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SELECTED SOCIAL STRATIFICATION FACTORS AND THE SELF CONCEPT AS
CONTINGENCIES IN COLLEGE PERSISTENCE AND PERSISTENCE
IN COLLEGE PROGRAM CHOICE

BY

ARNOLD J. MENNING

A Thesis Submitted
in Partial Fulfillment of the Requirements for the
Degree of Doctor of Philosophy, Major in
Sociology, South Dakota
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CONTINGENCIES IN COLLEGE PERSISTENCE AND PERSISTENCE
IN COLLEGE PROGRAM CHOICE

This thesis is approved as a creditable and independent investigation by a candidate for the degree, Doctor of Philosophy, and is acceptable as meeting the thesis requirements for this degree. Acceptance of this thesis does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

Thesis Adviser

Date

Head, Rural Sociology Department

Date

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IN COLLEGE PROGRAM CHOICE

Abstract

ARNOLD J. MENNING

Under the supervision of Professor Robert M. Dimit

This research study developed from a continuing interest by the writer in the various factors associated with student college persistence and stability of program choice. Institutions of higher learning are becoming increasingly concerned in these times of declining enrollments about the need for greater congruence between institutional planning and the services provided to the potential and enrolled student body. Relationships between selected (1) socioeconomic, academic, and self concept variables and (2) college persistence and stability of program choice were investigated in this study.

The research was centered around the view of the self as a phenomenal self. Reference group theory was the basic theoretical orientation utilized as a systematic approach to deal with the problem of the concept of the self as it is influenced by groups in the social environment. Such concepts as normative and comparative reference groups, negative and positive reference groups, and anticipatory socialization were very helpful in analyzing the results obtained in the study.

The three sample population groups of the study consisted of 151 students who changed college within South Dakota State University for the fall semester of 1972, 91 students who withdrew during the 1972 fall term,

and a random sample of 256 students who persisted in enrollment and had not changed college. All of the 498 students included in the study were full-time undergraduate students at South Dakota State University.

The Clinical form of the Tennessee Self Concept Scale was used to collect selected self concept data on the various student groups. The writer updated and revised Warner's Index of Status Characteristics for use as the instrument to determine social class standing of students included in this study. Various other socioeconomic and academic data were also obtained on the sample groups.

A chi square test was used when nominal scale variables were cross-classified. The least squares analysis of variance and a step-wise multiple regression procedure were used when the required assumptions for these tests could be satisfied. The level of significance was set at the .05 level and research hypotheses were put into null form for testing.

Conclusions were as follows:

1. Social class standing of students at South Dakota State University was not found to be significantly related to (1) stability of program choice, or (2) persistence of enrollment. Seventy-nine per cent of the students came from middle class homes (Classes III or IV).

2. The average ACT composite score and GPA for students withdrawing from South Dakota State University were significantly lower than for students who persisted in enrollment or changed college.

3. The TSCS holds little promise for use in predicting (1) changing, persisting, or withdrawing enrollment, or (2) social class standing

of students. Significant differences were obtained between social class standing and the TSCS variables of Identity, Behavior, Family Self and Social Self.

4. College persistence and stability of program choice were not significantly related to size of the student's graduating class, size of home community, or having a high school counselor.

5. Significant relationships were found between subjective estimates of social class standing and objective estimates of social class.

6. The null hypotheses of no difference in educational and occupational aspirations among changers, persisters and withdrawers were rejected. Significant differences were also obtained for the three sample groups between the educational and occupational levels of parents and aspiration levels of students.

7. Multi-factor approaches to measuring social class are more reliable than single factor methods.

8. Increased knowledge of academic and socioeconomic characteristics of students is imperative for implementing effective measures to attract and retain students.

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CHAPTER I

INTRODUCTION

The general public has shown an increasing interest in higher education and there has been a growing number of studies of colleges and universities which have emphasized the need for comprehensive information about the typical college student and about the variation in students or student bodies among institutions. McConnell and Heist,¹ Astin,² and others have studied student characteristics and have made it increasingly clear that American colleges attract extremely diverse groups. Various surveys have revealed great student differences in educational and vocational goals, family background, attitudes and values.

There is a need for greater congruence between institutional planning and student potentials for learning, growth and achievement. The range of student differences among colleges on almost any characteristic studied emphasizes this need for planning. An individual's sense of personal identity and his identification of himself with other persons and groups seems best understood in the light of his history of social reinforcements. He tends to identify himself in some degree with those individuals and groups that have been influential in shaping his expectations.

¹T. R. McConnell and Paul Heist, "The Diverse College Student Population," Nevitt Sanford ed. The American College (New York: John Wiley, 1962), pp. 225-252.

²Alexander W. Astin, "A Re-Examination of College Productivity," Journal of Educational Psychology, LII (June, 1961), pp. 173-178.

Many students who are about to enter some college or university have a very meager knowledge of the institution. Feldman and Newcomb³ have made a very comprehensive survey of the research that has been completed on entering college age youth. Some of the research they have reviewed presents evidence that a good many high school counselors know little more than students about the characteristics and aims of most colleges. Riesman and Jencks⁴ have contended that this lack of information on the part of many high school students and counselors results from the fact that colleges themselves do not do all they might to inform the public about themselves and to clear up certain kinds of mistaken images:

As competitive free enterprises, individual colleges have not been willing or able to do much in the way of clarification. Their catalogues are seldom designed to help the high school student distinguish one institution from another, or tell what any of them are like. . . . A few colleges have attempted to project usable information into the hands of applicants by such devices as supplying the high schools with College Board scores of entering freshmen. . . . But the majority of colleges have feared that this, or any other form of honesty, would be misunderstood or misused by the applicants . . .

It would then appear that students do differentially select themselves into--and are differentially selected by--different kinds of colleges. The intellectual ability and the socioeconomic background of the student are important aspects of this selectivity.⁵ Several studies are reviewed in Chapter II dealing with this differential selection.

³Kenneth A. Feldman and Theodore M. Newcomb, The Impact of College on Students (San Francisco: Jossey-Bass Inc., 1969).

⁴David Riesman and Christopher Jencks, "The Viability of the American College," Nevitt Sanford ed. The American College (New York: John Wiley, 1962), p. 111.

⁵Feldman and Newcomb, Impact of College, p. 115.

Statement of the Problem

This research has developed from a continuing interest by the writer in various factors associated with student college persistence and stability of program choice. Various academic and aptitude factors have been studied in this respect but very little investigation has been done relating social stratification factors and the self concept to college persistence and stability of program choice. The individual from birth on is put into a social situation where both the quality of nurturance and the type of childhood experiences may establish expectations, relative to the good will and dependability of other persons, that last through adult life. Stogdill⁶ has stated that:

. . . Initial reinforcements exert stronger effects than later reinforcements, and since strongly reinforced desirability estimates appear to be resistant to extinction, it seems reasonable to accept as valid the conclusions of clinical observers who report that enduring patterns of behavior and belief are fixed early in childhood. Many of the child's expectations are set by the training and treatment he receives in the home. Other expectations are acquired in the classroom, on the playground, and in other social situations.

