DIFFERENCE OF VALUES AMONG COLLEGE STUDENTS AT DIFFERENT CLASS LEVELS

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CHAPTER I

INTRODUCTION

By tradition the "pure" scientist has prided himself upon his concern for fact and his indifference to value. This attitude was bound to influence the self-conscious young science called psychology when it began to imitate classical physics in excluding value along with meaning and utility. The attitude of Titchener was that of the pure scientist in that he excluded value from the consideration of data in psychology and advocated a hands-off policy. This attitude, consequently, resulted in a dearth of penetrating studies of values in psychological literature.¹

There were exceptions to this attitude, however, and with the advent of interest inventories psychologists began to study values shortly after World War I. Emerging in the psychology of the 1930's were applications of the scientific method to various aspects of the problems involved in a study of values, the basic problem being that of identifying and

defining the meaning of values. L. G. Thomas calls much of the subsequent research naive, showing only what individuals and groups desire, "not what is desirable; only what is wanted, not what is worth wanting." He finds the approach superficial because of failure to recognize the difference between what a person says he wants or likes and what he will be actively motivated to do in a specific situation.¹ The studies that were made seemed to have been directed to one or more of the following areas:

1. Measuring the values of groups of individuals and relating the results to other data concerning the groups, i.e., individual differences.

2. The origin and development of values within the individual.

3. The influences of an individual's values on his cognitive life.²

The Titchenerian attitude that psychologists should maintain an aloof, hands-off policy toward the inclusion of value in their discipline was reflected not only in the dearth of significant or discerning studies of values but also in the lack of psychological textbooks in areas of personality and social psychology in which values occur as a major concept. Many college teachers, also, in an attempt to be aloof and objective in their disciplines tended to shy away from influencing the values of students. They seemed


²Dukes, op. cit., p. 24.
to feel that their task was to teach facts, or subject matter, not to indoctrinate their students in some of the more intangible outcomes of learning. Various reasons have been set forth as to why college teachers have retreated from influencing students' values, among them being:

1. The Enlightenment view which maintains that reason is an adequate guide to a good life.

2. Value relativism, or the idea that values vary from culture to culture.

3. The determination to keep personal bias from distorting truth in the intellectual quest.

4. Concern for transmission of values which may subtract time and attention from subject matter.

5. The respect for the student's autonomy.¹

There is truth, of course, in these positions, and the combined weight of these reasons is impressive. They might even be accepted as highly valid reasons if it were not for two or three salient facts:

1. Every faculty member is teaching in some kind of frame of reference, and therefore is teaching values of a sort, e.g., objective scientific approach. Every teacher every day in every class is dealing with values.

2. There are potent forces in our society and the world at large which are committed to beliefs and values that conflict with the beliefs and values inherent in a democratic philosophy.

3. The plight of man today demands a clarification of the values upon which he operates.

In the field of psychology there were exceptions to the Titchenerian attitude in such men as Gordon Allport, Gardner Murphy, and Wolfgang Köhler, who believed there is some place for value in the world of facts. According to Köhler there is something in the very nature of man which cannot be conquered by procedures which are quite successful in present natural science. This tendency toward Nothing But in terms of which science tends more and more to express what it regards as its modern attitude may be destroying any convictions about truth to which mankind may still be clinging, having already through its tremendous destructive power fought any stable mental orientation that existed before the era of science.¹

In Huston Smith's words: "There is a lostness, an anxiousness, a bewilderment in contemporary life which the arts express and statistics—delinquency, divorce, insanity, and alcoholism—confirm."² As people of the Western world and culture today, we are completely overwhelmed with problems of thermonuclear activity, the outer space age, and the advance of Communism. Many believe, as does Mr. Smith, that the sickness is acute, and its locus is in the realm of values.

It should be made clear at this point that the plight of Western man is not being laid at the door of an honest and active pursuit of scientific knowledge. Rather, it should be recognized that values can and should be included as a subject of science. Science deals not only with certain classes of facts; it deals also with classes of facts that include values.

Any scientific endeavor, pure or applied, is carried on in the pursuit of a purpose or value which is subjectively chosen by persons. The findings of a science, the result of an experiment, do not and never can tell us what next scientific purpose to pursue. Even in the purest of science, the scientist must decide what the findings mean, and must subjectively choose what next step will be most profitable in the pursuit of his purpose. And if we are speaking of the application of scientific knowledge, then it is distressingly clear that the increasing scientific knowledge of the structure of the atom carries with it no necessary choice as to the purpose to which this knowledge will be put. Science has its meaning as the objective pursuit of a purpose which has been subjectively chosen by a person or persons.

If we frankly face the fact that science takes off from a subjectively chosen set of values, then we are free to select the values we wish to pursue.1

Is, then, a science of human values possible? Some believe that it is possible and that such a study is imperative today. In 1957 the first scientific conference on values was held at the Massachusetts Institute of Technology. This conference resulted in a symposium entitled, *New Knowledge in Human Values*, with A. H. Maslow, as editor.

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It was the purpose of this conference, which brought together "scholars who have made, and are making, major creative contributions, to try to make clear to the public what may be accomplished if men and women have the courage and faith to back a realistic program."1 In the same year as the conference at the Massachusetts Institute of Technology, Philip Jacob reported a challenging and controversial study of the effects of college teaching upon students' values.2 Despite methodological difficulties of research in the area of values, the group planning this study was convinced that an empirical approach should be followed to study the problem of what changes do occur in students' patterns of values during college. After a vast amount of research and painstaking compilation of findings, Jacob and his committee came to this startling conclusion:

When all is said and done, the value changes which seem to occur in college and set the college alumnus apart from others are not very great, at least for most students at most institutions. They certainly do not support the widely held assumption that a college education has an important, almost "liberalizing" effect.3

Against a background of national interest in, and at times controversy about, this provocative study, the Danforth


3Ibid., p. 50.
Foundation sponsored a three-day conference at East Lansing, Michigan, August 14-16, 1958. At this time Huston Smith, Lewis B. Mayhew, and John Bushnell joined ten other college instructors in discussing various approaches to problems of teaching values in higher education, a report of which is contained in *The Larger Learning*.¹

**Interest in the Problem**

For a number of years the writer has been interested in psychological studies of values. How were they to be defined and in what ways do they determine or influence the behavior of the human organism? These were questions of great interest and concern. With the reading of Jacob's study, the writer's interest became focused upon values in higher education. Does the weight of evidence indicate, as Jacob seems to think, that there is actually very little change occurring during the college experience in the essential patterns by which students govern their lives? This question, as well as related ones, became of increasing concern to the writer as she began pursuing a course of advanced graduate study and was contemplating the possibility of college teaching. It was her assumption or belief that the various experiences encountered by the undergraduate student in the four years of college did and could result in a change in his values.

¹Carpenter (ed.), *op. cit.*, p. xiii.
The problem, then, was to determine whether changes in values did occur during the four-year college period, and if there were significant changes, in what direction they tended to occur. Some of the experimental studies seemed to indicate that value changes formed a profile, i.e., some values tended consistently to increase while others tended to decrease. Would, then, religious values decrease and aesthetic values increase, or would theoretical values increase while social values decreased? Two methods of approach were open to the consideration of these problems. The first was a systematic study of experimental literature for the purpose of evaluating and summarizing the findings, and the second was to set up an experimental design with careful control of variables to see what data could be obtained. Obviously, it would be of great value to use both methods in looking for answers to the problems posed.

**Design of the Study**

**Hypothesis**

The proposed hypothesis of this study may be stated as follows: the combination of changes in values for given individuals and the problem of selective attrition give rise to a situation in which certain values show a continued increase from freshman to sophomore to junior and to senior years and certain other values show a continued decrease during these periods.
Sub-hypothesis. Furthermore, it may be hypothesized on the basis of some of the evidence that theoretical, economic, and aesthetic values show a tendency to upgrade; and social, political, and religious values show a tendency to downgrade during the four years of college life.

