

to their country. Students of other countries were also studied by Morris (86) in an attempt to ascertain their perceptions of a "good way of life." Morris found the greater preferential variations related to cultural background, and variations of a lesser degree related to sex, age, religion, socioeconomic status, and personality traits.

The attitudes and values of Vassar alumnae have been surveyed for all decades dating back to 1904 (27). Of all groups studied, and as compared to Vassar students of the past five years, the classes of 1940 through 1942 appeared to be the most internationally minded, the ones with most faith in science and reason, the least ethnocentric, and the most realistic.

A comprehensive study of personality development during the college years is in process at Vassar College by the Mellon Foundation (105). This study highlights the fact that the student body as an entity possesses characteristic qualities of personality which, like any cultural group, provides the basic context in which individual learning occurs. Brown (10) found major types of college careers related to five distinct patterns of college experience: (1) social and peer group orientation, (2) high achievement, (3) over achievement, (4) under achievement with family orientation, and (5) search for identity. Freedman (28) described some characteristics of high and low scorers on the personality scale: in general, seniors were less conventional than freshmen, more critical of authority, more tolerant of other's weaknesses, more aware of their own sexual and aggressive impulses, and more likely to experience inner conflicts. The personality tests developed at Vassar College were administered at various other

women's colleges with consistent findings---these changes seeming to indicate systematic personality changes in late adolescence.

The Cornell Values Study, reported by Goldsen et al., a team of sociologists (33), reflected the thinking of students on issues regarding educational, social, political attitudes and values, sexual practices, and religious beliefs and practices. Interpretations made by these investigators indicated that attitudes, values, and behaviors of students were directed by the cultural milieu in which they were involved. These researchers found a positive orientation toward values of education, a lack of interest in politics, a feeling of need for religious beliefs (but not a strong commitment to them), and a general pattern of apathy and conservatism.

Eddy (24) examined data from interviews and participant-observations and reported evidence that college experience had a substantial impact on student values exerting its greatest force when its components reinforced the major goals. Wise (127) summarized data relevant to characteristics of college students and reflected upon differences between the college climate of today and that of previous eras. McConnell and Heist (77) and Heist (42) have also observed that the atmosphere of a college is established by dominant characteristics and backgrounds of the student body.

In a preliminary report of a four-year study concerned primarily with changes in student attitudes and values, Lehmann and Ikenberry (71) revealed the following significant changes for both male and female students: less stereotypic attitudes, more emergent values, and increased critical thinking ability. In a later report of this study, Lehmann and

Payne (72) presented data from a series of interviews which indicated a significant relationship between administrative policies and change in stereotypic beliefs and between the impact or influence of friends and change in values for male students. For female students, a significant relationship existed between changes in values and a course or courses and cultural activities.

Dressel and Mayhew (20) reported that some students made high gains on the Inventory of Beliefs and on tests of critical thinking in the social and natural sciences, whereas other students' gains were small.

Thus, from the literature, it may be concluded that research in education and in the behavioral sciences on college populations has reached a stage of development where it can be vitally useful in selection of students, planning and evaluation of curriculums and extra- and co-curricular activities, prediction of college persistence and success, determination of college effects upon alumni, and establishment of institutional norms and profiles.

The remaining chapters of this thesis are devoted to the study of the relationship between background characteristics and changes in attitudes and/or values displayed by students after one year of college. Chapters III and IV present the method of investigation and analysis of the data. Chapter V includes conclusions drawn from the study and implications for further research in the area of attitudes and values.

CHAPTER III

THE METHOD OF INVESTIGATION

Definition of the Population

The population selected for this study was the class entering Michigan State University in fall term, 1958. The class was comprised of 3,216 students designated as freshmen. In order that the sample might be kept as homogeneous as possible, certain limitations were set and the following subjects were eliminated from the sample: students having been enrolled at another college or university, students carrying less than 12 hours of credit, and foreign students. During Orientation Week in fall term, 1958, a battery of tests was administered to 2,973 freshman students. Complete and usable data were obtained from 2,746 students, 1,310 females and 1,436 males representing 93 per cent of those who were eligible for the study.

Classification of the Sample as to Change

The data upon which this study is based were obtained from subjects who entered Michigan State University as freshmen in fall term, 1958, and who, as of May, 1959, had been consistently enrolled in this institution. Of the 2,746 students tested in the fall, 2,443 students were still enrolled at the time of the post-testing session; however,

it was only possible to re-test 2,317 subjects of this group. Complete and usable re-test data were received from only 2,219 students, constituting 69 per cent of the original population. Table 1 presents the restrictions of the sample.

TABLE 1. Restrictions of the sample

	N	%
Original population--freshmen entering Michigan State University in 1958	3216	100
Subjects eliminated by selective criteria	243	8
Subjects eliminated by incomplete test data	227	7
Subjects withdrawn during freshman year	303	9
Subjects failing to participate in re-test program	126	4
Subjects eliminated by incomplete re-test data	98	3
Usable sample	2219	69

Five hundred and fifty-nine changes[1] were identified from analysis of pre- and post-test scores, indicating that a change in attitudes and/or values had occurred during the first year in college. Table 2 presents the classification of the types of change indicated by analysis of data obtained from 2,219 subjects.

[1]Inasmuch as some subjects changed in both attitudes and values, the incidents of change are referred to as "changes" instead of "changers."

TABLE 2. Incidents of types of change in attitudes and values

Values	Attitudes			Total
	Single Change	More Stereotypic	Less Stereotypic	
Single Change		133	123	256
Less Traditional	127	8	16	151
Less Emergent	133	10	9	152
Total	260	151	148	559

Description of Biographical Data

Research on stratification in American life has tended to deal primarily with the relationship between the individual's position in the social hierarchy and his behavior in various areas of life. One important omission in the literature pertaining to social stratification is consideration of the influence which background characteristics may have upon attitudes and values.

The literature reveals that certain background characteristics seem to have played a major role in the original formation of such attitudes and values. This study purports to relate seven of these biographical characteristics to the changes in attitudes and values of college students which are identified by test re-test data: size of home community, father's education, mother's education, father's occupation, religious affiliation, types of secondary school attended, and size of high school graduating class.

Size of Home Community

Urban residence implies a slightly greater social expectancy of going to college than does rural residence. There is a slight and probably decreasing tendency for farm families to be less favorable than city families of the same socioeconomic level toward higher education for their children. However, the principal forces reducing college attendance of rural children are socioeconomic and distance factors.

The size of the home community was delineated in the following way: farm, village---population 250-2,499, town---population 2,500-24,999, city---population 25,000-100,000, and cities with population over 100,000. These sociological units may also be grouped to denote "rural" and "urban" districts in relation to size of home community.

According to the classification used by the 1960 Bureau of Census Report (132), an urban population refers to all persons living in (a) incorporated cities, town, boroughs, or villages of at least 2,500 inhabitants, (b) densely settled urban fringe, both incorporated and unincorporated, around cities of 50,000 or more, (c) unincorporated places consisting of at least 2,500 inhabitants or more outside any urban fringe. The remaining population is classified as rural.

Parents' Education

The amount of formal education a person has received tends to influence the broad occupational group in which he will be found. The Bureau of Census (131), reporting on population characteristics, stated that in 1959, among men 18 years of age and over, six out of ten college graduates were in professional and technical fields and about two out of

ten were managers, officials, or proprietors. Proportionately, three times as many college graduates were engaged in professional or technical occupations as were individuals with only one to three years of college. Of the men 18 years of age and over who have attended but not completed college, one-fourth were categorized as managers, officials, and proprietors and one-eighth were in each of the categories---clerical workers, sales workers, and craftsmen.

Among men who completed high school and who did not go beyond, a majority were reported in three occupational groups---craftsmen, operatives and managers, officials or proprietors. Men with some high school education who did not graduate and those who completed elementary school and did not go to high school were most likely to become operators or craftsmen. Farm, service, and laboring jobs were prevalent among those having lesser amounts of education.

The tendency for an employed female college graduate to be engaged in a professional occupation was even greater than for a male college graduate. Clerical jobs attracted many who were not engaged in one of the professions. Employed female high school graduates were found most frequently in clerical positions, whereas those with lesser amounts of formal education were engaged as operatives or service workers.

Classifications of parents' education as considered in this study are: elementary grades one through eight, high school grades nine through twelve, college years thirteen through sixteen, and graduate or professional school years seventeen through twenty.

Father's Occupation

In modern society, occupations are specific functions within a division of labor. Mills (84) stated occupations involve several ways of ranking people. For specific activities, occupations entail various types and levels of skill fulfilling certain functions within a division of labor. As sources of income, occupations are connected with class position and carry a degree of prestige with relevance to status positions. Occupations also involve certain degrees of power over other people in terms of the job and other social areas. Occupation rather than property is the source of income for most of those who receive a direct income. For example, in the occupational hierarchy, the white-collar worker ranks in the same position as the wage-worker in terms of property---low on the scale; in terms of occupational income, the white-collar worker ranks "somewhere in the middle" of the hierarchy.

Hollinshead (51) reported that the social groups most likely to send their children to college are the urban business and professional people. Those least likely to expect their children to go to college are the urban working-class group and the small scale farmers. He cited other ways of classifying people with regard to social expectation of college attendance. Among them, ethnicity appears to be a social factor of some consequence. Fathers' occupations were categorized in the following manner for use in this study: professionals and semi-professionals (doctors, lawyers, architects, photographers, laboratory technicians); proprietors (own own businesses), managers, and buyers; clerical, sales, and kindred workers; craftsmen, foremen, and kindred workers (this work usually requires specialized training or apprenticeship);

farmers and farm managers; and unskilled laborers, operatives, and kindred workers with no special training required.