In recent years, considerable evidence has been accumulating that American communities do show a definite class structure. Pursuing the class concept further, considerable evidence appears that this concept has important implications for college bound students.⁷ Class characteristics and certain aspects of self concept are not inherent in people--they are learned in and out of school, and they are practiced in

⁶Ralph M. Stogdill, Individual Behavior and Group Achievement (New York: Oxford University Press, 1959), p. 75.

⁷Leona E. Tyler, The Psychology of Individual Differences (New York: Appleton-Century-Crofts, Inc., 1956), p. 310.

social experience. Two general conclusions Tyler⁸ derived from such empirical studies of communities as "Yankee City," "Oldtown," and "Elmtown" are appropriate as basic tenets for this research study.

First, wherever a thorough empirical study of the manner in which people in a community regard each other has been made, it shows some sort of class differentiation. Second, economic factors of occupation and income seem to be involved in all of these distinctions; other criteria, such as membership in clubs or organizations and religious affiliation, enter into them with different weights in different places.

This study will seek to examine two groups of independent variables: (1) selected social stratification variables and, (2) selected self concept variables. The two dependent variables will be college persistence and stability of program choice. Specifically, these variables will be examined in respect to those students who withdraw from college as opposed to those that persist, and between those students who change their program of study in college as opposed to those who do not. Various comparisons and descriptions of selected socioeconomic variables will also be made on the groups included in this study. Does the stratification system of our society with the attitudes, behavior patterns, and styles of life of the social classes affect student decisions in college?

Importance of the Problem

The high incidence of change of program by college students and the general lack of substantial knowledge about this phenomenon suggests

⁸Ibid., p. 310.

that this is an area worthy of investigation. For example, Pierson⁹ has reported that 70 per cent of the Michigan State University seniors changed from their original division or college of enrollment. Records of change of program for the Fall terms of 1970 and of 1971 at South Dakota State University as shown in Appendix C would indicate that this is also a significant area of concern at this institution.

Empirical and experimental data demonstrate a direct relationship between the child's self concept and (1) his manifest behavior, (2) perceptions, and (3) academic performance.¹⁰ Information pertaining to the relationships that may or may not exist between social class and self concepts has many educational implications. Counselors, orientation directors, and various planners of curriculums now utilizing achievement and aptitude data on students will find social stratification data a useful supplement in program planning.

At the present time there is relatively little, if any, social stratification data collected and put into summary form on students at South Dakota State University. Additionally, it is very difficult to find an instrument that is appropriate for arriving at the estimated family social class standings of students at mid-western colleges and universities. Hopefully this study will also make a contribution in these areas so that further research may be conducted which will include

⁹Rowland R. Pierson, "Changers of Majors by University Students," Personnel and Guidance Journal, XL (January, 1962), pp. 458-61.

¹⁰Wallace D. Labenne and Bert I. Greene, Educational Implications of Self Concept Theory (California: Goodyear Publishing Company, Inc., 1969), p. 24.

due consideration of social stratification differences among students.

Objectives of the Study

The following broad objectives were established as guidelines for this research:

1. Investigation of the social class backgrounds of the students that attend South Dakota State University.
2. Examination of such differences as may exist in social class standing of students that persist in college attendance compared to those students who voluntarily withdraw from college.
3. Examination of such differences as may exist in social class standing of students that do not change their program of study compared to those students who do make such a change of program.
4. To ascertain whether self concept differences exist between those students that persist in college attendance compared to those students who voluntarily withdraw from college.
5. To ascertain whether self concept differences exist between those students who do not change their program of study compared to those students who do make such a change of program.
6. To interrelate the research findings and analysis with a reference group theoretical orientation to facilitate the use of the findings as well as indicate possible areas of future research.

Definition of Terms

The study of social stratification is concerned with: (1) the differences in the prestige enjoyed by individuals, (2) the various

degrees of occupational opportunities available to members of social groups, and (3) the differential rewards given to individuals by virtue of their ascribed status ancestry, inherited wealth, or favored ethnic affiliation.¹¹ From occupations American sociologists are especially prone to infer social standing, wealth, style of life, power, and authority.

Chinoy has described the major dimensions of social stratification as consisting of class, status, and power.¹² Social class as used in this study will refer to a number of persons sharing a common position in the economic order. This common position is in the context of economic, social, and political perspectives. The multidimensional approach to class phenomena in this social class definition enhances the possibility of recognizing the range of alternative factors in stratification and their possible relationships and combinations.

Self concept, as it is generally used in the professional literature, is a group of feelings and cognitive processes which are inferred from observed or manifest behavior. A more formal definition used by Labenne¹³ and to be used in this study, defines the self concept as the person's total appraisal of his appearance, background and

¹¹Ely Chinoy, Society: An Introduction to Sociology (New York: McGraw-Hill Book Co., 1967), p. 176.

¹²Ibid., pp. 171-72.

¹³Labenne, Self Concept Theory, p. 10.

origins, abilities and resources, attitudes and feelings which culminate as a directing force in behavior.

College persisters will be used throughout this study to refer to those students who have continued their enrollment with South Dakota State University and have given no indication that they plan to terminate their enrollment before realizing their educational objectives.

Non-persisters (withdrawers) will refer to those students who voluntarily withdrew their enrollment from the University during the 1972 Fall term.

Stability of program choice will be used throughout this study to refer to those students who have not changed from the college of their initial enrollment at the University at the time of this study. For a list of those changes that are considered changes of program for the purposes of this study see Appendix C.

CHAPTER II

REVIEW OF LITERATURE

A review of literature revealed that there is a good deal of research reported which has application for the study of the variables to be examined in this research study. Youths who persisted in college, withdrew, or never attended--differed greatly in their descriptions of their families. College persisters were much more likely to report that even before they entered college, their parents had strongly encouraged them to attend.¹ Academic and socioeconomic characteristics described in research studies pertaining to change of program and persistence in college attendance will be reviewed in this chapter. By briefly reporting some of these related research studies, an overview will have been presented to allow the presentation of the theoretical orientation in Chapter III.

General Characteristics of Students

Academic Characteristics

One of the largest national samples of student characteristics was obtained by the American College Survey administered to freshmen students in thirty-one colleges in 1964.² The results greatly extended

¹James W. Trent and Leland L. Medsker, Beyond High School (San Francisco: Jossey-Bass Inc., 1968), p. 253.

²Clifford Abe, et al., A Description of American College Freshmen ACT Research Reports No. 1 (March, 1965). Published by American College Testing Program, Iowa City, Iowa. p. 2.

the knowledge of the over-all diversity among college students and also made clear the implication that there is a college for almost every level of intellectual capacity. If a student so desires, he can find a college whose student body is at least congruent with many if not most of his personal tastes and needs.³ Various research studies consider academic characteristics of students to include: (1) intellectual data, including intelligence and scholastic aptitude as measured by standardized tests; (2) previous academic performance and rank in high school class; and (3) college grade point averages.

Data from a study by Medsker and Trent⁴ indicated that 46 per cent of four-year college students and 72 per cent of the public university students come from the upper two-fifths of their high school class. Only 25 per cent of the junior college students were from the upper two-fifths of their high school class in this study. A factor that has been studied extensively in regard to academic characteristics of students is their academic ability. Phearson⁵ found that 58 per cent of the high school graduates scoring in the top quarter on the Iowa Tests of Educational Development went to college. One-third of those in the next lowest quarter continued their education beyond high school. Twenty

³Ibid., p. 56.