Assumptions

It is assumed in this study that values exist, and if they exist, they exist in specifiable amounts, and therefore can be measured.

It is further assumed that the nature of values is determined by the outcomes that are derived from the measuring instrument used.

A final assumption is that if students are selected as reasonably representative of each class, they will be typical of the class to which they belong. Consequently, progressing from one class, or year, to another in the college career is assumed to be one of the factors affecting any differences between the means of the classes in values.

Limitations

This study of values was limited to the outcomes as measured by the Allport-Vernon-Lindzey Study of Values, third edition, 1960.

The student population was limited to a reasonably representative sampling of two hundred undergraduate students found on the campus of East Tennessee State College, Johnson City.
The literature in this study was confined to those studies from 1940-1960 which make use of the Allport-Vernon or the Allport-Vernon-Lindzey Study of Values alone, or with other testing techniques, in order to assess changes made in students' values by the American undergraduate college experiences during the regular four-year period.

The subjects of the experimental study were regular, full-time students, not including those enrolled in the evening school only.

The experimental study was a horizontal design in which the testing of the subjects was done at the same time, or as closely to the time and under the same circumstances as possible.

**Definition of Terms**

**Value.** An intervening variable, or in some cases an hypothetical construct, which it is assumed determines, influences, or directs the individual's behavior.

This study focused upon the six values identified in Spranger's classification of values.¹

**Theoretical Value.** The theoretical man is primarily interested in the discovery of truth.

**Economic Value.** The economic man is characteristically interested in what is useful.

Aesthetic Value. The aesthetic man sees his highest value in form and harmony.

Social Value. The highest value for this man is an altruistic love of people.

Political Value. The political man is interested primarily in power.

Religious Value. The highest value of the religious man may be called unity.

Attrition. The withdrawal or dropping out of a student from the regular curriculum and life of the academic community.

College (Life). All the experiences, curricular, social, cultural, religious, and the like, in the activities of the American undergraduate student community.

Procedures

The design of this experimental study was horizontal in nature in that the subjects were selected on the basis of being reasonably representative of the classes, freshman to senior, to which they belong.

Subjects. The subjects were fifty students from each class, or year, at East Tennessee State College selected from the Registrar's official lists of students for the fall quarter, 1961. Since it would have been unwise to select groups of only fifty students, because of withdrawals, sickness, and other good reasons, a sampling pool of sixty-five students was counted off, from which the first
fifty subjects to be tested were the ones included in the study. The number of students in each class was divided by sixty-five, and the "counting-off" was on the basis of this ratio. Only regularly enrolled, full-time students, not including evening class students, were selected. Where substitutions had to be made, the student's name immediately preceding the one counted off was taken. If this student was not satisfactory according to the criteria enumerated, the name immediately succeeding the one counted off was taken.

Measuring Instrument. The test used was the Study of Values, third edition, 1960, by Gordon W. Allport, Philip E. Vernon, and Gardner Lindzey. This is a well-known test in the field of values, in which the mean reliability coefficient (split-half) for all the sub-tests is .90. The mean repeat reliability coefficient (stability) for a two-month interval is .88. General norms are given on the basis of 8,369 students, and special norms are given on the basis of sex differences. Validation is external, coming from the examination of scores of groups whose characteristics are known. Tables are presented in which in nearly all cases the high and low scores in values seem to correspond well with what might be termed "prior expectations." ¹

Methods of Study. It was planned to have the testing period before the end of the fall quarter, 1961, after the Registrar's official lists of students were available. The counting-off of students on these lists resulted in sixty-five students from each class, who were notified one week before the date of testing set, with a brief memorandum signed by the Dean of the College and the Dean of Student Personnel. In this note students were informed that they had been selected as part of a special study made by the College. They were requested to be present at the Music Hall in an open third period, Tuesday, December 5, 1961. At that time the writer administered the Allport-Vernon-Lindzey Study of Values, following carefully instructions given in the test manual. Arrangements were made to have graduate students assist with the administration of the test, since it was anticipated that two hundred sixty students would be taking the test. The first fifty students in each class who completed the test satisfactorily became the subjects. Since the required number of subjects was not obtained at this time, it was necessary to set up another session with conditions as similar as possible to the first one.

After the tests were scored and results tabulated, the data were subjected to an analysis of variance to determine whether there were differences between the means of the classes in values and between the means of the six values in all four classes, and especially to find out if the
differences that occurred were significant. Also, in the analysis of variance was an attempt to find out if there were any significance in row-column interactions, or class-values interactions.

At the time of the measurement, the test booklets contained a personal data sheet which the subject was requested to answer as fully as possible. This questionnaire contained items about departmental major, vocational objective, source of support, residence, home town, family, church and organization membership, interests, and the like. In the light of the data obtained, a special study was made of those students who were high and low in each of the six values. Factors such as sex, marital status, family income, vocational objective, place of residence, and church attendance were studied to find out whether there was any relationship between any or all of them and students' patterns of values. Findings were compiled and tabulated from all this study, and conclusions and implications were drawn on the basis of these findings.

**Plan of Dissertation**

Chapter I contains an introduction to the problem of changing values in college, the growth of an interest in the problem, the design of the study including hypotheses, assumptions, limitations, and definitions of terms, and the
procedures including the selection of the subjects, choice of the measuring instrument, and the methods of study. Chapter II is a review of the literature pertaining to changes that occur in students' values during the four-year college period. Chapter III presents the testing of the hypotheses formulated in this study and the results obtained in the experimental design set up for the testing of the hypotheses. Chapter IV contains a summary, conclusions, implications, and recommendations for further research.
CHAPTER II

REVIEW OF LITERATURE

This study has been long in evolving. The recent emphasis in psychological literature upon the importance of values and value systems in the determination of behavior has been of considerable interest to the writer for several years. The confusion, discrepancy, and lack of agreement in defining values has been a challenge, rather than a frustration, and it seemed a good idea to turn to experimental literature in psychology to see if any of these studies might hold a key to the definition of values. It was proposed at first to make a systematic search through all the volumes of Education Index, Psychological Abstracts, and Dissertation Abstracts (also Doctoral Dissertations) between the years 1940-1960 to locate experimental studies of the values of groups and individuals. This was done, and while the search was made, it became increasingly evident to the writer that most, if not all, of the studies implied or assumed a definition of values based upon the kind of measuring instrument used. This was like saying that values are what the tests of values measure.
Since the data obtained and the interpretation of results are no better than the evaluative or measuring procedures used to obtain these data, the question became primarily one of the validity of the instruments used. What are these instruments actually measuring? Supposedly the outcomes measured are values. What is the rationale by which these all-important outcomes of education, or the learning process, are appraised or assessed? On the other hand, to emphasize one more aspect of this problem of validity of measurement, what is the criterion, or criteria, with which any test of values is correlated? A most crucial point of any study would seem to be that place in which values are classified or defined to serve as a basis or criterion by which the measuring instrument is validated. Furthermore, when values are to be classified or defined, how are they to be differentiated from attitudes, prejudices, interests, preferences, choices, goals, incentives, and the like? All of these considerations and others only added to the complexity of the original problem, viz., what are values?