Religious Affiliation

There are striking differences among the average achievements of various religious groups. Although essentially superficial, since they are primarily manifestations of social stratification and other variables, these differences help to perpetuate denominational value conflicts. Rosen (100) stated that the Protestant's stress upon formal education, if only as a means of furthering one's career, is well known. Traditionally, Jews have placed a very high value on educational and intellectual attainment. In his study of ethnicity and the achievement syndrome, Rosen found that Greeks, Jews, and Protestants show significantly higher mean scores (they tend to be satisfied with fewer occupations and indicate satisfaction with only the higher status position) than Roman Catholic Italians and French Canadians. Rosen felt that social class and ethnicity interact in influencing motivations, values, and aspirations; ethnicity, however, seemed to be the most significant.

The religious preferences of the individuals included in this study were classified as Protestant, Jewish, and Catholic. No reference is made to further subdivisions within classes.

Size of High School Graduating Class

The impact of social and organizational structure of class size, and of the school in general, upon the student has been largely bypassed as an area of educational or sociological inquiry. Several theoretical

propositions relative to the functions of group size have been developed and tested in laboratory settings (29); however, there have been few efforts to replicate these studies in either the small- or large-group classroom setting. The sizes of the high school graduating classes were arbitrarily established for consideration in this study as: under 25, 25-99, 100-199, 200-399, 400-999, and 1000 and over.

Type of Secondary School

The American people live in an exceptionally heterogeneous society; nevertheless, the sub-groups of the culture exert a marked impact upon the schools and colleges in this country. On the one hand, school, college, and university systems have been perpetuated by the influence of religious, ethnic, and regional interests. On the other hand, sub-group members, such as Jews, Negroes, Catholics, or Puerto Ricans, living in their own group settlement tend to emit predominances of students and teachers with specific religious, ethnic, or class affiliations. This trend is neither peculiar to all public nor to all private schools and implies that only a part of the students in this country share the experience of attending schools that are heterogeneous in any sense.

Good (34, 35, 36) has defined these types of schools as follows: public--usually of elementary or secondary grades, organized under a school district of the state, supported by tax revenues, administered by public officials, and open to all; parochial--supported by a parish serving the children of the parishioners, and may be either preparatory or terminal in character; private--that which does not have public support and is not under public control.

The types of secondary schools attended by the subjects under consideration in this study were public, parochial, and private. The private schools were not under church control.

Instruments of Measurement

The Inventory of Beliefs

The Inventory of Beliefs was developed by the Inter-College Committee on Attitudes, Values, and Personal Adjustment of the Cooperative Study of Evaluation in General Education. The fundamental assumption underlying this instrument is that "the objectives of general education can serve as a base from which may be inferred the model organization characterizing the personalities of those most adaptable to the purposes of general education." (58) The Committee advocated exploration of personality dimensions as they referred to problems of general education in terms of the individual's relations to ideas and intellectual abstractions, social groups and identifications, interpersonal relations, and the self (21).

The present form of the Inventory of Beliefs consists of 120 pseudo-rational, cliche-like statements to which the subject is asked to respond by means of a four-element scale: strongly agree, agree, disagree, and strongly disagree. The score is based upon the number of items with which the subject indicates disagreement or strong disagreement, and may range from 0-120. Subjects who accept a large number of statements, achieving a low score on the test, are regarded as being stereotypic in their beliefs, resistive and defensive, and possessive

of tendencies toward authoritarianism. Conversely, individuals with high scores rejecting the majority of the statements are characterized as flexible, adaptive, and non-stereotypic in their beliefs. For the purpose of this study the Inventory of Beliefs was used to measure stereotypy.

Differential Values Inventory

The Differential Values Inventory was developed by Prince (93) at the University of Chicago to measure "traditional" and "emergent" values as previously established by Spindler (115). Some value categories outlined by Spindler were combined by Prince to formulate four "traditional" value categories---puritan morality, work success ethic, individualism, and future time orientation; and four "emergent" value categories---sociability, relativistic moral attitude, conformity, and hedonism or present-time orientation. The items included in these eight categories constituted the Differential Values Inventory.

The scale consists of 64 pairs of forced-choice items. Each pair has a traditional value statement ranked against an emergent value statement. The subject chooses either traditionally oriented items or emergent value items in each of the 64 pairs. The instrument is designed to score one point for each traditional choice.

A subject receiving a high traditional score would be expected to place considerable emphasis on respectability, self-denial, hard work as a determinant of success, egocentricity, and disregard for the past and present in favor of the future. On the other hand, the person oriented toward the emergent value system is most concerned about getting

along with people, group-determined morality standards, consideration for the group and their feelings, and an hedonistic attitude toward the importance of the present. The Differential Values Inventory was used as the principal measure of values in this study.

Biographical Data Sheet

The diversity of college students is phenomenal, especially when considered from the standpoint of biographical characteristics. Students differ not only in intellectual capacities and physical characteristics but also in many other ways which are significantly relevant to the process of higher education. Clark (17), Holland (47), Heist and Webster (43), and Thistlethwaite (118) have reported marked differences among students, both within the same institution and among colleges, in characteristics other than specific intellectual capacity or performance.

An appropriate instrument was constructed by the research staff at Michigan State University for use in obtaining biographical data not available from existing university records. This instrument consists of 25 items which allow the respondent to indicate his own biographical data. The use of this type of appraisal proved to be an expedient method of obtaining both factual and affective data from a large sample of subjects.

Procedure for the Collection of the Data

During Freshman Orientation Week in the fall term, 1958, a battery of tests was administered to 2,973 entering freshmen at Michigan State University. Foreign students, students enrolled for less than 12 credit hours, and transfers from other colleges or universities were excluded

from the sample. The test battery included the following instruments: The Differential Values Inventory, The Inventory of Beliefs, Form I, and a Biographical Data Questionnaire. Complete and usable test data were obtained for 2,746 students, 1,436 males and 1,310 females, comprising 93 per cent of the restricted population.

A similar testing program was completed in May, 1959, and The Inventory of Beliefs and The Differential Values Inventory were re-administered. After the deletion of incomplete data sheets, usable data were obtained on 2,219 students, 69 per cent of the original total population.

The subjects' scores on the various instruments from the test battery were coded and punched on International Business Machine cards for tabulation and analysis. The name, student identification number, and a code denoting sex were also included on the card.

Procedure for the Analysis of the Data

After consideration of various types of statistical designs available for analysis of the research data, it was concluded that no single analysis seemed applicable to test all of the hypotheses. Consequently, Chi-square was used in this study for analyzing test results pertaining to students with differential familial, religious, and educational background characteristics to determine whether these groups of students differ more than could be accounted for by chance. This statistical model was used to test Hypotheses I and II. Although Chi-square will not give any indication of the extent of the relationship,

it can be used with cross tabulated data as a statistical test to determine whether or not variables are related.

The data for this study were collected, not by a comparison of two matched samples, but by testing and retesting the same subjects under identical experimental conditions. Hence, for Hypothesis III a t-test for correlated variances was used to determine the significance of the differences between the two mean scores obtained for the samples with respect to stereotypy and traditional values.

The initial analysis of the data indicated distinct sex differences; consequently, the data in the study were considered separately for men and women.

This chapter has presented the plan for the collection and analysis of the data which it is hoped will present a better understanding of background characteristics possessed by students showing changes in attitudes and values after one year at Michigan State University. Chapter IV contains an analysis of the data as summarized in Chapter V. Conclusions resulting from this study and implications for further research in the area of change in attitudes and values are presented in the final chapter.

CHAPTER IV

ANALYSIS OF THE DATA

Collection of the Data

Data were obtained from freshmen who entered Michigan State University in fall term, 1958, and who, as of May 1959, had been consistently enrolled in this institution. A test battery including The Inventory of Beliefs, Form I, The Differential Values Inventory, and a Biographical Data Questionnaire was administered to 2,973 entering freshmen during Orientation Week in fall term, 1958. Complete and usable test data were obtained for 2,746 students. A similar testing program was completed in May 1959, and The Inventory of Beliefs and The Differential Values Inventory were re-administered. At this time, usable re-test data were obtained on 2,219 students, constituting 95 per cent of the eligible population. Classification of the types of change within the group is as follows: 133 incidents of change indicating an increase in stereotypy, 123 incidents of change indicating a decrease in stereotypy, 127 incidents of change indicating a decrease in traditional values, 133 incidents of change indicating a decrease in emergent values. Eight students showed an increase in stereotypy and a decrease in traditional values; sixteen students indicated a decrease in stereotypy and a decrease in traditional

values; ten students showed an increase in stereotypy and a decrease in emergent values; and nine students showed a decrease in stereotypic beliefs and a decrease in emergent values.

Plan for the Analysis of the Data

The analysis of the data will be presented in three parts, corresponding to the sequence of the hypotheses presented on page 10.

Hypothesis I.--There are no significant relationships between types of attitude change and the familial and/or educational backgrounds of students.

The Chi-square technique was used to ascertain whether the relationships between certain variables and the type of attitude and value change are more than could be accounted for by chance. The .05 level of confidence was established for statistical significance throughout the study.

To test this hypothesis, subjects were classified in the following manner: those who became more stereotypic, those who remained stable since their re-test scores did not exceed the previously established confidence band of 1.5 standard errors of estimate above or below their predicted scores, and those who became less stereotypic. For purposes of this section of the study, the levels of parents' education are defined as follows: grade school--those who did not go beyond grade school, high school--those who entered high school but did not attend college, college--those who entered college but did not attend graduate school, and graduate school--those who attended graduate school. Scores on The Inventory of Beliefs were used to determine the degree of stereotypic beliefs. Data

pertaining to male and female students were examined independently because of initial sex differences in the study.

Male Students

Table 3 shows the results of the comparison of size of home community, father's education, mother's education, father's occupation, religious affiliation, size of high school graduating class, and type of secondary school for three groups of male students: more stereotypic, stable, and less stereotypic.