⁴Leland L. Medsker and James W. Trent, Factors Affecting College Attendance of High School Graduates From Varying Socioeconomic and Ability Levels. USOE Coop. Research Project No. 438. (Berkeley: Center For Research and Development in Higher Education, University of California, 1965), p. 71.

⁵Leo T. Phearson, "Comparisons of High School Graduates Who Go to College With Those Who Do Not," Journal of Educational Psychology, XL (November, 1949), pp. 405-14.

per cent scoring in the third highest quarter and only 10 per cent scoring in the lowest quarter went to college.

The ACT composite score, a measure of academic potential, shows great variability among various colleges for both men and women. The range of ACT means found in the study of 31 colleges reported in the ACT Research Report of 1965 was 2.3 standard deviations. This range becomes all the more remarkable when it is noted that low-ranking Negro colleges were not included among the thirty-one colleges studied.⁶

High school students who aspire to a college education, as well as those who actually enroll in college, are not representative of all youths in the same age group. According to Feldman and Newcomb,⁷ two of the most important determinants of selection are the level of intelligence and socioeconomic background of the students. The greater the high school student's intellectual abilities and aptitudes, the more likely he is to want to go to college and the more likely he is actually to attend.

Many researchers have stressed the diversity among students from college to college. The ACT Research Report of 1965 has presented information which clearly suggests that students differ from college to college relatively little on about one-half of the descriptive variables studied and that students differ a great deal on about the other half of the descriptive variables (1 to 2.3 standard deviations).⁸ The particular

⁶Abe, et al., American College Freshmen, p. 54.

⁷Feldman and Newcomb, Impact of College, p. 106.

⁸Abe, et al., American College Freshmen, p. 57.

form that this variation among colleges takes is valuable for its implications for students and colleges. This report has also suggested that the extreme variation for a limited number of variables may represent one outcome of current admission policies and practices; that is, the most variable student characteristics are used both in the admission process and in student's self-selection of colleges. Such student characteristics include a student's academic achievement, conformity, leadership potential, language competency, home resources, and other similar personal and background characteristics.

Socioeconomic Characteristics

The Harvard Report⁹ has yielded considerable information concerning the socioeconomic characteristics of students prior to 1945. With respect to social class this report stated that of eight per cent of the children in the upper class, 90 per cent entered college. By way of comparison, at the time of the study, the middle class which contained about one-third of the children in society sent only 15 per cent to college. This Report further estimated that the lower class, while producing 60 per cent of the children, sent only five per cent to college.

Burton R. Clark¹⁰ investigated differences in the social class standings of students enrolled in various institutions by 1960 and reported a recent trend towards increased enrollment of lower economic

⁹Report of the Harvard Committee, General Education In a Free Society, (Harvard University Press, 1945), p. 76.

¹⁰Burton R. Clark, The Open Door College: A Case Study (New York: McGraw Hill Book Co., Inc., 1960), p. 54.

groups. He found that whereas California senior institutions showed a higher percentage of upper white collar families (87 per cent), San Jose Junior College showed an enrollment of 62 per cent from lower class families. Mellinger¹¹ reported an extraordinary figure of 96 per cent lower and lower middle class students in his sample of entering freshmen at a public junior college.

Some difficulty appears in evaluating studies which depend upon assigning individuals to various socioeconomic levels. Criteria for assignment are not always made explicit, nor are the criteria always comparable.¹² Some recent studies have utilized the method of examining relationships of certain socioeconomic variables rather than assigning social status. Variables such as father's occupation, father's education and mother's education are commonly correlated with various academic factors.

An attack on the problem of whether there are differences between social classes in mental abilities has been made by Havighurst and Janke,¹³

¹¹Morris Mellinger, "Changing Trends Among Public Junior College Student Bodies," Junior College Journal, XXXIII (November, 1962), p. 168.

¹²Herman Wilson Meyers, "The Significance of Certain Academic and Socioeconomic Characteristics to the Stability of Program Choice Among Community College Students," (unpublished Ph.D. dissertation, The University of Connecticut, 1971), p. 26.

¹³Robert J. Havighurst and Leota L. Janke, "Relation Between Ability and Social Status in a Midwestern Community," Journal of Educational Psychology, XXXV (August, 1944), p. 358.

and Janke and Havighurst.¹⁴ Their aim was to include both verbal and non-verbal tests of intelligence along with tests of the more specialized reading and mechanical aptitudes. The average IQ obtained on the Stanford-Binet for the two upper classes (a six class division of Warner was used) was over 120 IQ while the mean IQ of the lowest class was only 98. A later study by Schulman and Havighurst¹⁵ reported similar results for vocabulary.

When children are classified on the basis of their fathers' occupations, a similar differentiation of intelligence levels is found. McNemar¹⁶ has stated in his studies that children of professional men show the highest average intelligence level, children of farmers and day laborers the lowest, and others somewhere in between. There is, of course, much overlapping between adjacent occupational groups. Less intelligent children can be and are born to parents of all levels, but they are much less common in those of higher economic status. Similarly, unskilled parents may have unusually bright children, but not many of them do. One other interesting fact is that the difference is as

¹⁴Leota L. Janke and Robert J. Havighurst, "Relations Between Ability and Social Status in a Midwestern Community: II. Sixteen-year Old Boys and Girls," Journal of Educational Psychology, XXXVI (September, 1945), p. 500.

¹⁵Mary J. Schulman and Richard J. Havighurst, "Relations Between Ability and Social Status in a Midwestern Community: IV, Size of Vocabulary," Journal of Educational Psychology, XXXVIII (September, 1947), p. 438.

¹⁶Quinton McNemar, The Revision of the Stanford-Binet Scale (New York: Houghton, 1942), p. 71.

marked for the youngest age group (those from two to five and a half) as it is for the oldest (those from fifteen to eighteen) in McNemar's study. This is important because for the younger ones the environmental differences have had a much shorter time to influence the scores. Table 1 below as illustrated by Tyler¹⁷ shows the difference in intelligence for various occupational groups at selected age levels.

TABLE 1.--MEAN IQ'S OF CHILDREN ACCORDING TO FATHERS' OCCUPATIONS

Fathers' Occupational Classification	Chronological Ages			
	2 - 5½	6 - 9	10 - 14	15 - 18
I Professional	114.8	114.9	114.5	116.4
II Semi-professional and Managerial	112.4	107.3	112.2	116.7
III Clerical, Skilled Trades, and Retail Business	108.0	104.9	107.4	109.6
IV Rural Owners	97.8	94.6	92.4	94.3
V Semi-skilled, Minor Clerical and Business	104.3	104.6	103.4	106.7
VI Slightly Skilled	97.2	100.0	100.6	96.2
VII Day Labor, Urban and Rural . . .	93.8	96.0	97.2	97.6

In addition to showing that men themselves and their children are differentiated according to occupational level, research has also shown specifically that intelligence test scores made by children can be used to predict their later occupational level. It is important to note that hierarchy of occupations seems to be based more on the amount of

¹⁷Tyler, Individual Differences, p. 318.

training the occupations involve and their prestige in the community than on what they pay. Warner et al.,¹⁸ found that the source of the family income gave a better prediction of status than did the amount.