The next consideration was that, if we were to postulate values as what the tests for values measure, what changes in values were discernible over certain periods of time due to specific influences? This question had all the more interest for the writer when, in 1957, Philip E. Jacob published his challenging and controversial study of the
effects of college teaching upon students' values.¹

Accumulated in this small volume is a fairly large and respectable body of research, which is certainly the most ambitious and comprehensive of all the reviews of experimental literature on the problem of change in values up to the present time. Although the evidence was impressive, it was difficult to accept without question the conclusion that no significant changes in values occurred while students were experiencing the four-year college period. It seemed reasonable to assume that some changes would occur during such a crucial period in the life of a young person. Moreover, this assumption led the writer to a systematic study of the literature surveyed to discover whether there were significant changes in values, and if so, in what areas or directions they were occurring. Since already a great amount of material has been collected in the research described above, it was decided to select only those studies which related to changing values of college students over a period of time, preferably the entire college career of four years. A number of pertinent studies were located, about fifteen to twenty in all, and in some cases the evidence for changes in values was significant. There seemed to be a tendency for seniors to be more "liberal"

than they were as entering freshmen. Was this matter of college liberalism a myth since what might be considered liberal in the 1940's might be considered conservative in 1959? Or, might this liberalizing effect be operating upon a superficial rather than a fundamental level, as far as results obtained through the measuring instruments used would indicate?

A test frequently used in the studies cited above is the Allport-Vernon-Lindzey Study of Values. Its purpose is to measure the relative prominence of six basic interests or motives in personality, which classification comes directly from Edward Spranger's Types of Men, viz., theoretical, economic, aesthetic, social, political, and religious. Using this instrument as a means of measuring values, several investigators seemed to find the differences

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2. This test has gone through three editions:


between freshmen and seniors to be so small as to have little or no statistical significance. On the other hand, some of the studies showed that the amount of change in certain individuals was considerable.

The question then arose whether there would be discovered in those studies any trends or tendencies in changes where the difference was significant. It might seem, for example, that religious values would decrease in some college situations. Or, it might be assumed that there would be an increase in theoretical and aesthetic values, but a decrease in social values. Would the data point to results that were clear and straightforward, or would they point to evidence that was confused or conflicting? Furthermore, though the changes in values were not statistically significant, would the data reveal any patterning of increases in some values and decreases in others?

The need for such a study of tendencies or trends in changing values may be more clearly seen in its relationship to a study of the objectives of college instruction and the effectiveness with which these objectives are realized. To the writer, this is an important concern, since it is frequently stated by some critics of college life that the values of college students merely reflect the values of contemporary society. A study of trends in changing values might throw some light upon the impact of
the college influence upon students in our present-day society. It was decided, therefore, to limit the studies reviewed to those that used either the longitudinal or the horizontal approach in determining a change in the values of college students. Moreover, they would be selected on the basis of studies that make use of the Allport-Vernon or the Allport-Vernon-Lindzey Study of Values alone, or with other testing techniques, in order to assess changes made in students' values through the American undergraduate college experiences during the regular four-year period. They would, of course, be limited, with the exception of one, to those published within the period 1940-1960.

From all the vast amount of research explored and reviewed, five studies were selected in addition to Jacob's study cited above. These six studies were chosen with the purpose of gaining some insight into, and understanding of, the meaning of "values" as used by the investigators, and also to discover, if possible, any changes or trends and pattern of changes during the period in college under survey.

The Jacob study is again cited because it is by far the most comprehensive of all reviews that have been made. Studies are included which range from 1931 to 1956, and the bibliography appears to be most complete for a period of that length. The committee working on this project attempted to define values not in terms of measuring
instruments used, but as preferences, criteria, or choices of personal or group conduct. They were conceived of as standards for decision making held by an individual student, and normally they were to be identified when articulated in a) an expressed verbal statement or b) overt conduct.

On the basis of the great amount of compilation and research the committee concluded that there were no significant changes in the values of students "which can be attributed directly to the character of the curriculum or to the basic general education courses in social science or to the quality of teaching or the method of instruction."¹

The other five studies are single investigations which use the Allport-Vernon or the Allport-Vernon-Lindzey Study of Values as one of the measuring instruments used, or the only one. As stated before, the six values measured are based directly on Spranger's classification of types of men and include theoretical, economic, aesthetic, social, political, and religious values.

The first study, and one of the earliest in the area of changing values of college students, is one reported by Paul L. Whitely in 1938.² This study was a

¹Jacob, op. cit., pp. 5-8.
continuation of one made earlier in 1931-1932 at Franklin and Marshall College and involved the use of the Allport-Vernon Study of Values with a total of eighty-four students. These students were tested each succeeding autumn during their sojourn in college. On the basis of these four measures of the Allport-Vernon test, the data recorded a relatively high degree of constancy of the mean scores for the successive administrations of the test. Also, there was a slight tendency for the aesthetic scores to increase from the freshman to the senior years, while the religious scores decreased slightly. It is to be noted that when the mean scores obtained in this study were compared with the norms presented by the authors of the scale, the comparisons showed close agreement, with the single exception of religious scores, which were slightly higher at Franklin and Marshall College.

The second study selected was published by J. E. Todd in 1941. The purpose was to study: (1) the nature of the value pattern of the American culture; (2) the character and dynamics of personal value patterns of students; (3) their mutual relationships.¹ Data were obtained from 1,247 extensive questionnaires and 137 case studies of students as they left 103 secondary schools in the East and from additional information (including the Bernreuter

¹J. E. Todd, Social Norms and the Behavior of College Students (New York: Bureau of Publications, Teachers College, Columbia University, 1941), pp. 139-141.
Personality Inventory\(^1\) and the Allport-Vernon Study of Values). Analyses of variance and covariance as well as correlational techniques were employed in analyzing these data. These analyses indicated that each student had a pattern of values which was persistent over the period studied. The means of the Allport-Vernon study of value scales for the group in high school ranked in the following descending order: political, theoretical, economic, religious, social, and aesthetic. In college the order was economic, theoretical, political, social, religious, and aesthetic. The author concluded that the significant rise in economic values and the fall in religious values were related to the college experience while the apparently significant rise in aesthetic values and the fall in political values were due to statistical regression tendencies rather than to the influence of the transition experience. What significant change there was in the direction of values was that generally emphasized in contemporary American culture.

Another study of the change in evaluative attitudes during four years of college was made from 1938-1940 by Arsenian.\(^2\) Incoming freshmen in a small college for men in Springfield, Massachusetts, were given the Allport-Vernon


Study of Values as a part of the college testing program. Seventy-six of the students who were graduated four years after their admission were given the Allport-Vernon test shortly before the end of the senior year. They were also asked to answer questions concerning the direction, degree, kinds, and causes of changes in religious attitudes. Among the major findings was that value patterns of students change during four years of college experience. The direction of change of values was not necessarily in complete harmony with the estimated pattern of the contemporary American culture. In the freshman years with one exception, practically negligible, the order of values from high to low was religious, political, social, theoretical, economic, and aesthetic. For the seventy-six seniors who were given the test, the order was social, theoretical, religious, political, economic, and aesthetic, with the difference between theoretical and religious values very slight.

For students majoring in health and physical education there were three statistically significant changes in evaluative attitudes, viz., decrease in the religious and increase in the dominance of both the social and the aesthetic interests. For the students majoring in social science there were two statistically significant changes in values, viz., in the economic, which showed a decrease, and in the social, which showed an increase.
The majority of students (75 percent) reported a change in concept of religion during four years of college. On the basis of these results the investigator concluded that a large amount of religious readjustment evidently took place among students during the period from the freshman to the senior years in the direction of a more liberal, objective, and social approach.

In 1958 Frank J. Deignan of the Rhode Island School of Design, an accredited four-year college of art, published a study in which the Allport-Vernon-Lindzey Study of Values was administered in May, 1956 and 1957, to 136 seniors enrolled in general psychology, and in September, 1956, to 212 incoming freshman men.¹ For freshman men the order in values was theoretical, aesthetic, economic (41.72), religious (41.72), political, and social. For the senior men the order was aesthetic, theoretical, economic, religious, political, and social. For freshman women the order was aesthetic, religious, social, theoretical, political, social, and economic. For senior women the order was aesthetic, religious, theoretical, political, social, and economic. As was to be expected, both senior men and women held significantly higher aesthetic values than freshmen, as well as markedly lower social values.