TABLE 3. Familial and intellectual background characteristics: Comparison of three groups of male students identified according to attitude change

Variable	df	X^2	P
Size of home community	11	2.9135	N.S.[1]
Father's education	11	52.5255	*
Mother's education	11	67.2635	*
Father's occupation	20	33.0747	*
Religious affiliation	8	4.4564	N.S.
Size of high school graduating class	11	3.3271	N.S.
Type of secondary school attended	5	4.0068	N.S.

[1]Not significant

*Significant at the .05 level of probability

The findings revealed relationships, significant at the .05 level of probability, between types of attitude change among the three groups of male students with respect to mother's and father's educational level and father's occupational level. Further Chi-square analyses of these data disclosed significant relationship between types of attitude change and some subdivisions of these variables.

Father's education.--The gross Chi-square analysis indicated a significant relationship between attitude change and level of father's education.. When this relationship was further investigated, it is seen in Table 4 that some levels of father's education are influential in the change of attitudes of male students.

From inspection of individual Chi-square analyses related to levels of father's education and attitude change among groups of male students, the following observations were made:

1. Students whose fathers had graduate school level of education as compared with those whose fathers had grade school level of education appeared to become less stereotypic.

2. Students whose fathers had graduate school level of education as compared with those whose fathers had high school level of education seemed to become less stereotypic.

3. Students whose fathers had graduate school level of education as compared with those whose fathers had college level of education appeared to become less stereotypic.

TABLE 4. Levels of father's education: Comparison of three groups of male students identified according to attitude change

Variable[2]	Direction of Change	df	X^2	P
Father's education				
Grade school vs. high school		5	0.3119	N.S.[1]
Grade school vs. college		5	5.5191	N.S.
Grade school vs. graduate school	↑	5	19.3202	*
High school vs. college		5	10.1819	N.S.
High school vs. graduate school	↑	5	23.6776	*
College vs. graduate school	↑	5	45.3719	*

[1]Not significant

[2]In instances of significance, the variable appearing to exert the greatest influence in the direction of change is underlined

*Significant at the .05 level of probability

↑Becoming less stereotypic (more flexible, adaptive)

Mother's education.--Relationships between level of mother's education and change in attitudes among groups of male students are presented in Table 5. From these data it appears that level of mother's education exerts considerable influence upon attitudes of male students; both college and graduate school training of mothers relate to change in attitudes.

From inspection of individual Chi-square analyses related to levels of mother's education and attitude change among groups of male students, the following observations were made:

1. Students whose mothers had grade school level of education as compared with those whose mothers had college level of education appeared to become more stereotypic during their first year in college.

2. Students whose mothers had graduate school level of education as compared with those whose mothers had grade school level of education appeared to become less stereotypic.

3. Students whose mothers had high school level of education as contrasted to those whose mothers had college level of education appeared to become more stereotypic.

4. Students whose mothers had graduate school level of education as compared with those whose mothers had high school level of education seemed to become less stereotypic.

5. Students whose mothers had graduate school level of education as contrasted to those whose mothers had college level of education seemed to become less stereotypic.

TABLE 5. Levels of mother's education: Comparison of three groups of male students identified according to attitude change

Variable[2]	Direction of Change	df	X^2	P
Mother's education				
Grade school vs. high school		5	2.2403	N.S.[1]
Grade school vs. college	↓	5	22.4254	*
Grade school vs. graduate school	↑	5	12.1090	*
High school vs. college	↓	5	20.2073	*
High school vs. graduate school	↑	5	29.7480	*
College vs. graduate school	↑	5	71.0914	*

[1]Not significant

[2]In instances of significance, the variable appearing to exert the greatest influence in the direction of change is underlined

*Significant at the .05 level of probability

↑ Becoming less stereotypic (more flexible, adaptive)

↓ Becoming more stereotypic (more rigid, authoritarian)

Father's occupation.--A significant relationship was observed between attitude change among groups of male students and the levels of father's occupation; the trend appearing within the lower social classes. Table 6 presents Chi-square analyses of relationships between levels of father's occupation and change in attitudes of three groups of male students.

From inspection of individual Chi-square analyses related to levels of father's occupation and attitude change among groups of male students, the following observations were made:

1. Students whose fathers were engaged in "white-collar" occupations as contrasted to students whose fathers were classified as "skilled" workers appeared to become less stereotypic after one year in college.

2. Students whose fathers' occupations were classified as "skilled" workers as compared with students whose fathers were classified as "semi-skilled" workers appeared to become less stereotypic.

3. Students whose fathers were classified as "unskilled" workers as contrasted to students whose fathers were engaged in "white-collar" occupations appeared to become less stereotypic.

4. Students whose fathers were engaged in "unskilled" occupations as compared to students whose fathers' occupations were classified as "semi-skilled" seemed to become less stereotypic.

5. Students whose fathers were "unskilled" workers as contrasted to those whose fathers were teachers appeared to have been influenced significantly toward attitude change. It appears that approximately the same number of students became less stereotypic as those who became more stereotypic.

TABLE 6. Levels of father's occupation: Comparison of three groups of male students identified according to attitude change

Variable[2]	Direction of Change	df	X^2	P
Father's Occupation				
Executive vs. skilled		5	2.5455	N.S.[1]
Executive vs. professional		5	0.4470	N.S.
Executive vs. white-collar		5	4.3421	N.S.
Executive vs. semi-skilled		5	2.5085	N.S.
Executive vs. unskilled		5	7.6857	N.S.
Executive vs. teacher		5	2.0874	N.S.
Skilled vs. professional		5	4.5898	N.S.
Skilled vs. white-collar	↑	5	11.4594	*
Skilled vs. semi-skilled	↑	5	11.1992	*
Skilled vs. unskilled		5	7.9385	N.S.
Skilled vs. teacher		5	7.6046	N.S.
Professional vs. white-collar		5	3.0287	N.S.
Professional vs. semi-skilled		5	1.7763	N.S.
Professional vs. unskilled		5	6.6942	N.S.
Professional vs. teacher		5	2.2479	N.S.
White-collar vs. semi-skilled		5	1.1387	N.S.
White-collar vs. unskilled	↑	5	13.3816	*
White-collar vs. teacher		5	1.8173	N.S.
Semi-skilled vs. unskilled	↑	5	15.0942	*
Semi-skilled vs. teacher		5	0.4218	N.S.
Unskilled vs. teacher	↓ ↑	5	14.7583	*

[1]Not significant

[2]In instances of significance, the variable appearing to exert the greatest influence in the direction of change is underlined

*Significant at the .05 level of probability

↑ Becoming less stereotypic (more flexible, adaptive)

↓ Becoming more stereotypic (more rigid, authoritarian)

↓ ↑ Significant influence in either direction

Female Students

Table 7 presents gross data relevant to the comparison of size of home community, father's education, mother's education, father's occupation, religious affiliation, size of high school graduating class, and type of secondary school attended to attitude change among three groups of female students during the first year of college.

TABLE 7. Familial and intellectual background characteristics: Comparison of three groups of female students identified according to attitude change

Variable	df	X^2	P
Size of home community	11	3.0082	N.S.[1]
Father's education	11	19.2444	N.S.
Mother's education	11	7.3329	N.S.
Father's occupation	11	13.8752	N.S.
Religious affiliation	8	7.7735	N.S.
Size of high school graduating class	11	1.0034	N.S.
Type of secondary school attended	5	2.9382	N.S.

[1]No significant difference

Relationships between types of attitude change among three groups of female students classified as more stereotypic, stable, and less stereotypic, and the familial and intellectual variables under study were not significant.

Summary

Analyses of data relevant to Hypothesis I disclosed three statistically significant variables related to types of attitude change among male students: father's education, mother's education, and father's occupation. In the case of male students, the findings of this study fail to support the null hypothesis that there are no significant relationships between types of attitude change among groups of students with selected background characteristics. However, since no statistically significant relationships were found between types of attitude change among female students and the selected biographical variables, the null hypothesis is acceptable for these subjects. Table 8 presents a summary of significant Chi-square values for male students identified according to attitude change.

Hypothesis II.--There are no significant relationships between types of value change and the familial and/or educational backgrounds of students.

Data pertaining to Hypothesis II were analyzed by Chi-square technique to ascertain whether the selected variables differed among students to a greater degree than could be accounted for by chance. Male and female subjects were considered separately and in the following manner: those who became more traditional value oriented, those who remained stable and whose re-test scores did not exceed the previously established confidence band of 1.5 standard errors of estimate above or below their predicted scores, and those who became more emergent oriented. For purposes of this section of the study, the levels of parents' education are defined as follows: grade school--those who did not go beyond grade school, high school--those who entered high school but did not

attend college, college--those who entered college but did not attend graduate school, and graduate school--those who attended graduate school. Scores on The Differential Values Inventory were used to determine the degree of change of traditional values.

TABLE 8. Familial and intellectual background characteristics: Summary of significant X^2 values for male students identified according to attitude change[1]

COMPARISON OF VARIABLES[2]	Direction of Change		df	X^2
Father's Education				
Grade school vs. graduate school		↑	5	19.3202
High school vs. graduate school		↑	5	23.6776
College vs. graduate school		↑	5	45.3719
Mother's Education				
Grade school vs. college	↓		5	22.4254
Grade school vs. graduate school		↑	5	12.1090
High school vs. college	↓		5	20.2073
High school vs. graduate school		↑	5	29.7480
College vs. graduate school		↑	5	71.0914
Father's Occupation				
White-collar vs. skilled		↑	5	11.4592
Semi-skilled vs. skilled		↑	5	11.1992
White-collar vs. unskilled		↑	5	13.3816
Semi-skilled vs. unskilled		↑	5	15.0942
Unskilled vs. teacher	↓	↑	5	14.7583

[1]Significant at the .05 level of probability

[2]In instances of significance, the variable appearing to exert the greatest influence in the direction of change is underlined

↑ Becoming less stereotypic (more flexible, adaptive)

↓ Becoming more stereotypic (rigid, authoritarian)

↓↑ Significant influence in either direction

Male Students

Gross data presented in Table 9 show results of the comparison of the seven major variables chosen for this study for the three groups of male students studied: more traditional value oriented, stable, and more emergent value oriented.