There is clear evidence that occupations do have different prestige values in our society and that these values have important effects on the occupational choices of individuals.¹⁹ Difference between occupations in average intelligence levels and in prestige rankings have been very impressively established. Controversy still exists around the implications these factors may have for education. Intelligence test scores are related to school success, and the school is the principal channel for early group membership and through which mobility occurs. The traditional type of academic work is ill-suited to the needs of persons of below-average intelligence--yet it is only by means of the academic curricula that a person can attain one of the occupations carrying the high prestige values.²⁰ This may lead us to assume that a good portion of our population does not really get a chance and that our educational system may actually promote a rigid class structure providing boundaries relative to which groups one may later join.

Research has then shown that differences do appear in intelligence levels for the different socioeconomic classes. We are still faced with the problems of whether some of the differences in class

¹⁸Lloyd W. Warner, Marcia Meeker, and Kenneth Eels, Social Class in America (Chicago: Science Research Associates, 1949), p. 213.

¹⁹Donald E. Super, The Dynamics of Vocational Adjustment (New York: Harper Bros., 1942), p. 31.

²⁰Tyler, Individual Differences, p. 324.

averages may be environmentally determined or not. One explanation frequently offered is that our present intelligence tests are not fair to lower-class children. While these two problems are still not entirely solved, it is important in the meantime that we emphasize the variability within each social group and try to create conditions in which each individual will be able to achieve to the limit of his potentialities.

There is a considerable body of evidence for significant class differences in interests, attitudes, and values. Strong²¹ has found that one of the most clear-cut differentiations he was able to make was between professional and laboring men. Phillips²² was able to develop three scales for the measurement of upper, lower, and middle class attitudes by putting together items that differentiated significantly among junior high school pupils classified into the three groups. Public opinion surveys on political and economic issues have shown significant differences among classes on many specific points.

Centers²³ has completed a comprehensive analysis of attitude differences among social classes. He has shown that classes differ in their job satisfaction, in aspirations for their children, in opinions about the place of women in society (lower groups less liberal), and in

²¹Edward K. Strong Jr., "Vocational Interests of Men and Women," Journal of Applied Psychology, XXXV (March, 1951), pp. 35-37.

²²E. Lakin Phillips, "Intellectual and Personality Factors Associated with Social Class Attitudes Among Junior High School Children," Journal of Genetic Psychology, LXXVII (September, 1950), p. 62.

²³Richard Centers, The Psychology of Social Classes (Princeton: Princeton University Press, 1949), p. 224.

the reasons they give as to why some persons succeed more than others. Centers has also been particularly interested in what interviewees say when asked to identify the class to which they belong. He has shown that though there is a clear-cut relationship between occupation and class identification, it constitutes by no means a perfect correlation. Most people whose jobs classify them in what we would call the lower classes, say that they belong to the "working class," but some in each group answer "middle" and some "upper" to such a question. Here we see the reference group phenomena in operation as will be discussed in Chapter III of this study. Both the overlapping found between the classes in the kinds of responses public opinion analysts get to all their questions and this evidence--that people do not always identify their own class the way the analysts do--serve to remind us that class lines as used in this study are not really well defined ones.

Educational aspirations are among the most vital aspects of early career development because curriculum choices do have a strong bearing on a youngster's vocational future. In the earlier grades far more students verbalize a desire to go to college than are likely to enter and remain in college. The percentage of boys usually far outnumbers the girls in this age group (75 per cent to 41 per cent). Social forces and reality start to take their toll and by the twelfth grade, for example, only 70 per cent of the original number now intend to enter college according to a study by Gribbons.²⁴

²⁴Warren D. Gribbons and Paul R. Lohnes, Emerging Careers (New York: Teachers College Press, Columbia Univ., 1968), p. 87.

The high school curriculum in which a student has been enrolled influences college choice to a considerable extent. Those students who enroll in college "prep" curriculums in high school usually go on to college. The percentage of students in this curriculum that change their aspirations from the eighth to the twelfth grade is greater than for those students who enrolled in a business curriculum in high school. Students enrolled in general curriculums in high school show an increase in the number intending to go to college as they progress from the eighth to the twelfth grade according to Gribbons.²⁵

Rarely do eighth grade boys and girls aspire to educational levels below those of their fathers. In most cases of same level aspirations, the parents had achieved at least a college education.²⁶ It appears that if a student is to go to college: (1) he must be forced to think about this possibility by his parents or some other agent of society, (2) must decide this by himself, or (3) has haphazardly drifted into it by choosing the correct curriculum.

Bendix and Lipset²⁷ have stated that evidence thus far has shown a strong indication that different strata groups have different aspirations in regard to education. The working class tended to devalue education and to aspire to modest but secure occupations and income levels.

²⁵Ibid., p. 89.

²⁶Ibid., p. 93.

²⁷Reinhard Bendix, and Seymour Martin Lipset (eds.), Class, Status and Power (New York: Harcourt, Brace and Co., 1966), p. 335.

This attitude is thus passed on to the younger generation through familial socialization processes. The middle class typically contains a familial structure and value system conducive to a high level of educational and occupational aspirations. There is, as expected, considerable variation in aspirations both occupationally and educationally with a class regardless of what dimension of social stratification is used.

Occupational mobility is one of the most universally recognized areas of mobility in studies of social stratification.²⁸ Tables 2 and 3 are taken from Hodges²⁹ and help to illustrate that mobility can be downward or upward.

TABLE 2.--A COMPARISON OF STUDIES OF OCCUPATIONAL INHERITANCE:
PERCENTAGE OF SONS IN SAME OCCUPATION AS FATHER^a

Son's and Father's Occupation	Rogoff 1910 ^b	Rogoff 1940 ^c	NORC ^d 1947
Professional and Semi-professional	20.0	23.9	23.0
Proprietor and Manager	36.1	23.3	31.0
Clerical and Sales	15.4	21.1	15.0
Skilled	40.3	40.7	30.0
Semi-skilled	16.9	24.5	19.0
Service Workers	6.1	7.6	8.0
Farmers	83.1	64.8	84.0

^aAdopted from Leonard Reisman, Class in American Society, 1959, p. 312.

^bRogoff, "Recent Trends in Occupational Mobility," Bendix and Lispet.

^cRogoff, Ibid.

^dNational Opinion Research Center, "Jobs and Occupations: A Popular Evaluation," Public Opinion News, (Sept., 1947), pp. 31-13.

²⁸Joseph A. Kahl, The American Class Structure (New York: Rinehart and Co., Inc., 1957), p. 259.

²⁹Harold M. Hodges, Social Stratification (Massachusetts: Schenkman Publishing Co., Inc., 1968), p. 249.

TABLE 3.--UPWARD AND DOWNWARD MOBILITY^a

Social-Economic Group, 1950	Per Cent Who Have:		
	Moved Up:	Moved Down:	Remained:
Professional Persons	77	--	23
Proprietors, Managers, Officials	65	4	31
Clerks, Salespeople, Kindred Workers	53	32	15
Skilled Workers and Foremen	56	14	30
Semi-skilled Workers	43	38	19
Farmers and Farm Laborers	3	13	84
Unskilled Workers, Non-farm	--	73	27

^aFrom Kahl, 1947, p. 263.