¹Frank J. Deignan, "Note on the Values of Art Students," Psychological Reports (December, 1958), 4:566.
The senior men showed significantly lower political values than the freshmen, and the senior women were significantly higher in theoretical values.

Dissatisfied with Jacob's conclusions because of the ease with which students may record their beliefs on questionnaires according to what examiners may want, and because of the difficulty many students experience in identifying or even in discovering their true beliefs, Eleanor O. Miller began a study at Illinois College by asking the question: "Just what does a college education in one small church-related, liberal arts college really do to boys and girls?" She gave a battery of clinical tests and the Allport-Vernon-Lindzey Study of Values to fifty entering freshmen, randomly selected, and again to all seniors (twelve) four years later who were in the original group. For the final testing, all group tests excepting the Allport-Vernon-Lindzey Study of Values were abandoned. In addition the Wechsler-Bellevue Scale, Form II was used as well as the Machover projective test in the drawing of the human figure and two Thematic Apperception Test pictures. The data obtained emphasize the highly

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individual nature of these test results. She reports the mean score in religious values of the twelve students in their freshman year to be 41.75. In their senior year the mean score was 41.57. Although the average scores of the two groups varied little, yet there were individual scores in which the change was considerable. There was a decrease of as much as nineteen points in one case and an increase of sixteen points in another case. Miller comments that finding the difference of the averages or the average of the differences completely obscures such individual changes. It seemed that all, or each member of the group, showed changes over the four-year period and no two of them in the same way. Reacting against the contemporary emphasis upon the normative approach, she maintains that these individual cases illustrate the measurable nature of changes which occur during the college period. In her way of thinking there is great promise in gathering more such clinical studies from which general laws might be discovered. "Higher education today is too important for us to deal with it only in terms of masses or groups of students."¹

¹Ibid., p. 121.
Summary

At first sight it might seem that in summarizing the results of these studies there are definite trends of increases in students' values in the aesthetic, economic, and theoretical, and decreases in the religious, social and political. Further study of these results shows, however, that the decrease in religious values varies from "very slight" (Miller) to significant (Todd); while the increase in aesthetic values varies from "slight" (Whitely) to significant (Todd). There is a significant increase in economic values in one study (Todd) and a significant decrease in another (Arsenian). In the same study (Arsenian) social values increase significantly and in another (Deignan) they decrease significantly. Deignan also found a significant increase in theoretical values as well as a significant decrease in political values. Arsenian found merely an increase in theoretical values and a decrease in political values. Thus, it might seem that any attempt to find a definite pattern in the changes of students' values brings forth rather inconclusive results. At best the evidence is not clear and at times even confusing. Certainly it can be stated that the experimental results in the studies reviewed here do not support a general conclusion that there are no changes in students' values.
during the four-year college period. Some significant differences between freshmen and senior groups have been found, but it is not always clear whether these changes form conclusive patterns or trends.
CHAPTER III

RESULTS OF THE TESTING OF THE HYPOTHESIS

Introduction

In the last chapter it was pointed out that to come to some conclusive general statements with respect to a change in values among college students was difficult in view of the fact that the evidence in the experimental studies reviewed was not always clear, but at times even confusing and conflicting. Added to these considerations is the fact that the data may have been contaminated frequently by errors of measurement and errors of sampling. There is often the question of the randomness or representativeness of the populations in the studies as well as the problem of limitations in validity and reliability of the measuring instruments used.

Statement of Hypothesis

Since the evidence found was, for the most part, inconclusive, it was decided to set up as carefully as possible an experimental design with the control of important variables to find out whether or not there were
significant changes in the values of college students, and if there were, what the trends in these changes might indicate. The proposed hypothesis of the study was as follows: the combination of changes in values for given individuals and the problem of selective attrition give rise to a situation in which certain values show a continued increase from freshman to sophomore to junior to senior years, and certain other values show a continued decrease during those periods. Furthermore, it was hypothesized on the basis of some of the evidence that theoretical, economic, and aesthetic values would show a tendency to upgrade, and social, political, and religious values would show a tendency to downgrade during the four years of college life.

**Procedure**

In order to test the hypothesis, it was proposed to set up a plan for the measurement of students' values by classes, or by college years, at East Tennessee State College, Johnson City, where the writer is presently employed as an instructor in the department of psychology. Consent and encouragement were given to the project by the deans of the administrative and personnel staff; and as soon as the Registrar's lists of students by college years for the fall quarter, 1961, were available, groups of reasonably representative students were selected from each year. Since the proposed design called for fifty students
from each year, freshman to senior, original "sampling" groups of sixty-five each were selected simply by counting off every eleventh or every fifteenth student on the registrar's lists in accordance with the ratio needed to get the number of sixty-five. In one year the ratio turned out to be every ten and two-thirds student, so that the counting was done in this manner: 10-11-11-10-11-11-10, etc.

After this selection of sixty-five subjects in each college year, it was necessary to make some substitutions, since a few had dropped out of school, or some were registered in the evening school and could not be considered "regular" students. A substitution was made by selecting the student immediately before the student originally "counted off," or if this procedure was not satisfactory, the student immediately after the one originally selected was chosen.

Notices, which were signed by the Dean of the College and the Dean of Student Personnel, were sent to all sixty-five students in each year asking them to come to the Music Hall in an open third period on December 5, 1961. They were asked to cooperate in a study that was being made by the college. Only one hundred twenty subjects came to this meeting since there developed an unexpected conflict with the program of another department.
At the beginning of the winter quarter another testing period was set up on January 9, 1962, after notices had been sent out a week before to the remaining selected students. Sixty more subjects came to this session. The remaining twenty subjects were obtained by personal solicitation of those students left in the "sampling pool," with the help of department heads, administrative officers, and other students. The first fifty subjects obtained in each college year were the ones selected for the study.

The testing instrument used was the Allport-Vernon-Lindzey Study of Values, third edition, 1960. The writer administered the test in accordance with the instructions given in the accompanying manual, and two graduate students assisted in organizational details, answering questions, and repeating instructions. Since the differentiation in norms for the Allport-Vernon-Lindzey Study of Values is on the basis of sex, the following table shows the sex distribution according to classes.

TABLE 1

Distribution by the Four Classes According to Sex

<table>
<thead>
<tr>
<th>Class</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior</td>
<td>31</td>
<td>19</td>
<td>50</td>
</tr>
<tr>
<td>Junior</td>
<td>32</td>
<td>18</td>
<td>50</td>
</tr>
<tr>
<td>Sophomore</td>
<td>27</td>
<td>23</td>
<td>50</td>
</tr>
<tr>
<td>Freshmen</td>
<td>33</td>
<td>17</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>123</td>
<td>77</td>
<td>200</td>
</tr>
</tbody>
</table>

A student data sheet, or questionnaire, was inserted in the last page of each test in order to obtain personal information concerning major, vocational objective, residence, source of income, family, church, organizations joined, recreation, reading material, and attitude toward school subjects.