Level of educational achievement of both fathers and mothers as well as religious affiliation showed a significant relationship to types of value change among groups of male students. Further Chi-square analyses of these data pointed out significant relationships between types of value change and specific levels of parents' education as well as religious preferences.

TABLE 9. Familial and intellectual background characteristics: Comparison of three groups of male students identified according to attitude change

Variable	df	X^2	P
Size of home community	11	8.0250	N.S.[1]
Father's education	11	42.4449	*
Mother's education	11	60.9915	*
Father's occupation	20	11.0929	N.S.
Religious affiliation	8	19.7070	*
Size of high school graduating class	11	7.5236	N.S.
Type of secondary school attended	5	0.0150	N.S.

[1]Not significant

*Significant at the .05 level of probability

Father's education.--The data reported in Table 10 indicate a significant relationship between types of value change among groups of male students and grade school, high school, college, and graduate school levels of father's education. From these data it appears that levels of father's educational achievement may be influencing factors in the value systems of male children.

From inspection of individual Chi-square analyses related to levels of father's education and value change among groups of male students, the following observations were made:

1. Students whose fathers had graduate school level of education as contrasted to those whose fathers had grade school level of education appeared to become more emergent.

2. Students whose fathers had college level of education in contrast to those whose fathers had high school level of education appeared to become more traditional.

3. Students whose fathers had graduate school level of education as contrasted to those whose fathers had high school level of education appeared to become more emergent.

4. Students whose fathers had graduate school level of education as compared with those whose fathers had college level of education seemed to become more emergent.

TABLE 10. Levels of father's education: Comparison of three groups of male students identified according to value change

Variable[2]	Direction of Change	df	X^2	P
Father's Education				
Grade school vs. high school		5	2.4733	N.S.[1]
Grade school vs. college		5	6.2936	N.S.
Grade school vs. graduate school	↓	5	12.5374	*
High school vs. college	↑	5	13.9730	*
High school vs. graduate school	↓	5	20.4424	*
College vs. graduate school	↓	5	33.7280	*

[1]Not significant

[2]In instances of significance, the variable appearing to exert the greatest influence in the direction of change is underlined

*Significant at the .05 level of probability

↑ Became more traditional-value oriented (or less emergent)

↓ Became less traditional-value oriented (or more emergent)

Mother's education.--Significant relationships between levels of mother's education and changes in values among the three groups of male students under consideration in this portion of the study are shown in Table 11. From these data it appears that the level of mother's education may also influence value change exhibited by male students during their first year in college and that the trend of maternal influence is similar to the trend reported for fathers: the higher the level of educational attainment, the greater the degree of influence.

From inspection of individual Chi-square analyses relating to levels of mother's education, the following observations were made:

1. Students whose mothers had graduate school level of education as compared to those whose mothers had grade school level of education appeared to become more emergent.

2. Students whose mothers had college level of education as contrasted to those whose mothers had high school level of education appeared to become more traditional.

3. Students whose mothers had graduate school level of education as compared with those whose mothers had high school level of education appeared to become more emergent.

TABLE 11. Levels of mother's education: Comparison of three groups of male students identified according to value change

Variable[2]	Direction of Change	df	X^2	P
Mother's education				
Grade school vs. high school		5	3.4516	N.S.[1]
Grade school vs. college		5	2.4981	N.S.
Grade school vs. graduate school	↓	5	22.8729	*
High school vs. college	↑	5	17.4023	*
High school vs. graduate school	↓	5	25.8766	*
College vs. graduate school		5	0.6301	N.S.

[1]Not significant

[2]In instances of significance, the variable appearing to exert the greatest influence in the direction of change is underlined

*Significant at the .05 level of probability

↑ Became more traditional-value oriented (or less emergent)

↓ Became less traditional-value oriented (or more emergent)

Religious affiliation.--Research (71) has indicated a significant relationship between the value orientation of male students and religious affiliation. Table 12 presents data which appear to support these findings.

TABLE 12. Religious affiliation: Comparison of three groups of male students identified according to value change

Variable[2]	Direction of Change	df	X^2	P
Religious affiliation				
Jewish vs. Protestant	↓	5	16.6482	*
Jewish vs. Roman Catholic	↓	5	13.5772	*
Roman Catholic vs. Protestant		5	1.5163	N.S.[1]

[1]Not significant

[2]In instances of significance, the variable appearing to exert the greatest influence in the direction of change is underlined

*Significance at the .05 level of probability

↓Became less traditional-value oriented (more emergent)

From inspection of individual Chi-square analyses related to religious affiliation, the following observation was made: Jewish students appear to become more emergent than Roman Catholic or Protestant students.

Female Students

Table 13 presents data relevant to comparison of familial and intellectual variables for the three groups of female students included

in this section of the study: more traditional value oriented, stable, and more emergent value oriented.

These data reveal a relationship between levels of father's education and types of value change among groups of female students. Further Chi-square analyses of these data also reveal significant relationships between types of value change and certain levels of father's educational achievement.

TABLE 13. Familial and intellectual background characteristics: Comparison of three groups of female students identified according to value change

Variable	df	X^2	P
Size of home community	11	8.0356	N.S.[1]
Father's education	11	36.2612	*
Mother's education	11	3.5215	N.S.
Father's occupation	17	18.3027	N.S.
Religious affiliation	8	13.2191	N.S.
Size of high school graduating class	11	7.0936	N.S.
Type of secondary school	5	2.4730	N.S.

[1]Not significant

*Significant at the .05 level of probability

Data presented in Table 14 indicate that grade school level of educational attainment for fathers is not influential in the process of value change among female students. The findings reveal relationships

between high school, college, and graduate school training, and between college and graduate school and types of value change among groups of female students. Values incurred by fathers during the process of higher education are obviously influential in the changes in the value systems of female students.

TABLE 14. Levels of father's education: Comparison of three groups of female students identified according to value change

Variable[2]	Direction of Change	df	X^2	P
Father's education				
Grade school vs. high school		5	0.0972	N.S.[1]
Grade school vs. college		5	9.3790	N.S.
Grade school vs. graduate school		5	4.0778	N.S.
High school vs. college	↑	5	11.8794	*
High school vs. graduate school	↓	5	11.1891	*
College vs. graduate school	↓	5	32.5818	*

[1]Not significant

[2]In instances of significance, the variable appearing to exert the greatest influence in the direction of change is underlined

*Significant at the .05 level of probability

↑ Became more traditional-value oriented (or less emergent)

↓ Became less traditional-value oriented (or more emergent)

From inspection of individual Chi-square analyses related to levels of father's education and value change among groups of female students, the following observations were made:

1. Students whose fathers had college level of education in contrast to those whose fathers had high school level of education appeared to become more traditionally value oriented.

2. Students whose fathers had graduate school level of education as compared with those whose fathers had high school level of education appeared to become more emergent.

3. Students whose fathers had graduate school level of education as compared with those whose fathers had college level of education appeared to become more emergent.

Summary

Statistically significant relationships between types of value change among groups of both male and female students and some selected familial background variables were revealed by Chi-square analyses of the data. Types of value change among male students were significantly related to father's education, mother's education, and religious affiliation. Only father's education was significantly related to types of value change among female students. Therefore, these findings reject the null hypothesis as originally stated.

Table 15 presents a summary of significant Chi-square values for male and female students identified according to value change.

TABLE 15. Familial and intellectual background characteristics: Summary of significant X^2 values for male and female students identified according to value change[1]

COMPARISON OF VARIABLES[2]	Direction of Change	df	X^2
MALE			
Father's Education			
Grade school vs. graduate school	↓	5	12.5374
College vs. high school	↑	5	13.9730
High school vs. graduate school	↓	5	20.4424
College vs. graduate school	↓	5	33.7280
Mother's Education			
Grade school vs. graduate school	↓	5	22.8729
High school vs. college	↑	5	17.4023
High school vs. graduate school	↓	5	25.8766
Religious Affiliation			
Protestant vs. Jewish	↓	5	16.6492
Roman Catholic vs. Jewish	↓	5	13.5772
FEMALE			
Father's Education			
College vs. high school	↑	5	11.8789
High school vs. graduate school	↓	5	11.1879
College vs. graduate school	↓	5	32.5782

[1]Significant at the .05 level of probability

[2]In instances of significance, the variable exerting greater influence in the direction of change is underlined

↑ Became more traditional-value oriented (or less emergent)

↓ Became less traditional-value oriented (or more emergent)

Hypothesis III.--There is no significant difference in test re-test mean scores used to measure stereotypy and traditional values of students with regard to the following variables: size of home community, father's education, mother's education, father's occupation, religious affiliation, size of high school graduating class, and type of secondary school attended.

The "t" test for correlated variances was used to test Hypothesis III. Data for male and female students were handled separately in this section of the study. Changes in stereotypy and traditional values pertain only to the freshman year in college: a high degree of stereotypy refers to rigidity, compulsiveness and authoritarianism while high traditional values indicate a high regard for Puritan morality, the meaning of work and responsibility, individualism, and an emphasis on the future rather than on the present. In contrast, low traditional values, or high emergent values, depict a person with higher regard for the values of sociability, relativistic moral attitude, conformity, and an emphasis on the present rather than the future. The Inventory of Beliefs was used as a measure of stereotypic beliefs while The Differential Values Inventory measured traditional values.