The net upward mobility does exceed the downward mobility in the Tables prepared by Hodges. The professional and the white collar levels are the most "open" or least inheritable in these two Tables.

Haller and Sewell³⁰ indicated that farm youth aspired to relatively low occupations and were not ambitious for higher education they would need if they were to rise in status in urban society. The following findings were reported in this study:

1. The level of educational aspiration of girls planning to enter the non-farm labor market is not associated with residence.
2. Farm boys are apparently less likely to have high educational aspirations than are other boys. Independent of intelligence, farm residence may inhibit a boy's desire for higher education.
3. For boys occupational aspirations were not associated with residence. Boys seem equally aware of occupational alternatives irregardless of residence but not equally aware of educational requirements.

³⁰Archie Haller and William H. Sewell, "Social Status and Educational and Occupational Aspiration," American Sociological Review, XXII (Feb., 1957), pp. 67-73.

Herbert Hyman's study of "The Value Systems of Different Classes," included in Bendix and Lipset³¹ indicated that there is a reduced striving for success among the lower classes, an awareness of lack of opportunity, and a lack of valuation of education. Lower class individuals were found to aspire to an occupation that would mesh with their desire for stability, security and immediate economic benefits. The upper classes tended to emphasize the more personal aspects of the work and therefore had the advantages of seeking occupations that would tend to enhance status standing.

Income is closely related to occupation as indicated in studies and summaries discussed previously. There are a number of other considerations relative to income and aspirations that warrant additional discussion. C. Wright Mills goes into considerable detail discussing the implications of the recency and source of wealth in his study of Power Elite as reprinted in Hodges.³² In this study, Mills also explained the manner in which the "new" upper classes have expanded and have become more socially bold. This new rich class does not tend to be as "quiet" as the older rich in political or economic areas.

The fact that occupational goals of the lower classes are limited becomes apparent when looking at the income aspirations of this group. The lower classes show a pattern of more limited future income

³¹Bendix and Lipset (eds.), Class, Status and Power, p. 496.

³²Hodges, Social Stratification, p. 39.

expectations according to Hollingshead,³³ Centers,³⁴ and Clark.³⁵ The NORC study of 1947 mentioned previously in this Chapter as cited by Bendix and Lipset,³⁶ also dealt with the topic of class status and income aspirations. The amount of income the students in this study estimated they would be making five years after college graduation varied greatly from class to class. Davis³⁷ made the following summary comments about the students in his study in regard to income and aspirations:

1. Men were more likely to value "making a lot of money" than women and they were likely to be higher on the socioeconomic scale and from larger cities if they chose this value.
2. Jews were more likely to choose the value of "making a lot of money" and protestants the least likely to choose it in his sample of students.
3. No consistent relationships were found among women students relative to income aspirations.

Mcavoy³⁸ has reviewed numerous studies dealing with socioeconomic factors and college attendance and concluded:

. . . whether the classification of economic factors has been by family income, socioeconomic level, or fathers' occupation, these studies have been consistent in showing that a decreasing percentage of high school graduates go to college from the upper to the lower economic level.

³³August B. Hollingshead, Elmtown's Youth (New York: John Wiley and Sons, Inc., 1949).

³⁴Centers, Psychology of Social Classes.

³⁵Clark, Open Door College.

³⁶Bendix and Lipset (eds.) Class, Status and Power, p. 495.

³⁷James A. Davis, Undergraduate Career Decisions (Chicago: Aldine Publishing Co., 1965), p. 230.

³⁸Rogers Mcavoy, "An Analysis of Achievement, Motivational, and Perceptual Variables Between High School Seniors Who Do and Do Not Attend College," (unpublished Ph.D. dissertation, Indiana Univ., 1967), p. 24.

This summary of the influence of socioeconomic factors may need to be revised since recent trends indicate more students from middle and lower classes are going to college.

Factors Affecting Achievement in College

An extensive review of literature was published in 1949 by Garrett³⁹ concerning the prediction of academic success. After a review of some 190 studies he divided the predictor variables into the following academic categories:

1. High school average.
2. High school rank in class.
3. Elementary grade school achievement tests.
4. Achievement tests in various subject matter fields.
5. Measures of general mental ability or capacity.

High school grade average was reported to be the best single predictor of later college success according to Garrett.⁴⁰ Better predictors of college grade point average--in the sense of higher correlations--are often achieved by combining variables such as high school averages and aptitude test scores.⁴¹ Fishman and Pasanella⁴² found a gain in the

³⁹Harley F. Garrett, "A Review and Interpretation of Investigations of Factors Related to Scholastic Success in Colleges of Arts and Science and Teachers Colleges," Journal of Experimental Education, XVIII (December, 1949), pp. 91-138.

⁴⁰Ibid., p. 93.

⁴¹Meyers, "Stability of Program Choice," p. 41.

⁴²Joshua A. Fishman and Ann K. Pasanella "College Admissions--Selection Studies," Review of Educational Research, XXX (October, 1960), p. 301.

median correlation ranging from .00 to .23 beyond the zero-order correlation based on high school averages when aptitude scores were added in the twenty-one studies he reviewed.

Cattell and Butcher⁴³ have examined the research done in England on the effect of environmental factors on academic performance. Society appears to be more clearly stratified in England and less conducive to educational change. Of the studies examined, evidence was reported that children of unskilled and semiskilled workers show a progressive relative deterioration throughout their secondary school course. Cattell and Butcher⁴⁴ quoting an important research by Furneaux state that: "The selection of students for admission to universities really begins when children are born, for a child's academic history is strongly influenced by the social class into which he is born."

There are a number of studies reported by Brim et al.,⁴⁵ relevant to the mutual effects of self-image on aspirations. In a recent article Sewell and Shah⁴⁶ reported that educational aspirations rise when high school students perceive parental encouragement to higher educational

⁴³Raymond B. Cattell and J. J. Butcher, The Prediction of Achievement and Creativity (New York: The Bobbs-Merrill Co., Inc., 1968), pp. 228-30.

⁴⁴Ibid., p. 228.

⁴⁵Orville G. Brim, Jr., et al., American Beliefs and Attitudes About Intelligence (New York: Russell Sage Foundation, 1969), p. 126.

⁴⁶William H. Sewell and Vimal P. Shah, "Socioeconomic Status, Intelligence, and the Attainment of Higher Education," Sociology of Education, XL (Winter, 1967), pp. 1-23.

attainment. There is also substantial evidence according to Brim⁴⁷ that: "the level of aspiration one sets for himself influences his judgments about his abilities to reach his goal."

In a study of 877 high school graduates, Mcavoy⁴⁸ found that college and non-college subjects at the upper socio-economic level were similar on all variables except achievement. Those subjects who went on to college had significantly higher achievement scores as measured by high school grade point average than did those who did not go to college. At the middle socioeconomic level, Mcavoy⁴⁹ found a significant difference between those who went to college and those who did not in respect to achievement, achievement motivation, and perception of college in terms of independence. His results for students at the lowest socioeconomic level yielded no significant differences in achievement or achievement motivations between the two groups. At the lower level, differences appeared to be perceptual as the two groups differed in academic self-concept and perception of college in terms of independence, financial requirements, and status.⁵⁰

The orientation of parents toward higher education constitutes a key factor in determining whether a student's disposition toward learning

⁴⁷Brim, Beliefs About Intelligence, p. 126.