Results

Tests were scored and the results tabulated. The data were subjected to an analysis of variance to determine whether or not there were any significant differences between the mean scores by classes, as well as between the means of scores for the separate tests of values. Results are shown in Tables 2, 3, 4, and 5.
### TABLE 2

Mean Scores of Values by College Year

<table>
<thead>
<tr>
<th>Values</th>
<th>Theoretical</th>
<th>Economic</th>
<th>Aesthetic</th>
<th>Social</th>
<th>Political</th>
<th>Religious</th>
<th>Row Means</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshmen</strong></td>
<td>Y₁₁</td>
<td>Y₁₂</td>
<td>Y₁₃</td>
<td>Y₁₄</td>
<td>Y₁₅</td>
<td>Y₁₆</td>
<td>Y₁</td>
</tr>
<tr>
<td></td>
<td>40.76</td>
<td>40.70</td>
<td>33.19</td>
<td>37.39</td>
<td>42.04</td>
<td>45.96</td>
<td>40.01</td>
</tr>
<tr>
<td><strong>Sophomores</strong></td>
<td>Y₂₁</td>
<td>Y₂₂</td>
<td>Y₂₃</td>
<td>Y₂₄</td>
<td>Y₂₅</td>
<td>Y₂₆</td>
<td>Y₂</td>
</tr>
<tr>
<td></td>
<td>38.30</td>
<td>39.26</td>
<td>35.13</td>
<td>40.73</td>
<td>41.09</td>
<td>45.53</td>
<td>40.01</td>
</tr>
<tr>
<td><strong>Juniors</strong></td>
<td>Y₃₁</td>
<td>Y₃₂</td>
<td>Y₃₃</td>
<td>Y₃₄</td>
<td>Y₃₅</td>
<td>Y₃₆</td>
<td>Y₃</td>
</tr>
<tr>
<td></td>
<td>39.39</td>
<td>41.68</td>
<td>34.42</td>
<td>37.60</td>
<td>41.78</td>
<td>45.13</td>
<td>40.00</td>
</tr>
<tr>
<td><strong>Seniors</strong></td>
<td>Y₄₁</td>
<td>Y₄₂</td>
<td>Y₄₃</td>
<td>Y₄₄</td>
<td>Y₄₅</td>
<td>Y₄₆</td>
<td>Y₄</td>
</tr>
<tr>
<td></td>
<td>39.92</td>
<td>42.15</td>
<td>36.47</td>
<td>35.93</td>
<td>42.86</td>
<td>42.69</td>
<td>40.00</td>
</tr>
<tr>
<td><strong>Column Means</strong></td>
<td>Y₁</td>
<td>Y₂</td>
<td>Y₃</td>
<td>Y₄</td>
<td>Y₅</td>
<td>Y₆</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>39.59</td>
<td>40.95</td>
<td>34.80</td>
<td>37.91</td>
<td>41.94</td>
<td>44.83</td>
<td>40.01</td>
</tr>
</tbody>
</table>
### TABLE 3

Mean Scores for Freshman and Senior Values

<table>
<thead>
<tr>
<th></th>
<th>Theoretical</th>
<th>Economic</th>
<th>Aesthetic</th>
<th>Social</th>
<th>Political</th>
<th>Religious</th>
<th>Row Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>Y11</td>
<td>Y12</td>
<td>Y13</td>
<td>Y14</td>
<td>Y15</td>
<td>Y16</td>
<td>Y1</td>
</tr>
<tr>
<td></td>
<td>40.76</td>
<td>40.70</td>
<td>33.19</td>
<td>37.39</td>
<td>42.04</td>
<td>45.96</td>
<td>40.01</td>
</tr>
<tr>
<td>Seniors</td>
<td>Y21</td>
<td>Y22</td>
<td>Y23</td>
<td>Y24</td>
<td>Y25</td>
<td>Y26</td>
<td>Y2</td>
</tr>
<tr>
<td></td>
<td>39.92</td>
<td>42.15</td>
<td>36.47</td>
<td>35.93</td>
<td>42.66</td>
<td>42.69</td>
<td>40.00</td>
</tr>
<tr>
<td>Column Means</td>
<td>Y.1</td>
<td>Y.2</td>
<td>Y.3</td>
<td>Y.4</td>
<td>Y.5</td>
<td>Y.6</td>
<td>Y.7</td>
</tr>
<tr>
<td></td>
<td>40.34</td>
<td>41.43</td>
<td>38.38</td>
<td>36.66</td>
<td>42.45</td>
<td>44.33</td>
<td>40.00</td>
</tr>
</tbody>
</table>
TABLE 4

Significance of Row and Column Means, All Years

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of F.</th>
<th>S of S</th>
<th>Mean Sq</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Rows</td>
<td>I^a - 1</td>
<td>SS_R</td>
<td>MS_R = SS_R</td>
<td>MS_R/MSE</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>480</td>
<td>160 (\frac{I-1}{I-1})</td>
<td>3.08^d</td>
</tr>
<tr>
<td>Between Columns</td>
<td>J^b - 1</td>
<td>SS_C</td>
<td>MS_C = SS_C (\frac{J-1}{J-1})</td>
<td>MS_C/MSE</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>12,234</td>
<td>2446.8</td>
<td>47.13^e</td>
</tr>
<tr>
<td>RC Interactions</td>
<td>(I-1)(J-1)</td>
<td>SS_RC</td>
<td>MS_RC = SS_RC (\frac{(I-1)(J-1)}{(I-1)(J-1)})</td>
<td>MS_RC/MSE</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>1288</td>
<td>85.87</td>
<td>1.65^d</td>
</tr>
<tr>
<td>Error</td>
<td>IJ(K^c - 1)</td>
<td>SS_e</td>
<td>MSE = SS_e (\frac{(I-J)(K-1)}{(I-J)(K-1)})</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1176</td>
<td>61,061.25</td>
<td>51.92</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>IJK-1</td>
<td>SS &quot;tot&quot;</td>
<td>80,818.93</td>
<td></td>
</tr>
</tbody>
</table>

^a_I = 4
^b_J = 6
^c_K = 50

^dNot significant at the one percent level of confidence.

^eVery significant at the one percent level of confidence.
TABLE 5

Significance of Row and Column Means, Freshman and Senior Years

<table>
<thead>
<tr>
<th>Source</th>
<th>Deg. Freedom</th>
<th>SS</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Rows</td>
<td>I&lt;sup&gt;a&lt;/sup&gt;-1</td>
<td></td>
<td>SS&lt;sub&gt;R&lt;/sub&gt;</td>
<td>SS&lt;sub&gt;R&lt;/sub&gt;/I-1</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>24</td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>Between Columns</td>
<td>J&lt;sup&gt;b&lt;/sup&gt;-1</td>
<td></td>
<td>SS&lt;sub&gt;C&lt;/sub&gt;</td>
<td>SS&lt;sub&gt;C&lt;/sub&gt;/J-1</td>
</tr>
<tr>
<td></td>
<td>J</td>
<td>5</td>
<td>6880</td>
<td>1360</td>
</tr>
<tr>
<td>RC Interaction</td>
<td>(I-1)(J-1)</td>
<td>5</td>
<td>SS&lt;sub&gt;RC&lt;/sub&gt;</td>
<td>SS&lt;sub&gt;RC&lt;/sub&gt;/(I-1)(J-1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>466.47</td>
<td></td>
<td>93.294</td>
</tr>
<tr>
<td>Error</td>
<td>IJ (K&lt;sup&gt;c&lt;/sup&gt;-1)</td>
<td>588</td>
<td>SS&lt;sub&gt;E&lt;/sub&gt;</td>
<td>MSE</td>
</tr>
<tr>
<td></td>
<td>IJ</td>
<td></td>
<td>30.9400.03</td>
<td>52.62</td>
</tr>
<tr>
<td>Totals</td>
<td>IJK-I</td>
<td>599</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>I = 4
<sup>b</sup>J = 6
<sup>c</sup>K = 50
<sup>d</sup>Not significant at the one percent level of confidence.
<sup>e</sup>Very significant at the one percent level of confidence.
In Table 2 the row means come out very close together with little appreciable difference: 40.01 for both the freshman and the sophomore years and 40.00 for both the junior and senior years. This is how the results should be, because this outcome is related to the way in which the test is standardized. However, it is to be noted that the column means, or the means of the six sub-tests, differ, and sometimes appreciably. The mean scores in values for all years are as follows: theoretical, 39.49; economic, 40.95; aesthetic, 34.80; social, 37.91; political, 41.94; and religious, 44.83.