Measure of Stereotypy

Significant "t" values computed from the Inventory of Beliefs test re-test data relative to the seven background variables selected for this study are recorded in Tables 18 to 31, the Appendix. Discussion will be limited to variables which show a significant "t" value.

Size of home community.--The data in Tables 18 and 19 indicate that both male and female students, with the exception of students from

farm communities, exhibited a significant change in attitudes, becoming less stereotypic after one year in college. In the original analysis of the biographical data, the only outstanding difference between farm youths and those from other communities was the greater male-female ratio, 16 per cent of the males to 9 per cent of the females. The findings of this study would lead one to assume that the inculcation of beliefs may be more intensive in the case of farm youths than among those from other types of communities. Thus college experiences incurred during the freshman year tend to influence farm youths less than those from other home communities.

Father's education.--Tables 20 and 21 reveal that certain male and female students whose fathers completed grade 8, attended high school but did not graduate, attended college but did not graduate, graduated from college, or attained a graduate degree became less stereotypic during their freshman year in college. Female students whose fathers graduated from high school and male students whose fathers did not complete the elementary grades or attended graduate school but received no degree also became less stereotypic. Only male students whose fathers did not graduate from high school and female students whose fathers did not complete the elementary grades or who attended graduate school but did not graduate did not show a significant change in attitude.

Mother's education.--Analyses of these data indicated that both male and female students whose mothers attended high school but did not graduate, graduated from high school, attended college but did not graduate, or graduated from college displayed a significant change in attitudes: that is, they became less stereotypic, Tables 22 and 23.

It seems apparent that there is relationship between levels of parents' education and changes in stereotypic beliefs of students. One might assume that the experiences associated with a higher educational level for parents may inadvertently affect the attitude structure of their children. This situation may also be considered from the socio-economic-educational point of view in which a higher educational level is associated with higher economic status. Hence, those students whose parents attained higher educationally have been exposed to a standard of living commensurate with this educational level.

Father's occupation.--Significant attitude changes resulting in less stereotypic beliefs were observed in Tables 24 and 25 for male and female students whose father's occupational status was: executive, business owner, semi-skilled, teacher, or no occupation listed. Daughters of professional workers and unskilled workers became less rigid, compulsive, or authoritarian. Sons of skilled workers and public service workers also became less stereotypic.

Religious affiliation.--Male and female students of Roman Catholic, Jewish, or Protestant religious affiliation included in this study became less stereotypic in beliefs during their freshman year in college. This is reported in Tables 26 and 27.

Increased knowledge of other religions gained through classroom experiences and association with those affiliated with other religions has been reported by students as being most influential in lessening stereotypic beliefs (72). This has been supported, at least in part, by other researchers (24) and (33). Liberation from some preconceived beliefs through an increase in knowledge appears to have influenced all students to become generally less stereotypic.

Size of high school graduating class.--Only those students, male and female alike, who were members of high school graduating classes numbering less than 25 or more than 1000 remained unchanged in stereotypic beliefs. Students from high school graduating classes ranging in size from 25-1000 became less stereotypic during the first year of college enrollment. These data are reported in Tables 28 and 29.

As was evident when considering size of home community, fewer students live in very small towns or in very large cities as classified in this study; consequently, fewer are attending very small or very large high schools. There is a dearth of research cited in the literature regarding class size and its effect upon students. A corollary might be drawn for students living in small farm communities and attending very small high schools: beliefs are so deeply ingrained that one year in college had no significant effect upon them. Students enrolled in high schools of over 1000 may have found such freedom and diversity through the numbers of persons and ideas to which they were exposed that they, too, found experiences encountered during one year at college did not exert an impact great enough to bring about changes in attitudes.

Type of secondary school attended.--Tables 30 and 31 show that both male and female students who attended public high school changed significantly in attitudes, becoming less stereotypic during the first year in college. Those students who attended parochial or private high schools exhibited no change in attitudes during this same period. Lehmann and Ikenberry (7) reported that 90 per cent of the students entering Michigan State University in fall term, 1958, had attended public high

schools. One might assert that students graduating from public high schools appear to be more susceptible to factors influencing change than those previously governed by religious tenets in a parochial school or by the dogma of a private institution.

Summary

Data presented in Tables 18 to 31, the Appendix, indicate that the majority of students become less stereotypic in attitudes during their freshman year in college. Other "t" values indicating an increased degree of stereotypy were not significant at the .05 level of probability. Table 16 presents a summary of significant "t" values of mean Inventory of Beliefs test re-test scores of male and female students.

Measure of Traditional Values

Significant "t" values computed from the Differential Values Inventory test re-test data pertaining to the background characteristics chosen for this study are recorded in Tables 32 to 45, the Appendix. Discussion of the data will be restricted to the variables which reveal a significant "t" value.

Size of home community.--Irrespective of size of home community, all male and female students became less traditional in their value orientation after one year at college. It appears from the data presented in Tables 32 and 33 that one could safely assume that the experiences encountered during one year at college are instrumental in causing students to become more emergent in their value orientation: more willing

to conform, more present-time oriented, and having a higher regard for the values of sociability.

Father's education.--Female students except those whose fathers did not complete elementary school nor who attended high school but did not graduate and all male students except those whose fathers attended graduate school but did not attain a degree became less traditional value oriented or more emergent in their value orientation during the freshman year in college.

TABLE 16. Summary of significant "t" values of mean Inventory of Beliefs test re-test scores of male and female students[1]

Variable	Male N	Male t	Female N	Female t
Size of Home Community				
Village	133	4.112 (-)	109	3.852 (-)
Town	301	3.867 (-)	308	4.438 (-)
City (25,000-99,999)	228	3.080 (-)	278	4.518 (-)
City (over 100,000)	272	4.633 (-)	279	5.001 (-)
Father's Education				
Elementary grades	71	2.255 (-)	23	---
Completed grade 8	152	2.119 (-)	100	4.306 (-)
Attended high school	130	3.828 (-)	124	2.102 (-)
Graduated from high school	329	---	240	4.494 (-)
Attended college	138	2.717 (-)	183	4.599 (-)
Graduated from college	166	3.260 (-)	209	3.480 (-)
Attended graduate school	24	2.237 (-)	33	---
Attained graduate degree	86	4.396 (-)	156	3.316 (-)
Mother's Education				
Attended high school	125	3.004 (-)	117	3.185 (-)
Graduated from high school	485	4.535 (-)	397	5.645 (-)
Attended college	111	2.875 (-)	154	3.907 (-)
Graduated from college	188	2.495 (-)	199	4.012 (-)
Attained graduate degree	40	4.419 (-)	76	3.322 (-)

[1]Significant at .05 level of probability
(-)Fall scores less than spring scores

TABLE 16 (continued)

Variable	Male N	Male t	Female N	Female t
Father's Occupation				
Executive or management	156	3.581 (-)	163	4.142 (-)
Business owner	118	3.438 (-)	194	2.367 (-)
Professional	165	---	172	5.076 (-)
Skilled	41	2.473 (-)	40	---
Semi-skilled	222	3.435 (-)	158	2.549 (-)
Low or unskilled	73	---	49	3.145 (-)
Public service	24	2.095 (-)	16	---
Teacher	114	2.054 (-)	144	2.715 (-)
Deceased, retired, no occupation	62	2.093 (-)	61	3.641 (-)
Religious Affiliation				
Catholic	189	3.706 (-)	187	2.776 (-)
Jewish	48	2.268 (-)	66	3.180 (-)
Protestant	788	5.452 (-)	785	7.992 (-)
Size of High School Graduating Class				
25-99	324	3.520 (-)	251	3.442 (-)
100-199	295	3.520 (-)	290	5.217 (-)
200-399	238	2.642 (-)	285	5.161 (-)
400-999	189	3.406 (-)	215	4.353 (-)
Type of Secondary School Attended				
Public	991	6.563 (-)	980	9.247 (-)

Mother's education.--Male and female students whose mothers did not complete the elementary grades or who attended graduate school but did not receive a degree were the only ones not exhibiting a significant change in values during the freshman year. Significant "t" values indicated that all other students became less traditional in values--or more emergent.

Essentially, the same implications may be elicited from the data reported in Tables 34 to 37, with respect to educational level of parents and value change, as in Tables 20 to 23, with respect to educational level of parents and attitude change. It appears that the higher the level of parents' education the less stereotypic and more emergent value oriented the students become during their first year in college.

Father's occupation.--From Tables 38 and 39 it may be observed that sons of fathers classified occupationally as executive, business owner, professional, white-collar, semi-skilled, or teacher become less traditional in values after being enrolled in college for one year. Female students whose fathers ranked in the following occupational strata--executive, business owner, professional, skilled, semi-skilled, teacher, or who had listed no occupation had become less traditional in their value schema by the end of spring term of their first year in college.

Upon inspection of the data, it appears that when occupational status is classified as high, middle, or low, both male and female students whose fathers rank high on the socioeconomic scale display more emergent values than students whose fathers are low on the continuum.

Religious affiliation.--As was true in the area of attitude change, all male and female students in this section of the study showed change in the same direction. All male and female students with Roman Catholic, Jewish, or Protestant religious affiliation became less traditional in values. These data are shown in Tables 40 and 41. One cannot definitely say at this time whether educational experiences and/or faculty and peer relationships have effected change in values or if the change is a part of normal maturation and development of the individual.

Size of high school graduating class.--Only students whose high school graduating class membership exceeded 1000 failed to exhibit a significant value change at the end of the first year of college enrollment. All male and female students previously enrolled in high school classes of less than 1000 students exhibited less traditional values at the end of the freshman year than they possessed when they entered college.

Those students previously enrolled in high school classes exceeding 1000 apparently found college experiences more similar to those of high school than did students who had attended small high schools. This fact offers a possible explanation as to why students from large high school graduating classes did not show a significant change in values. These data are presented in Tables 42 and 43.