⁴⁸Mcavoy, "An Analysis of Achievement," p. 123.

⁴⁹Ibid., p. 126.

⁵⁰Ibid., pp. 126-40.

will be positive or negative. Feldman and Newcomb,⁵¹ and Trent and Medsker⁵² have extensively reviewed studies on early background and environmental factors and the enduring influences these factors are likely to have on what the student may or may not gain from college. Especially lower status students were found to have more difficulty in adjusting to the new social and academic environment of college. As noted previously these factors already influence the initial decision to attend college.

Socioeconomic status was reported as directly related to academic performance in a review of thirteen studies on this topic by Lavin.⁵³ Education of parents appeared to be a more important factor in predicting academic achievement than occupational status according to a review of studies by Schroeder and Sledge.⁵⁴ Brown⁵⁵ however did not find a significant correlation between education of parents and achievement. In spite of some low correlations and conflicting research findings, some researchers continue to be optimistic about the use of

⁵¹Feldman and Newcomb, Impact of College, p. 278.

⁵²Trent and Medsker, Beyond High School, p. 15.

⁵³David E. Lavin, The Prediction of Academic Performance (New York: Russell Sage Foundation, 1965), p. 34.

⁵⁴Wayne L. Schroeder and George W. Sledge, "Factors Related to College Academic Success," Journal of College Student Personnel, VII (March, 1966), p. 97.

⁵⁵Frederick G. Brown and Thomas E. Dubois, "Correlates of Academic Success For High Ability Freshmen Men," Personnel and Guidance Journal, XLII (February, 1964), p. 605.

biographical information, particularly sex and socioeconomic variables, in the prediction of academic success.

In a study using grades as the measure of achievement, Marshall and Simpson⁵⁶ reported that the student who comes to college with a definite vocational field in mind has an advantage over the undecided student. They also found that students who are definite in their vocational choice when entering college rank lower in academic aptitude than those making tentative vocational choices. However, the academic performance of both of these groups (as measured by grades) is definitely higher than for the entering college students who are undecided as to their vocational choice. Bradley's⁵⁷ research studies supported the findings of Marshall and Simpson for students who had a grade point below passing (2.00 used as passing), but contradicted Marshall and Simpson's general theory for students with an above average grade point average.

Many factors appear to be associated with achievement in college. To conclude this section, Wiseman's⁵⁸ account of the factors affecting educational attainment is applicable:

The picture is not one of the pupil being surrounded by a multitude of forces, some favorable, some adverse--a picture that inevitably suggest that progress lies in the provision

⁵⁶M. V. Marshall and E. W. Simpson, "Vocational Choice and College Grades," Journal of Educational Research, XXXVII (December, 1943), p. 303.

⁵⁷Wilma N. Bradley, "An Analysis of Selected Cognitive and Non-Cognitive Variables Relating to a Student's Persistence In a Major Area of Study at Michigan State University" (unpublished Ed.D. dissertation, Michigan State University, 1962), pp. 57-58.

⁵⁸S. Wiseman, Education and Environment (Manchester, England: Manchester University Press, 1964), p. 174.

of adequate insulation from these forces--but rather that the pupil himself produces some of the forces and interacts with others. . . . It is essentially a multivariate problem and one which must be attacked by appropriate multivariate methods.

Factors Affecting Persistence of College Enrollment

A number of research studies have focused on the conditions surrounding the process of withdrawal from college. Some idea of the scope of the problem may be obtained from the statistics given in a report of a nation-wide study of the problem by Robert Iffert.⁵⁹ He has stated that the four-year student withdrawal rate as a national average is at 60.5 per cent. A range of 67 per cent student withdrawal for public institutions down to 52 per cent for private institutions was reported.

Academic Factors:

In a review of eleven studies, Summerskill⁶⁰ found that in ten of them, high school grades were the best predictor of persistence in college. He further observed that in nineteen studies, scholastic

⁵⁹Robert E. Iffert, Retention and Withdrawal of College Students U. S. Department of Health, Education and Welfare Office of Education, Bulletin No. 1. (Washington, D. C.: Superintendent of Documents, Gov't Printing Office, 1958), p. 95.

⁶⁰John Summerskill, "Dropouts From College," The American College. Edited by Nevitt Sanford (New York: John Wiley and Sons, Inc., 1962), pp. 634-35.

aptitude as measured by standardized tests, was generally lower for those who dropped out of school.

Marsh⁶¹ reviewed six studies of prediction of withdrawal from college which used aptitude as the predictor. His review seems to support the view that findings to date are inconclusive concerning academic ability as it pertains to persistence. A large percentage of withdrawals are not explained on the basis of academic ability as it is currently measured. In spite of this finding, few researchers would disagree with the statement of Feldman and Newcomb⁶² that: "Research clearly shows that the higher the intellectual ability and academic aptitude of the student the more likely he is to persist in college."

Non-Academic Factors and Withdrawal

A number of studies have shown that other factors besides inadequate mental ability forces lower class students out of school. As far as college was concerned, the most intelligent individuals had a four to one advantage over the least intelligent; but those from the highest occupational levels had a ten to one advantage over those from the lowest according to a study conducted by Sibley.⁶³ Lack of money was one of

⁶¹Lee M. Marsh, "College Drop-outs--A Review," Personnel and Guidance Journal, XLIV (January, 1966), p. 476.

⁶²Feldman and Newcomb, Impact of College, p. 290.

⁶³Elbridge Sibley, "Some Demographic Clues to Stratification," American Sociological Review, VII (June, 1942), p. 330.

the principal reasons for school drop-outs among bright students. Although this is undoubtedly a factor, more recent surveys of what the class structure means to adolescents described in Hollingshead's⁶⁴ book Elmtown's Youth, have indicated that it is partly a matter of emotional attitudes and motivation. Hodges⁶⁵ stated that blue-collar class students drop out of school in such disproportionate numbers to the extent that it becomes a serious concern to the school system if we consider education to be a means for social advancement.

The majority of students who leave college do so for non-academic reasons according to Summerskill.⁶⁶ Studies of socioeconomic factors as they relate to persistence of college attendance have produced conflicting results. Research indicating some relationships between the occupation of the father and college persistence was reported by Summerskill⁶⁷ and Marsh.⁶⁸ According to Medsker and Trent,⁶⁹ eighty-eight per cent of the students from professional homes finished the first year of college. Eighty-five per cent of those who came from homes in which the father

⁶⁴Hollingshead, Elmtown's Youth.

⁶⁵Hodges, Social Stratification, p. 144.

⁶⁶Summerskill, "Dropouts From College," p. 637.

⁶⁷Ibid., p. 634-37.

⁶⁸Marsh, "College Drop-outs," p. 477.

⁶⁹Medsker and Trent, Factors Affecting Attendance, pp. 93-94.

was a small businessman, salesman, or clerk finished the first year; seventy-six per cent of the students whose fathers worked in semi-skilled categories finished the first year of college.