Table 3 shows a slight decrease in theoretical values from the freshman to the senior years (40.76-39.93). There is some increase in economic values (40.70-42.15), and very much of a tendency to increase in aesthetic values (33.19-36.47). Moreover, social values did decrease some (37.39-35.93), and political values decreased slightly (42.04-42.86). The religious values are still quite high comparatively in spite of a drop (45.96-42.69). However, since row-column interactions in Tables 4 and 5 are not significant (1.65 and 1.773 respectively), these trends are not very meaningful.

In the results of both Tables 2 and 3 there is a significant profile of students in these six values. For example, the aesthetic values are still quite low (34.83) in spite of a tendency to rise, and social values tend to be low also (36.66). Political values tend to be
comparatively high (42.45), and economic (41.43) and theoretical (40.34) values tend to be about average. It is significant that religious values are consistently high in spite of a decrease (44.33). In fact, religious values come closest to being significant statistically when tested singly for freshmen and seniors only. In order to be significant at .01 = F, F = 6.90; and the F for religious values is 5.54. Thus the comparison of freshmen and senior classes simply crystallizes the comparison between all four classes in a profile of values. Most noteworthy is the high significant difference of the column means (F = 47.13) found in Table 4. On the basis of these results one can detect most definitely a relative hierarchy of students' values in these patterns of findings in the particular institution under study.

Several factors should be mentioned that are involved in this study. In the first place, the number of cases--fifty in each college year--is somewhat small. Furthermore, differences are fairly sizable. That is, there is a tremendous amount of variation in the groups and great differences between the groups. This fact is not always evident when using mean scores to show inter- and intra-group variations. It would have been much more desirable if this study had been based upon 1,000 subjects, for example. Then, it might be more possible to find definite tendencies in value changes and perhaps to derive from them
some conclusive general statements. Nevertheless, the changes assumed by the hypothesis of this study not only were not significant, but two of the slight changes were in a contrary direction. There was practically no change in mean scores of values from class to class. Furthermore, economic, political, and aesthetic values increased slightly, while theoretical, social, and religious values decreased in the period from the freshman to the senior years. The contradiction of the hypothesis lies, of course, in the fact that theoretical values decreased slightly and political values increased slightly.

**Questionnaire Findings**

In view of important differences between the sub-tests, it was further decided to study subjects that were high in particular values and those that were low in those values in order to determine whether there were certain factors that could be identified as having an effect upon these variations. Here data were compiled from the questionnaires and related to those who were above fifty in all the specific values and to those who were below thirty in all these values. Several common factors were studied, such as sex, marital status, curriculum, and residence of students. Tables 6, 7, 8, 9, and 10 summarize a few of the findings.
<table>
<thead>
<tr>
<th></th>
<th>Theoretical</th>
<th>Economic</th>
<th>Aesthetic</th>
<th>Social</th>
<th>Political</th>
<th>Religious</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H</td>
<td>L</td>
<td>H</td>
<td>L</td>
<td>H</td>
<td>L</td>
</tr>
<tr>
<td>Seniors</td>
<td>7</td>
<td>9</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Juniors</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Sophomores</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Freshmen</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Totals</td>
<td>11</td>
<td>17</td>
<td>12</td>
<td>8</td>
<td>6</td>
<td>58</td>
</tr>
<tr>
<td>Values</td>
<td>Theoretical</td>
<td>Economic</td>
<td>Aesthetic</td>
<td>Social</td>
<td>Political</td>
<td>Religious</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------</td>
<td>----------</td>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>L</td>
<td>H</td>
<td>L</td>
<td>H</td>
<td>L</td>
</tr>
<tr>
<td>Men</td>
<td>9</td>
<td>4</td>
<td>11</td>
<td>4</td>
<td>4</td>
<td>47</td>
</tr>
<tr>
<td>Women</td>
<td>2</td>
<td>13</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>17</td>
<td>12</td>
<td>8</td>
<td>6</td>
<td>58</td>
</tr>
</tbody>
</table>
## TABLE 8
Distribution by Marital Status of Students Comparatively High and Low in Six Values

<table>
<thead>
<tr>
<th>Values</th>
<th>Theoretical</th>
<th>Economic</th>
<th>Aesthetic</th>
<th>Social</th>
<th>Political</th>
<th>Religious</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H</td>
<td>L</td>
<td>H</td>
<td>L</td>
<td>H</td>
<td>L</td>
</tr>
<tr>
<td>Married</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Single</td>
<td>8</td>
<td>14</td>
<td>10</td>
<td>8</td>
<td>5</td>
<td>49</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>17</td>
<td>12</td>
<td>8</td>
<td>6</td>
<td>58</td>
</tr>
</tbody>
</table>
TABLE 9

Distribution by Curricula of Students Comparatively High and Low in Six Values

<table>
<thead>
<tr>
<th>Curriculum</th>
<th>Theoretical</th>
<th>Economic</th>
<th>Aesthetic</th>
<th>Social</th>
<th>Political</th>
<th>Religious</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H</td>
<td>L</td>
<td>H</td>
<td>L</td>
<td>H</td>
<td>L</td>
</tr>
<tr>
<td>D&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4</td>
<td>7</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>S&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>Pre-Prof.&lt;sup&gt;c&lt;/sup&gt;</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>E&lt;sup&gt;d&lt;/sup&gt;</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B.A.&lt;sup&gt;e&lt;/sup&gt;</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>17</td>
<td>12</td>
<td>8</td>
<td>6</td>
<td>58</td>
</tr>
</tbody>
</table>

<sup>a</sup>Curriculum D: Bachelor of Science degree without eligibility for teaching.

<sup>b</sup>Curriculum S: Bachelor of Science degree with eligibility for Tennessee Professional Certificate to teach in grades seven through twelve.

<sup>c</sup>Pre-Professional: In this curriculum students may use their first year in a professional school in lieu of the fourth year in the College and may receive the B. S. or B. A. degree from this College.

<sup>d</sup>Curriculum E: Bachelor of Science degree with eligibility for Tennessee Professional Certificate to teach in grades one through nine.

<sup>e</sup>B. A.: Liberal Arts degree requiring science and a language.
TABLE 10

Percentage of Students Comparatively High and Low in Six Values
Who Live Within a Fifty-Mile Radius

<table>
<thead>
<tr>
<th>Values</th>
<th>Theoretical</th>
<th>Economic</th>
<th>Aesthetic</th>
<th>Social</th>
<th>Political</th>
<th>Religious</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>8</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td>44</td>
</tr>
<tr>
<td>Percent</td>
<td>5.755</td>
<td>4.32</td>
<td>3.597</td>
<td>1.439</td>
<td>7.19</td>
<td>31.65</td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>15</td>
<td>6</td>
<td>40</td>
<td>12</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Percent</td>
<td>10.79</td>
<td>4.32</td>
<td>28.777</td>
<td>8.63</td>
<td>4.32</td>
<td>4.32</td>
</tr>
</tbody>
</table>
Table 6 shows that of the 200 subjects studied, eleven are high in theoretical values and seventeen are low. Twelve are high in economic values and eight are low. Six are high in aesthetic values while fifty-eight are low. In social values five are high and twenty are low. Nineteen are high in political values and six are low. Here again is that evident patterning of students' values that is so marked in the significance of the difference of the column means (Table 2).

In Table 7 an attempt is made to find out whether sex is a factor in the high and low values of the students in the study. Of the seventeen students low in theoretical values thirteen are women. Of the twelve high in economic values eleven are men. Of the fifty-eight low in aesthetic values forty-seven are men. Twenty students are low in social values, and of these fifteen are men, while nineteen students are high in political values, and of these, sixteen are men. Of the fifty students high in religious values thirty-four are women, while of the ten low in religious values nine are men. It seems that there may be some important sex differences in the patterning of students' values in this study. For example, more men appear to be low in aesthetic values while more women are high in religious values, but low in theoretical values.