Type of secondary school attended.--Male and female students who had attended public and parochial high schools became more emergent value-oriented, less traditional, after one year in college. Female students who had enrolled in private high schools also became less traditional in their value orientation. Tables 44 and 45 disclose these data.

The diversity between male and female students previously enrolled in private institutions indicates an area worthy of further research: what factors are operating within the value system of the male students which prevent them from becoming more emergent in their values as the female students have done?

Summary

Tables 32 to 45, the Appendix, present evidence that many students, both male and female, exhibit significant value change and become less traditional upon completion of one year of college. A summary of

significant "t" values of mean Differential Values Inventory test re-test scores of male and female students is presented in Table 17. Until further research is done, one cannot say conclusively that college attendance does produce a change in value orientation. However, the data discussed in this section of the analysis do lend support to the theory that college does alter student values, and Hypothesis III cannot be accepted.

This chapter has presented the analysis of the data. Chapter V contains the summary and conclusions drawn from this research as well as implications for further study of attitude and value changes among college students.

TABLE 17. Summary of significant "t" values of mean Differential Values Inventory test re-test scores of male and female students[1]

Variable	Male N	Male t	Female N	Female t
Size of Home Community				
Farm	167	4.706 (+)	95	2.227 (+)
Village	133	2.282 (+)	109	2.571 (+)
Town	301	5.069 (+)	308	5.874 (+)
City (25,000-99,999)	228	4.730 (+)	278	4.852 (+)
City (over 100,000)	272	4.342 (+)	279	4.881 (+)
Father's Education				
Elementary grades	71	2.658 (+)	23	---
Completed grade 8	152	3.572 (+)	100	4.795 (+)
Attended high school	130	2.244 (+)	124	---
Graduated from high school	329	3.958 (+)	240	4.419 (+)
Attended college	138	5.381 (+)	183	3.671 (+)
Graduated from college	166	4.811 (+)	209	4.762 (+)
Attended graduate school	24	---	33	2.289 (+)
Attained graduate degree	86	4.467 (+)	156	4.228 (+)

[1]Significant at .05 level of probability
(+)Fall scores greater than spring scores

TABLE 17 (continued)

Variable	Male N	Male t	Female N	Female t
Mother's Education				
Completed grade 8	96	3.945 (+)	73	2.714 (+)
Attended high school	125	2.259 (+)	117	3.233 (+)
Graduated from high school	485	5.620 (+)	397	5.163 (+)
Attended college	111	3.177 (+)	154	4.496 (+)
Graduated from college	188	5.093 (+)	199	5.441 (+)
Attained graduate degree	44	3.174 (+)	76	2.199 (+)
Father's Occupation				
Executive or management	156	2.633 (+)	163	4.031 (+)
Business owner	188	4.359 (+)	194	5.923 (+)
Professional	165	5.787 (+)	172	3.762 (+)
White-collar	94	3.738 (+)	61	---
Skilled	41	---	40	2.516 (+)
Semi-skilled	222	3.145 (+)	158	3.600 (+)
Teacher	114	2.897 (+)	144	3.206 (+)
Deceased, retired, no occupation	62	---	61	3.435 (+)
Religious Affiliation				
Catholic	189	4.596 (+)	187	6.108 (+)
Jewish	48	2.439 (+)	66	4.111 (+)
Protestant	788	7.621 (+)	785	4.381 (+)
Size of High School Graduating Class				
Under 25	30	3.491 (+)	21	2.320 (+)
25-99	324	4.475 (+)	251	4.432 (+)
100-199	295	4.285 (+)	290	4.810 (+)
200-399	238	5.600 (+)	285	5.101 (+)
400-999	189	4.367 (+)	215	4.270 (+)
Type of Secondary School Attended				
Public	991	8.931 (+)	980	8.692 (+)
Parochial	68	3.401 (+)	61	4.171 (+)
Private	38	---	27	2.626 (+)

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR FURTHER RESEARCH

The purpose of this study was to investigate the relationship between selected background characteristics and change in attitudes and values exhibited by students during their first year in attendance at Michigan State University. The biographical data included in the study relate to size of home community, father's education, mother's education, father's occupation, religious affiliation, size of high school graduating class, and type of secondary school attended.

The sample selected for the study was composed of 2,219 freshman students entering Michigan State University in fall term, 1958, and who, as of May, 1959, had been consistently enrolled in this institution. Complete and usable test re-test data were available for these students on the Inventory of Beliefs and the Differential Values Inventory. For this study, the subjects were classified in the following manner: those who became more stereotypic, or more traditional value oriented; those who remained stable and whose re-test scores did not exceed the previously established confidence band of 1.5 standard errors of estimate above or below their predicted scores; and those who became less stereotypic, or

less traditional value oriented. Data relevant to male and female students were examined independently.

It was hypothesized that (1) there are no significant relationships between types of attitude change among groups of students with differing familial and/or educational background characteristics, (2) there are no significant relationships between types of value change among groups of students with differing familial and/or educational background characteristics, and (3) there is no significant difference in test re-test mean scores on measures of stereotypy and traditional values of students with regard to the background characteristics selected for this study.

Chi-square was employed for analysis of data pertaining to relationship between types of attitude (and value) change and selected biographical factors. When the findings revealed significant relationship between types of attitude or value change among the groups of students and any of the background characteristics, further Chi-square analyses were computed in an attempt to identify relationship between the types of change and the subdivision(s) of the variable. The significance of the difference of test re-test mean scores on the Inventory of Beliefs and the Differential Values Inventory was investigated by use of the "t" test for correlated variances.

None of the null hypotheses were verified completely. Significant relationships were found between types of attitude change among groups of male students and mother's and father's educational level and father's occupational level. Further Chi-square analyses disclosed significant relationships between types of attitude change among male students

and grade school, high school, college, and graduate school with respect to father's education; significant relationship between types of attitude change among groups of male students and all levels of mother's education except grade school compared with high school; and significant relationship between types of attitude change among groups of male students and the following levels of father's occupation: skilled and white-collar workers, skilled and semi-skilled workers, white-collar workers and unskilled workers, semi-skilled and unskilled workers, and unskilled workers and teachers.

Relationships between types of attitude change among three groups of female students and the background characteristics selected for this study were not significant.

Significant relationships were found between types of value change among groups of male students and (a) religious affiliation, and (b) level of education of both mothers and fathers. Further Chi-square analyses revealed relationships between types of value change and grade school and graduate school, high school and college, high school and graduate school, and college and graduate school with respect to father's educational background. When data relevant to mother's education and types of value change among groups of male students were analyzed, significant relationship was found between grade school and graduate school, high school and college, and high school and graduate school. Jewish and Protestant, and Jewish and Roman Catholic religious affiliation related significantly with types of value change among groups of male students.

Analysis of data pertaining to female students revealed significant relationship with respect to father's education. Further analyses

revealed significant relationships between high school and college, high school and graduate school, and college and graduate school.

Data relevant to Hypothesis III, that is, changes in stereotypic beliefs and traditional value orientation after one year of college, indicate that the majority of students became less rigid, compulsive, and authoritarian during their freshman year in college; they became less stereotypic. With regard to traditional value orientation, analysis of these data indicates that many students, both male and female, exhibit significant value change and become less traditional, or more emergent, at the end of one year of college.

Conclusions and Implications of the Study

It seems evident that some factors are associated with change in attitudes and values among groups of college students. From data presented in this study, it appears that factors most closely allied with change in stereotypic beliefs and values are familial in nature rather than intellectual: parental education, father's occupation, and religious affiliation.

These data lend support to the thesis that attitudes and values are inculcated at an early age within the home. The chronology of the developmental stages of attitudes and values cannot be determined by these data but the findings do support the writings of Allport (1), Rogers (99), and Prothro and Toska (94) who, with other researchers, have suggested that a person's phenomenological field depends largely on the types of persons and experiences to which he has been exposed.

Even though the majority of students studied exhibited change in attitudes and values, becoming less stereotypic and more emergent value oriented, it cannot be stated conclusively that one year of college experience is of paramount importance in bringing about change. Inasmuch as these data were not compared with those of similar subjects not attending college, it is not possible to attribute attitude and value change directly and solely to experiences incurred during the freshman year in college rather than to normal maturational processes, peer relationships outside the college community, the general tenor of the world in which we live, or any combination of these factors.

An attempt was made in this study to identify factors which related to the area of attitude and value change. The variables chosen for this study have by no means exhausted the possibilities in this area; results of this study suggest the need for further related investigation. A number of additional research studies are suggested by these findings:

1. Identification of factors which influence the change in attitudes and values during college experiences. A study of affective variables related to peers, instructors, academic advisers, and administrative personnel operating within the limits of emulation, identification, and imitation; and cognitive variables associated with types of instruction, extra- and co-curricular activities, living facilities, and administrative rules and regulations.
2. A study of cause and effect relationship between attitude and value change and the numbers and kinds of change made in curricular majors as related to levels of parents' educational achievements and occupational pursuits.

3. Sequential testing at the end of each academic year under similarly controlled conditions to ascertain (a) whether attitude and value change is occurring during each consecutive college year, (b) the direction of change, and (c) the degree of change.
4. Study of the types of attitude and value change among groups of college students as related to level of academic achievement.
5. Comparative studies of types of attitude and value change among groups of students matriculated at Michigan State University from differential geographical locations of the United States.
6. Comparative studies of types of attitude and value change among groups of students differing in age, marital status, number of dependents, part- or full-time employment while enrolled in college, amount and type of service with the armed forces, and physical limitations or disabilities.
7. Comparative studies of types of attitude and value change among groups of students at Michigan State University with students at (a) church related colleges, (b) private co-educational colleges, (c) private men's or women's colleges, and (d) Junior or Community colleges.
8. Comparative studies of types of attitude and value change among groups of students with different curricular majors after two years of college.