Family values, especially those of parents, were found to be related to college persistence according to Trent and Medsker.⁷⁰ Generally, students tended to enter college and graduate if their parents were very much interested in their doing so. Another factor related to persistence in college--academic motivation--also derives in part from the climate of the family home according to Trent and Medsker.

Type of college, major field, socioeconomic status and level of ability were all factors which appeared to be related to persistence in college. According to the findings of Trent and Medsker⁷¹ these factors are likely to be interrelated; but their research did not distinguish between the majority of persisters and withdrawals. It was evident in these findings that lack of interest in college and motivation account for attrition as much or more than ability or financial resources.

In recent years, there has been a growing number of studies which have more systematically tested the hypothesis that students who are incongruent with the dominant environment of a specific college are more likely to be dissatisfied at that college and therefore tend to withdraw from it. In these studies the general characteristics of the environment

⁷⁰Trent and Medsker, Beyond High School, p. 100.

⁷¹Ibid., p. 111.

and its dominant normative pressures (perceived or actual) are measured empirically as are the general personality characteristics, values and orientations of the students.⁷² After the degree of discordance between student and institutional characteristics has been determined, the evidence so gathered generally shows a tendency for students who are incongruent with the specific college to be more dissatisfied with their experiences at the college and therefore to be more likely to withdraw.⁷³

From the research studies examined, it becomes increasingly apparent that the institutional setting and student body characteristics will have to be considered in withdrawal studies. It will also be difficult to generalize from one campus setting to the next since psychological or attitudinal explanations will have differential relevance for withdrawal studies. A given student characteristic may encourage withdrawal at one college, may be irrelevant at another, or may actually encourage persistence at still a third college. Feldman and Newcomb have quoted a statement of Meyer and Bowers⁷⁴ which is germane to this discussion:

This lack of clearcut differences between the dropouts and those who stay and particularly the discrepant findings in various studies strongly suggest that the effect of these variables is dependent on the nature of the college social environment and that the same variable will be associated with

⁷²Feldman and Newcomb, Impact of College, pp. 290-93.

⁷³Ibid., p. 293.

⁷⁴J. W. Meyer and W. J. Bowers, "The Social Organization of the College and its Influence on Student Behavior." Proposal submitted to National Science Foundation, 1965. (Mimeographed), p. 6.

different outcomes in different contexts. In short, the previous research on dropout points to the importance of considering the "Fit" between the climate of the college and the kinds of students who find their way there. We submit that the failure to investigate the determinants of attrition in different social milieux in past studies has resulted in the present inability to identify the sources of attrition. Until we know something about the opportunities and rewards that a college offers in relation to the goals and desires of the students in recruits, we will remain ignorant of the causes of dropout.

Students supply a wide variety of reasons for withdrawing from a particular college or from higher education in general. Many of these explanations provide indirect evidence that person-environment incongruence is often an important element in such withdrawals.⁷⁵

Factors Affecting Stability of Program Choice

There are a number of considerations that must be examined as background information when turning attention to stability of program choice. Various researchers have, for example, reported that the program choice of students entering college is already linked to social class standing. For most curriculum fields, the background characteristics are not strongly related to field choice. However, being from a high socioeconomic status family, coming from a large city, and being Jewish tend to be associated with the choice of law, medicine, or the social sciences according to Davis.⁷⁶ Conversely, he stated (while its

⁷⁵Reasons for withdrawal given by students must of course be viewed with some skepticism and caution. It is entirely possible that some students (intentionally or unintentionally) distort the causes of their withdrawal. For a complete listing of references on this see Feldman and Newcomb, Impact of College, p. 291 and pp. 306-307.

⁷⁶Davis, Undergraduate Career Decisions, p. 73.

difference is not as extreme) that lower socioeconomic status origins, smaller hometowns and the protestant religion tend to characterize students entering education.

In the NORC study cited by Davis⁷⁷ the largest single field chosen by incoming freshmen is the field of primary and secondary education. It appears that somewhere between forty and forty-five per cent of the graduating seniors expect to be employed in education. Generally speaking then, one-third expect to go into education; three-fifths are evenly divided among the arts and sciences, business, and the major professions; and the remainder are scattered over a variety of smaller fields.

Davis also cited some interesting research from the NORC study regarding shifts in educational plans of college students as they progress through college:

1. Approximately half of the graduates report either a shift in career plans between the major occupational groups or the development of specific career intentions from "no preference" as freshmen.
2. Considering the balance of recruitment and attritions, the educational curriculum areas fall into three groups:
 - a. Gainers: Business and education, the two fields with low losses, high gains, and net increases.
 - b. Losers: Medicine, engineering, the physical sciences, and other professions," the fields with high loss rates and recruitment rates insufficient to prevent a decline.
 - c. Traders: The social sciences, the biological sciences, law and the humanities, the fields with high loss rates but recruitment rates that offset the defections.

⁷⁷Ibid., pp. 75-77.

Davis summarized the data presented on shifts in educational plans of students by stating that the changes are sufficient to justify considerable interest in that: (1) at least half of the students change or choose a career while in college; (2) particular fields such as engineering, medicine, and social sciences change considerably in popularity; (3) the reversal of direction for the social sciences suggest a strong effect of college on choice for that field; and (4) such trends as the Academic Performance Index change in medicine, the value shift in law, and the drift of negroes out of business all indicate dynamics that would be missed if it were assumed that the decision to go to college freezes occupational choice. Indeed, many studies report that more than fifty per cent of the students change their program of study during the period of time between entering college and graduating from college.

Super⁷⁸ and more recently, John Holland,⁷⁹ presented the process of career decisions as a psychological process of continual development through life. At the time of vocational choice the person is the product of the interaction of his particular heredity with a variety of cultural and personal forces including peers, parents, and significant adults, his social class, the American culture, and the physical environment. Socio-economic factors, then, have been investigated by various researchers and some have found a strong relationship between socioeconomic status

⁷⁸Donald E. Super, "A Theory of Vocational Development," American Psychologist, VIII (May, 1953), pp. 185-90.

⁷⁹John Holland, "A Theory of Vocational Choice," Journal of Counseling Psychology, VI (January, 1959), pp. 35-44.

and career choice.⁸⁰ Super's⁸¹ beliefs as they relate to this study are as follows:

The nature of the career pattern (that is, the occupation attained and the sequence, frequency and duration of trial and stable jobs) is determined by the individual's parental socio-economic level, mental ability, and personality characteristics, and by the opportunities to which he is exposed.

Findings in an early study by Vogt⁸² completed in 1929 indicated that the failure of freshman and sophomore students was attributed to poor choice of major and unwillingness to adjust to the reality of college. Parents appeared to be too influential in vocational decisions of students which caused the students to lack interest and initiative. Students were then left unwilling or unable to work out the suitable solutions that they would otherwise have available to them.

Some twenty studies dealing with change of program or major were reviewed by Firkins⁸³ in 1961. He reviewed studies which indicated that lack of success in the program was an important factor for causing the students to change; other studies showed change of interest to be an important cause; while still other studies indicated low mental ability was a factor. Firkins studied change of major which may or may not be

⁸⁰For a good review of this type of study see: Donald M. Anthony, "The Relationship of Certain Socioeconomic and Academic Factors to Student Choice of Occupation and Program in the Public Junior College" (unpublished Ph.D. dissertation, University of Texas, 1964).