In Table 8 marital status apparently has little effect upon the patterning of students' values largely
because married students in this study are in a distinct minority. It is not surprising, then, that single students are in the majority whenever the patterning of values tends to be either high or low.

In Table 9 are shown the curricula chosen by students comparatively high and low in the six values. Curriculum D students, or those not eligible for teaching, have the greatest frequency of cases where values are predominantly high or low excepting in political values where Curriculum S students hold first place in high values. Otherwise, Curriculum S students hold second place numerically where the patterning of values is comparatively high or low. For example, of the fifty-eight students low in aesthetic values twenty-eight are in Curriculum D and eighteen are in Curriculum S. Of the fifty who are high in religious values nineteen are in Curriculum D and eighteen in Curriculum S. It should be noted that the pre-professional students have seventeen who are low in aesthetic values.

Table 10 shows the percentage of students living within a fifty-mile radius who are comparatively high and low in six values. About 5 percent are high in theoretical values and 10 percent are low. In economic values the percentage of students high and low in values is about the same. About 28 percent are low in aesthetic values in comparison with 3 percent who are high. Approximately 1 percent is high in social values and 8 percent low.
Political values show 7 percent high and 4 percent low. The percentage of those high in religious values is about 31 percent, and of those low in religious values 4 percent. Thus, with the exception of economic values there is the same patterning of high and low values that is found to be so characteristic or typical in the preceding tables.

In addition to common factors studied above, one specific factor was studied in relation to each of the values of students that were comparatively high and low in them. For example, would there be a difference in grade-point averages for those high and low in theoretical values? It was found that grade-point averages were as follows:

<table>
<thead>
<tr>
<th>High in theoretical values:</th>
<th>3.627</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low in theoretical values:</td>
<td>2.536</td>
</tr>
</tbody>
</table>

In the case of economic values would there be a difference between the high and the low in relation to father's income? The average salary of nine fathers of students high in economic values was: $5,864.44. The average salary of five fathers of students low in economic values was: $6,720.00. Some did not report their father's salary.

It was, furthermore, questioned whether there would be any relationship between frequency of participation in sports and low or high aesthetic values. Of the six students high in aesthetic values, three listed three or
more active sports among their hobbies and recreational activities. Of the fifty-eight low in aesthetic values, thirty-four listed three or more active sports. For the six students high in aesthetic values such activities as these were frequently mentioned: reading, creative writing, painting, singing, scenery designing, sight seeing, listening to records, art work, dancing, and playing cards. Obviously the number of subjects is too few to discern any general trend or pattern in these recreational activities. For the fifty-eight low in aesthetic values, occasionally such activities as these, in addition to sports, would be listed: reading, sewing, cooking, music, radio repair, flying model planes, movies, knitting, singing, racing, biology collections, poetry (reading?), research work, wood working, photography, coin collections, YMCA leader, flying, and riding cars.

In the case of social values, the question was asked: Is there any relationship between vocational objectives and high and low social values? Of the five students high in social values, these are the vocational objectives mentioned: psychiatric social work, medical secretary, "work with people," elementary teaching, and an army career in the Special Forces. In spite of the few cases here, one might detect a tendency toward love of working with people and for their welfare. Of the twenty students low in social values, the vocational objectives are as follows:
For political values it was postulated that there might be a relationship between active participation in campus and community organizations and high and low political values. Of the nineteen students high in political values eight were active in organizations, and of these eight, three were very active as judged by the Dean of Men and the Dean of Women¹ at East Tennessee State College. Of the six students low in political values, four participated in organizations, and only one of these could be considered very active. To generalize on the basis of such few cases is certainly both unwise and impossible.

The unusually great number of students high in religious values and the few who are low in religious values seem to have some relationship to church attendance. For the fifty students high in religious values and the ten who are low these are the average number of times of church attendance during the month:

High in religious values: 6.014
Low in religious values: 1.86

¹Dr. Calvin Mercer and Dr. Louise McBee, Dean of Men and Dean of Women respectively at East Tennessee State College.
Of course, this may be a way of saying that those who like to go to church, go to church. And as the Dean of Student Personnel at the college exclaimed when she saw these data: "They have been raised in a religious atmosphere. They have been bred and born with religious values!" As others studying these data have been prone to say: "This part of the country is in the Bible Belt." Again the number of cases for those low in religious values is too small to make a sweeping generalization about this apparent pattern. Yet it is obvious that there is a significant difference between fifty high in religious values and ten low in religious values among two hundred subjects.

These data tend to substantiate further the observation made earlier in this chapter that there seems to be a significant profile of value patterns among the students under study at this particular institution. For example, Table 2 typically shows that aesthetic values are quite low while religious values appear consistently high. Political values tend to be high, while social values are low; and economic and theoretical values tend to be about average. As the Dean of Student Personnel at the college commented: "This is a good picture of the value patterns of our students."

1Dean Ella V. Ross, Dean of Student Personnel, East Tennessee State College.
It was found that of the 200 subjects studied 139, or 70 percent, come from an area close to the college, that is, within a radius of fifty miles. One may assume, therefore, that these value patterns are typical of the students and their homes in this particular part of the country. This area does not include Knoxville or Nashville but does come close to Asheville, North Carolina. The people, for the most part, appear to be sturdy, hard-working and practical-minded, coming from old English, Scottish and Welsh stock that has inhabited these mountains for generations.

This area in the Southern Appalachians might be considered one of the most beautiful spots in the United States, with vast forests of spruce, pine, and balsam, and the famous rhododendron gardens in bloom during the month of June. For that reason the writer was puzzled as to why the aesthetic values of students coming from this region could be so low. Were there also not many arts and crafts, and skilled manufacture by hand practiced in these mountains? Answers came from many sides, and these are typical:

They never see the mountains, for they have lived here all their lives.

They have never had much, if any, art instruction in their schools.

Their homes are furnished largely from mail-order catalogues.
They have never learned to identify beauty.
Their schools gave only the bare, minimum instruction.
Teachers wear their old clothes to school.
These answers did not seem like basic reasons.

Furthermore, was there a possible relationship between the strikingly high religious values and low aesthetic values?
For the most part, the students studied belong to three or four religious denominations where the background is largely Calvinistic. Church services are characterized by informality and plainness and stripped of ritual and beauty. But there is an austerity, a strictness, an emphasis upon "thou shalt not," typical of another sturdy group of pioneer people, the Puritans of New England. Was this, then, a clue contained in these fragmentary thoughts? Perhaps so.

Summary

1. There was practically no change in the mean scores of values from college year to year, as assumed by the hypothesis of this study.

2. Economic, political, and aesthetic values increased slightly from the freshman to the senior years, while theoretical, social, and religious values decreased during the same period.

3. The hypothesis was contradicted in that theoretical values decreased slightly and political values increased slightly.
4. The high statistically significant difference of the column means, or values, shows a definite patterning of students' values in this particular study.

5. This patterning or hierarchy of students' values is again evident in the questionnaire findings which show the number of students by college years who are comparatively high and low in the six values.

6. This marked patterning of students' values is as follows: consistently high religious values and quite low aesthetic values; a tendency for social values to be low and political values to be high, with about average theoretical and economic values.

7. In this patterning of students' values sex may be a factor: more men appear to be low in aesthetic and social values and high in economic and political values, while more women are high in religious values, but low in theoretical values.

8. There may be some relationship between those high in theoretical values and those who make a high grade-point average.