9. Follow-up studies of non-changers, in an effort to determine whether they ever undergo change of attitudes and values while they are at college, or whether they remain unchanged throughout.

10. A projected follow-up study five years following the graduation of the Class of 1962 to determine whether their attitude and value patterns had remained essentially the same as while they were at college.

APPENDIX

TABLE 18. Size of home community: Mean Inventory of Beliefs test re-test scores of groups of male students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Size of Home Community					
Farm	167	61.83	62.28	0.45 (-)	0.511
Village	133	64.03	67.40	3.37 (-)	4.112*
Town	301	63.30	65.54	2.24 (-)	3.867*
City (25,000-99,999)	228	65.00	67.06	2.06 (-)	3.080*
City (over 100,000)	272	62.48	65.10	2.62 (-)	4.633*

(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 19. Size of home community: Mean Inventory of Beliefs test re-test scores of groups of female students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Size of Home Community					
Farm	95	65.52	67.44	1.92 (-)	1.804
Village	109	65.93	69.71	3.78 (-)	3.852*
Town	308	65.75	69.01	3.26 (-)	4.438*
City (25,000-99,999)	278	64.05	67.33	3.28 (-)	4.518*
City (over 100,000)	279	64.90	67.90	3.00 (-)	5.001*

(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 20. Father's education: Mean Inventory of Beliefs test re-test scores of groups of male students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Father's Education					
Elementary grades	71	63.32	66.04	2.72 (-)	2.255*
Completed grade 8	152	60.92	62.77	1.85 (-)	2.119*
Attended high school-- didn't graduate	130	61.40	64.82	3.42 (-)	3.828*
Graduated from high school	329	62.86	64.28	1.42 (-)	1.696
Attended college-- didn't graduate	138	65.61	68.11	2.50 (-)	2.717*
Graduated from college	166	64.77	67.41	2.64 (-)	3.260*
Attended graduate school-- no degree	24	62.87	68.87	6.00 (-)	2.237*
Attained graduate degree	86	66.18	67.25	1.07 (-)	4.396*

(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 21. Father's education: Mean Inventory of Beliefs test re-test scores of groups of female students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Father's Education					
Elementary grades	23	61.82	61.39	0.43 (+)	0.147
Completed grade 8	100	63.36	68.20	4.84 (-)	4.306*
Attended high school-- didn't graduate	124	63.70	65.75	2.05 (-)	2.102*
Graduated from high school	240	64.98	68.24	3.26 (-)	4.494*
Attended college-- didn't graduate	183	64.60	68.29	3.69 (-)	4.599*
Graduated from college	209	66.35	68.85	2.50 (-)	3.480*
Attended graduate school-- no degree	33	68.30	70.21	1.91 (-)	1.680
Attained graduate degree	156	66.37	70.19	3.82 (-)	3.316*

(+) Fall scores greater than spring scores.
(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 22. Mother's education: Mean Inventory of Beliefs test re-test scores of groups of male students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Mother's Education					
Elementary grades	28	64.28	64.00	0.28 (+)	0.147
Completed grade 8	96	59.45	61.43	1.98 (-)	1.728
Attended high school-- didn't graduate	125	63.20	66.15	2.95 (-)	3.004*
Graduated from high school	485	62.88	65.28	2.40 (-)	4.535*
Attended college-- didn't graduate	111	66.34	68.79	2.45 (-)	2.875*
Graduated from college	188	63.70	64.84	1.14 (-)	2.495*
Attended graduate school-- no degree	20	63.55	64.90	1.35 (-)	0.708
Attained graduate degree	44	65.86	69.70	3.84 (-)	4.419*

(+) Fall scores greater than spring scores.
(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 23. Mother's education: Mean Inventory of Beliefs test re-test scores of groups of female students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Mother's Education					
Elementary grades	18	67.61	67.05	0.56 (+)	0.168
Completed grade 8	73	64.17	65.60	1.43 (-)	0.471
Attended high school-- didn't graduate	117	62.04	65.29	3.25 (-)	3.185*
Graduated from high school	397	65.20	68.51	3.31 (-)	5.645*
Attended college-- didn't graduate	154	65.77	69.35	3.58 (-)	3.907*
Graduated from college	199	65.79	68.46	2.67 (-)	4.012*
Attended graduate school-- no degree	33	69.24	72.42	3.18 (-)	1.925
Attained graduate degree	76	65.23	69.72	4.49 (-)	3.322*

(+) Fall scores greater than spring scores.
(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 24. Father's occupation: Mean Inventory of Beliefs test re-test scores of groups of male students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Father's Occupation					
Executive or management	156	62.48	65.58	3.10 (-)	3.581*
Business owner	118	64.58	66.70	2.12 (-)	3.438*
Professional	165	63.33	64.98	1.65 (-)	1.768
White collar	94	60.89	61.63	0.74 (-)	0.227
Skilled	41	68.19	71.65	3.46 (-)	2.473*
Semi-skilled	222	63.22	65.68	2.46 (-)	3.435*
Low or unskilled	73	63.83	64.65	0.82 (-)	0.619
Farm owner	16	62.62	66.12	3.50 (-)	1.314
Public service	24	59.79	63.79	4.00 (-)	2.095*
Teacher	114	64.29	66.80	2.51 (-)	2.054*
Deceased,retired,no occupation	62	62.95	65.69	2.74 (-)	2.093*

(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 25. Father's occupation: Mean Inventory of Beliefs test re-test scores of groups of female students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Father's Occupation					
Executive or management	163	63.24	66.74	3.50 (-)	4.142*
Business owner	194	66.41	68.98	2.57 (-)	2.367*
Professional	172	65.75	70.07	4.32 (-)	5.076*
White collar	61	64.44	66.26	1.82 (-)	1.580
Skilled	40	68.65	70.05	1.40 (-)	1.502
Semi-skilled	158	65.28	68.02	2.74 (-)	2.549*
Low or unskilled	49	62.83	67.69	4.86 (-)	3.145*
Farm owner	6	73.66	73.16	0.50 (+)	0.063
Public service	16	68.18	69.75	1.57 (-)	0.852
Teacher	144	63.87	66.03	2.16 (-)	2.715*
Deceased,retired,no occupation	61	64.24	69.40	5.16 (-)	3.641*

(+) Fall scores greater than spring scores.
(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 26. Religious affiliation: Mean Inventory of Beliefs test re-test scores of groups of male students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Religious Affiliation					
Catholic	189	58.27	60.73	2.46 (-)	3.706*
Jewish	48	65.43	69.29	3.86 (-)	2.268*
Protestant	788	64.14	66.06	1.92 (-)	5.452*

(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 27. Religious affiliation: Mean Inventory of Beliefs test re-test scores of groups of female students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Religious Affiliation					
Catholic	187	60.04	62.75	2.71 (-)	2.776*
Jewish	66	69.50	73.19	3.69 (-)	3.180*
Protestant	785	65.63	68.81	3.18 (-)	7.992*

(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 28. Size of high school graduating class: Mean Inventory of Beliefs test re-test scores of groups of male students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Size of High School Graduating Class					
Under 25	30	63.76	66.43	2.67 (-)	1.276
25-99	324	62.40	64.51	2.11 (-)	3.520*
100-199	295	63.23	65.83	2.60 (-)	4.290*
200-399	238	64.86	66.70	1.84 (-)	2.642*
400-999	189	63.48	65.27	1.79 (-)	3.406*
Over 1000	22	59.63	62.27	2.64 (-)	1.065

(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 29. Size of high school graduating class: Mean Inventory of Beliefs test re-test scores of groups of female students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Size of High School Graduating Class					
Under 25	21	62.95	64.38	1.43 (-)	0.619
25-99	251	64.60	66.96	2.36 (-)	3.442*
100-199	290	65.34	68.87	3.53 (-)	5.217*
200-399	285	65.35	68.55	3.20 (-)	5.161*
400-999	215	65.27	68.76	3.49 (-)	4.353*
Over 1000	9	63.88	67.33	3.45 (-)	0.305

(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 30. Type of secondary school attended: Mean Inventory of Beliefs test re-test scores of groups of male students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Type of Secondary School					
Public	991	63.96	66.10	2.14 (-)	6.563*
Parochial	68	57.33	58.66	1.33 (-)	1.989
Private	38	57.65	61.34	3.69 (-)	1.958

(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 31. Type of secondary school attended: Mean Inventory of Beliefs test re-test scores of groups of female students

Variable	Mean Test Scores---Inventory of Beliefs				
	N	Fall 1958	Spring 1959	Difference	t
Type of Secondary School					
Public	980	65.55	68.93	3.38 (-)	9.247*
Parochial	61	59.88	60.19	0.31 (-)	0.222
Private	27	61.62	61.59	0.03 (+)	0.024

(+) Fall scores greater than spring scores.
(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 32. Size of home community: Mean Differential Values Inventory test re-test scores of groups of male students

Variable	Mean Test Scores--- Differential Values Inventory				
	N	Fall 1958	Spring 1959	Difference	t
Size of Home Community					
Farm	167	37.64	35.08	2.56 (+)	4.706*
Village	133	34.15	33.06	1.09 (+)	2.282*
Town	301	34.38	32.49	1.89 (+)	5.069*
City (25,000-99,999)	228	34.77	32.59	2.18 (+)	4.730*
City (Over 100,000)	272	33.48	31.46	2.02 (+)	4.342*

(+) Fall scores greater than spring scores.
* Significant at the .05 level of probability.

TABLE 33. Size of home community: Mean Differential Values Inventory test re-test scores of groups of female students

Variable	Mean Test Scores--- Differential Values Inventory				
	N	Fall 1958	Spring 1959	Difference	t
Size of Home Community					
Farm	95	36.14	34.44	1.70 (+)	2.227*
Village	109	33.34	31.99	1.35 (+)	2.571*
Town	308	33.85	31.65	2.20 (+)	5.874*
City (25,000-99,999)	278	32.86	31.06	1.80 (+)	4.852*
City (Over 100,000)	279	32.98	31.25	1.73 (+)	4.881*

(+) Fall scores greater than spring scores.
* Significant at the .05 level of probability.

TABLE 34. Father's education: Mean Differential Values Inventory test re-test scores of groups of male students

Variable	Mean Test Scores--- Differential Values Inventory				
	N	Fall 1958	Spring 1959	Difference	t
Father's Education					
Elementary grades	71	36.00	34.12	1.88 (+)	2.658*
Completed grade 8	152	35.17	33.50	1.67 (+)	3.572*
Attended high school-- didn't graduate	130	35.36	33.90	1.46 (+)	2.244*
Graduated from high school	329	34.62	33.33	1.29 (+)	3.958*
Attended college-- didn't graduate	138	34.18	31.28	2.90 (+)	5.381*
Graduated from college	166	34.08	31.55	2.53 (+)	4.811*
Attended graduate school-- no degree	24	32.25	32.33	0.08 (-)	0.062
Attained graduate degree	86	34.59	30.40	4.19 (+)	4.467*

(+) Fall scores greater than spring scores.
(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 35. Father's education: Mean Differential Values Inventory test re-test scores of groups of female students

Variable	Mean Test Scores--- Differential Values Inventory				
	N	Fall 1958	Spring 1959	Difference	t
Father's Education					
Elementary grades	23	35.13	34.34	0.79 (+)	0.514
Completed grade 8	100	36.24	33.08	3.16 (+)	4.795*
Attended high school-- didn't graduate	124	34.08	33.20	0.88 (+)	1.350
Graduated from high school	240	34.30	32.61	1.69 (+)	4.419*
Attended college-- didn't graduate	183	32.77	31.13	1.64 (+)	3.671*
Graduated from college	209	32.74	30.77	1.97 (+)	4.762*
Attended graduate school-- no degree	33	32.60	30.18	2.42 (+)	2.289*
Attained graduate degree	156	32.14	29.96	2.18 (+)	4.228*

(+) Fall scores greater than spring scores.
* Significant at the .05 level of probability.

TABLE 36. Mother's education: Mean Differential Values Inventory test re-test scores of groups of male students

Variable	Mean Test Scores--- Differential Values Inventory			
	N	Fall 1958	Spring 1959	Difference	t
Mother's Education					
Elementary grades	28	36.00	34.85	1.15 (+)	1.137
Completed grade 8	96	36.68	34.16	2.52 (+)	3.945*
Attended high school-- didn't graduate	125	35.49	34.13	1.36 (+)	2.259*
Graduated from high school	485	34.40	32.76	1.64 (+)	5.620*
Attended college-- didn't graduate	111	34.25	32.20	2.05 (+)	3.177*
Graduated from college	188	34.19	31.26	2.93 (+)	5.093*
Attended graduate school-- no degree	20	34.35	33.80	0.55 (+)	0.488
Attained graduate degree	44	34.18	30.70	3.48 (+)	3.174*

(+) Fall scores greater than spring scores.
* Significant at the .05 level of probability.

TABLE 37. Mother's education: Mean Differential Values Inventory test re-test scores of groups of female students

Variable	Mean Test Scores--- Differential Values Inventory				
	N	Fall 1958	Spring 1959	Difference	t
Mother's Education					
Elementary grades	18	34.38	36.77	2.39 (-)	1.421
Completed grade 8	73	34.79	32.94	1.85 (+)	2.714*
Attended high school-- didn't graduate	117	34.49	32.47	2.02 (+)	3.233*
Graduated from high school	397	33.40	31.72	1.68 (+)	5.163*
Attended college-- didn't graduate	154	32.36	30.11	2.25 (+)	4.496*
Graduated from college	199	33.56	31.32	2.24 (+)	5.441*
Attended graduate school-- no degree	33	34.45	32.96	1.49 (+)	1.640
Attained graduate degree	76	33.35	31.78	1.57 (+)	2.199*

(+) Fall scores greater than spring scores.
(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 38. Father's occupation: Mean Differential Values Inventory test re-test scores of groups of male students

Variable	Mean Test Scores--- Differential Values Inventory				
	N	Fall 1958	Spring 1959	Difference	t
Father's Occupation					
Executive or management	156	33.25	31.83	1.42 (+)	2.633*
Business owner	118	34.42	30.94	3.48 (+)	4.359*
Professional	165	34.33	30.92	3.41 (+)	5.787*
White collar	94	38.11	35.58	2.53 (+)	3.738*
Skilled	41	34.70	33.43	1.27 (+)	1.507
Semi-skilled	222	34.70	33.41	1.29 (+)	3.145*
Low or unskilled	73	36.10	35.23	0.87 (+)	1.233
Farm owner	16	35.43	34.12	1.31 (+)	1.087
Public service	24	35.29	34.83	0.46 (+)	0.374
Teacher	114	33.94	32.13	1.81 (+)	2.897*
Deceased,retired,no occupation	62	34.67	33.85	0.82 (+)	1.018

(+) Fall scores greater than spring scores.
* Significant at the .05 level of probability.

TABLE 39. Father's occupation: Mean Differential Values Inventory test re-test scores of groups of female students

Variable	N	Mean Test Scores--- Differential Values Inventory Fall 1958	Spring 1959	Difference	t
Father's Occupation					
Executive or management	163	33.74	31.76	1.98 (+)	4.031*
Business owner	194	32.34	29.51	2.83 (+)	5.923*
Professional	172	33.18	31.38	1.80 (+)	3.762*
White collar	61	35.60	34.96	0.64 (+)	0.637
Skilled	40	33.15	30.90	2.25 (+)	2.516*
Semi-skilled	158	34.51	32.80	1.71 (+)	3.600*
Low or unskilled	49	35.30	33.97	1.33 (+)	1.146
Farm owner	6	34.50	37.00	2.50 (-)	1.872
Public service	16	34.37	33.43	0.94 (+)	0.656
Teacher	144	32.93	31.34	1.59 (+)	3.206*
Deceased,retired,no occupation	61	33.31	31.22	2.09 (+)	3.435*

(+) Fall scores greater than spring scores.
(-) Fall scores less than spring scores.
* Significant at the .05 level of probability.

TABLE 40. Religious affiliation: Mean Differential Values Inventory test re-test scores of groups of male students

Variable	Mean Test Scores--- Differential Values Inventory				
	N	Fall 1958	Spring 1959	Difference	t
Religious Affiliation					
Catholic	189	35.98	33.68	2.30 (+)	4.596*
Jewish	48	31.12	28.89	2.23 (+)	2.439*
Protestant	788	34.70	32.84	1.86 (+)	7.621*

(+) Fall scores greater than spring scores.
* Significant at the .05 level of probability.

TABLE 41. Religious affiliation: Mean Differential Values Inventory test re-test scores of groups of female students

Variable	Mean Test Scores--- Differential Values Inventory				
	N	Fall 1958	Spring 1959	Difference	t
Religious Affiliation					
Catholic	187	35.37	32.75	2.62 (+)	6.108*
Jewish	66	29.65	27.00	2.65 (+)	4.111*
Protestant	785	33.48	31.91	1.57 (+)	4.381*

(+) Fall scores greater than spring scores.
* Significant at the .05 level of probability.

TABLE 42. Size of high school graduating class: Mean Differential Values Inventory test re-test scores of groups of male students

Variable	Mean Test Scores--- Differential Values Inventory				
	N	Fall 1958	Spring 1959	Difference	t
Size of High School Graduating Class					
Under 25	30	39.33	35.03	4.30 (+)	3.491*
25-99	324	35.57	34.00	1.57 (+)	4.475*
100-199	295	34.46	32.87	1.59 (+)	4.285*
200-399	238	34.26	31.90	2.36 (+)	5.600*
400-999	189	33.86	31.11	2.75 (+)	4.367*
Over 1000	22	30.59	30.40	0.19 (+)	0.153

(+) Fall scores greater than spring scores.
* Significant at the .05 level of probability.

TABLE 43. Size of high school graduating class: Mean Differential Values Inventory test re-test scores of groups of female students

Variable	Mean Test Scores--- Differential Values Inventory				
	N	Fall 1958	Spring 1959	Difference	t
Size of High School Graduating Class					
Under 25	21	35.47	32.66	2.81 (+)	2.320*
25-99	251	35.03	33.26	1.77 (+)	4.432*
100-199	290	33.86	32.01	1.85 (+)	4.810*
200-399	285	32.54	30.83	1.71 (+)	5.101*
400-999	215	32.46	30.55	1.91 (+)	4.270*
Over 1000	9	32.88	29.44	3.44 (+)	1.663

(+) Fall scores greater than spring scores.
* Significant at the .05 level of probability.

TABLE 44. Type of secondary school attended: Mean Differential Values Inventory test re-test scores of groups of male students

Variable	Mean Test Scores--- Differential Values Inventory				
	N	Fall 1958	Spring 1959	Difference	t
Type of Secondary School					
Public	991	34.52	32.60	1.92 (+)	8.931*
Parochial	68	38.02	34.77	3.25 (+)	3.401*
Private	38	33.18	31.89	1.29 (+)	1.292

(+) Fall scores greater than spring scores.
* Significant at the .05 level of probability.

TABLE 45. Type of secondary school attended: Mean Differential Values Inventory test re-test scores of groups of female students

Variable	Mean Test Scores--- Differential Values Inventory				
	N	Fall 1958	Spring 1959	Difference	t
Type of Secondary School					
Public	980	33.21	31.47	1.74 (+)	8.692*
Parochial	61	37.06	34.24	2.82 (+)	4.171*
Private	27	37.14	33.62	3.52 (+)	2.626*

(+) Fall scores greater than spring scores.
* Significant at the .05 level of probability.

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