9. There seems to be a relationship between those high in religious values and the frequency of attendance at church.
CHAPTER IV

SUMMARY AND CONCLUSIONS

In this study an attempt has been made to consider the question, What are values? It was assumed that values exist, and that they have an important bearing upon the individual's behavior. Their importance is seen in their relation to educational objectives in the public school system of this country. It has been further pointed out that no matter how objective the approach to classroom teaching, especially in higher education, it is impossible to instruct others without operating in a framework of values of some kind. Data may come from a highly controlled experimental design, yet how these data are interpreted and the direction or application of this interpretation rest upon a system of values.

At first, it was thought that turning to experimental literature might be profitable in discovering the meaning of values. It was soon found that values are what the tests of values measure. In order to avoid such evident circularity in thinking, values were postulated as outcomes of the measuring instruments used, and
attention was focused upon the changes in values that might occur as a result of certain influences or experiences. Considerable research was done in locating and selecting studies of changes in values of students during their four-year college career. Six studies were selected and reviewed in some detail to determine whether there were any changes in the values of college students, and in what direction, if any, these changes tended. No conclusive evidence could be found because of limitations in the data, and because of disagreement, confusion, and lack of clarity in the results. Although it could not be affirmed that there were no changes in the values of college students from the freshman to the senior years, yet the direction of such changes as did occur were not always clear and precise.

In the face of this confusion in the research findings it was decided to set up an experimental design to test an hypothesis formulated as follows: the combination of changes in values for given individuals and the problem of selective attrition give rise to a situation in which certain values will show a continued increase from freshman to sophomore to junior to senior years, and certain other values will show a continued decrease during these periods. It is further hypothesized that theoretical, economic, and aesthetic values will show a tendency to upgrade; and social, political, and religious values will show a
tendency to downgrade during the four years of college life. To test this hypothesis two hundred subjects, reasonably representative of, and equally distributed among, the college years from which they were taken, were selected in an institution of higher learning where the writer is teaching. To them was administered the 1960 edition of the Allport-Vernon-Lindzey Study of Values, and the data obtained after the scoring of these tests were subjected to an analysis of variance.

Data were also obtained from a questionnaire, which was inserted in the last page of each test, in order to get personal information concerning major field of study, vocational objective, residence, source of income, family, church, organizations joined, recreation, reading material, and attitude toward school subjects. Data were compiled, and a special study was made of the students who were high and low in each value for the purpose of determining whether certain factors could be identified as having a relationship to high and low values. Several common factors were studied, such as sex, marital status, curriculum, and place of residence.

Results may be summarized as follows:

1. There was practically no change in the mean scores of values from college year to year, as assumed by the hypothesis of the study.

2. Economic, political, and aesthetic values increased slightly from the freshman to the senior years,
while theoretical, social, and religious values decreased during the same period.

3. The hypothesis was contradicted in that theoretical values decreased slightly and political values increased slightly.

4. The high statistically significant difference of the column means, or values, shows a definite patterning of students' values in this particular study.

5. This patterning or hierarchy of students' values is again evident in the questionnaire findings which show the number of students by college years who are comparatively high and low in the six values.

6. This marked patterning of students' values is as follows: consistently high religious values and quite low aesthetic values; a tendency for social values to be low and political values to be high, with about average theoretical and economic values.

7. In this patterning of students' values sex may be a factor: more men appear to be low in aesthetic and social values and high in economic and political values, while more women are high in religious values but low in theoretical values.

8. There may be some relationship between those high in theoretical values and those who make a high grade-point average.
9. There seems to be a relationship between those high in religious values and the frequency of attendance at church.

To the writer there appear to be glaring limitations in the data of this study, some of which may be stated as follows:

1. Values are defined in terms of what the Allport-Vernon-Lindzey Study of Values is supposed to measure, and accordingly are restricted in some instances to a narrow meaning, e.g., social values as philanthropic love.

2. The Allport-Vernon-Lindzey Study of Values is probably the best measuring instrument in the field of values. The mean reliability coefficient for the six sub-tests is .90. The use of norms, however, is to be questioned because the college population used for standardization cannot be claimed as a representative sampling. Also, validations of the test are external and indirect.

3. The student population used in this study is small, and is as reasonably representative as possible. It does not represent a randomized sampling, nor is the number of cases large enough to justify general conclusions.
4. The findings are limited to students in one institution. Therefore, general statements may not be made about college students in the United States as a whole.

5. The horizontal method of study rather than the longitudinal method was used in this study. In other words, one specific group of students was not followed and tested every year as they progressed from one college year to another. Rather, representative groups from each college year were studied concurrently.

6. It was impossible to do all the testing at the same time, in the same place, and under similar conditions.

7. Students showed considerable variation in their responses to the questionnaire. Some might overestimate the frequency of church attendance, for example, while others might underestimate it.

8. Some students cooperated only after personal invitations. Their hesitancy in participating may have colored their responses to some extent. For the most part, however, it is believed that students took the test in a spirit of willing cooperation and sincerity.

On the basis of results obtained in this study and in view also of limitations in the data compiled, the following conclusions may be formulated:
1. The evidence in this study concurs with the conclusion in Philip Jacob's study, *Changing Values in College*, that there are no appreciable changes in students' values during the four-year college experience.

2. There were, however, differences in the means of the values themselves which suggest a highly significant patterning of students' values. It may be that this patterning results from the actual objectives of the institution studied and especially from the culture of the community or area from which the students come.

3. Values are not easily defined. Either they may be defined operationally, e.g., outcomes of the measuring instruments, or as theoretical constructs, or perhaps as intervening variables, e.g., ways to live. It is believed that neither of these approaches may result in a preciseness or exactness of meaning.

   Nevertheless, it has been assumed in this study that values exist, that they exist in some amount, and that they change. However, no one definition examined seems to embrace or imply all that should be contained in an adequate concept of values. Notwithstanding this fact, several more conclusions or implications from this study may be pointed out:

   1. Continued research should be done in the area of precise and adequate definition of values.
2. Continued research should be done in the validation of measuring instruments that attempt to tap the universe called "values."

3. Larger and more inclusive studies of the kind of this particular one should be done periodically in institutions of higher learning, perhaps, as an important part of self-study.

4. A study such as this one would be much more valuable, if instead of two hundred subjects distributed evenly between the classes, 1,000 subjects or even more were used in a large-scale investigation.

5. Value patterns that are found in such studies should be compared and evaluated with the proposed objectives of the institution involved.

6. Professors in higher education should be encouraged to identify, examine, and reevaluate their own values within the framework of their most cherished objectives and goals.

7. Values are probably "caught" rather than directly taught. This could mean that a good example is the more effective means of influencing values and should be recognized in a) instruction in the classroom, b) administrative procedures, c) the formulation of departmental objectives and course activities, and d) the all-important (to the student) "extra-curricular" activities.
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BIOGRAPHICAL SKETCH

Doris Klein Campbell was born in Tazewell County, Illinois. Her father was a minister of a Methodist denomination. She received her education in the public school system of several Northern Illinois towns, graduating from Thornton Township High School in Harvey. She attended the University of Chicago on a scholarship and after a year transferred to Augustana College, Rock Island, Illinois, where she received the degree of Bachelor of Arts in classical languages.

After graduation from college she attended the University of Illinois on a scholarship and received the degree of Master of Arts in education. She then entered the teaching field and for several years taught at the secondary and higher education levels: Arlington Hall, Washington, D. C.; Central Academy and College, McPherson, Kansas; and Seattle Pacific College, Seattle, Washington.

Again she had the opportunity of taking up graduate work, enrolling in the College of Education at the University of Florida. She is a member of Kappa Delta Pi and Tau Kappa Alpha.

She is presently employed as instructor in the Department of Psychology at East Tennessee State College.
This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of the committee. It was submitted to the Dean of the College of Education and to the Graduate Council and was approved as partial fulfillment of the requirements for the degree of Doctor of Education.

August, 1962

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