⁸¹Ibid., p. 36.

⁸²Paul L. Vogt, "Why Students Fail," School and Society, XXX (December, 1929), pp. 847-48.

⁸³Curtis J. Firkins, "Factors Related to Change of Major By College Students" (unpublished Ph.D. dissertation, North Texas State College, 1961), p. 42.

the same as change of college. In his own study of students who changed major he found (1) that students who were unsuccessful academically changed most frequently, (2) that mental abilities of changers and non-changers of heterogenous groups were quite similar, and (3) that differences significant at the .001 level in mental abilities between changers and non-changers exist in homogenous groups of engineering and physics majors (changers had lower mental ability scores).⁸⁴

Brass⁸⁵ studied students who changed schools within Purdue University and found that students who transferred from one degree-granting curriculum to another tended to increase their grade point average. Bradley⁸⁶ and Brass⁸⁷ both reported that one of the major reasons students change their curricula is due to poor grades. A follow-up study was recommended on changers to determine which changes seemed to improve grade point averages the most and which changes did not improve or hindered grades.⁸⁸

⁸⁴Ibid., pp. 56-57.

⁸⁵Robert V. Brass, "An Investigation of Selected Personal and Background Factors and Reasons Related to Students Who Change Schools Within Purdue University" (unpublished Ph.D. dissertation, Purdue University, 1956), pp. 79-84.

⁸⁶Bradley, "Variables Relating to Student's Persistence," p. 57.

⁸⁷Brass, "Changing Schools Within Purdue University," pp. 79-84.

⁸⁸For a discussion of personality variables in within-university transfer see: Charles F. Elton and Harriett A. Rose, "Within-University Transfer: Its Relation to Personality Characteristics," Journal of Applied Psychology, L (December, 1966), pp. 539-42. Also note that many of the studies of change of program deal with change in major. Footnote number 85 (Brass) and the study of Elton and Rose deal specifically with within-university transfer.

Goldstein⁸⁹ did not find a significant relationship between social class origin and whether or not a senior had ever officially changed his stated field of concentration during the four years of enrollment at Brown University. He found that one-third of each social class group stated that changing vocational goals was the reason for changing fields of concentration. A significant relationship did not exist between social class and grades earned at Brown University. Social class also was not significantly related to the expressed difficulty of choosing a major or in difficulty in selecting a career.⁹⁰ Such differences which did exist between students of different social class levels entering Brown University, disappeared by the time the students were seniors. Since Brown University is highly selective as to which students are admitted, it is highly possible that these pre-admission selection features ruled out most significant class differences among entering students.

From a sample of freshmen male students entering South Dakota State University in 1967, Dean Hofland⁹¹ investigated the differences

⁸⁹Michael S. Goldstein, "The Effects of Social-Class Background on Students at Brown University," (unpublished Ph.D. dissertation, Brown University, 1971), pp. 97-99.

⁹⁰Ibid., pp. 117-21.

⁹¹Dean Hofland, "A Study of Selected Characteristics of Freshmen Male Students Who Choose a Major and Those Who Do Not Choose A Major Upon Matriculation" (unpublished Ed.D. dissertation, University of South Dakota, 1970), p. 77.

between male students who had chosen a major prior to enrolling in college (choosers) and students who had not chosen a major (non-choosers). He used the Opinion, Attitude and Interest Survey (OAIS) to measure certain personality and interest traits and he used the American College Test (ACT) and cumulative grade point average to determine scholastic aptitude and achievement respectively. The following findings appear relevant for this study:⁹²

1. Differences between choosers and non-choosers on the Achiever personality scale and the Physical Science and Biological Science interest scales of the OAIS were statistically significant with the choosers scoring higher than the non-choosers. Statistically significant differences on the Business and Humanities interest scales of the OAIS favored the non-choosers group.
2. A statistically significant difference in mean ACT composite scores between choosers and non-choosers was found to favor the chooser group.
3. A statistically significant difference in mean ACT composite scores between chooser dropouts and non-chooser dropouts favored the chooser dropouts.
4. A statistically significant difference in mean ACT composite scores was found to exist between non-chooser persisters and non-chooser dropouts with the non-chooser persisters achieving higher mean scores.
5. A statistically significant difference in mean ACT composite scores between chooser persisters and chooser dropouts was found to favor the chooser persisters.
6. No statistically significant difference in ability was found between major persisters and major changers.
7. No statistically significant difference in cumulative grade point average was found to exist between major persisters and major changers.

⁹²Ibid., pp. 81-3.

8. No statistically significant difference in ability or cumulative grade point average was found between non-chooser persisters and major persisters.

This study is one of the few which compared students who were not committed to a major course of study to those students who had chosen a major upon entering college.

Self Concept Research

Donald E. Super hypothesized that the self concept does influence one's choice of vocation.⁹³ Recent research has yielded promising indications that "self" measures which tend to reveal functioning personality patterns have potential for helping identify students who may experience academic problems.⁹⁴ Research on the relationship of the self concept to various aspects of academic achievement at the college level was reported by Stanley Coopersmith.⁹⁵

The most common means of obtaining a measure of the self concept is through self-reporting. The subject reports his own inner experiences and feelings. This procedure may distort or camouflage the real belief or feeling the person holds about himself and thus lacks external validity. Despite its subjective nature the self-report yields evidence that

⁹³Donald E. Super, "Vocational Adjustment: Implementing a Self Concept," Occupations, XXX (November, 1951), pp. 88-92.

⁹⁴Edward G. Johnson, Jr., "A Comparison of Academically Successful and Unsuccessful College of Education Freshmen on Two measures of 'Self'," (unpublished Ed.D. dissertation, The University of Toledo, 1967).

⁹⁵Stanley Coopersmith, "A Method For Determining Types of Self Esteem," Journal of Educational Psychology, LIV (April, 1959), pp. 87-94.

can be obtained in no other way.⁹⁶ The review of literature presented in this section of this study will primarily be one of studies that have used some such type of self-reporting instrument in the collection of data.

Lecky⁹⁷ was one of the first investigators to demonstrate that low academic achievement was often due to a child's definition of himself as a non-learner. Walsh⁹⁸ found that "high ability, low achievers" had a negative self-regard when matched with "high ability, high achievers." Brookover, Thomas, and Paterson⁹⁹ found a statistically significant positive correlation between self concept and perceived evaluations of significant others, between self concept and general performance in academic subjects, and between self concept and achievement in specific subject-matter fields.

The Brookover, Thomas, and Paterson study population consisted of 1,050 white seventh through twelfth grade students in a mid-western city. A good deal of the data was collected on each student through the screening of records, questionnaires and interviews. A self-reporting scale

⁹⁶Labenne, Educational Implications of Self Concept, p. 20.

⁹⁷Prescott Lecky, Self-Consistency: A Theory of Personality (New York: Island Press, 1945).

⁹⁸A. M. Walsh, Self-Concepts of Bright Boys With Learning Difficulties (New York: Bureau of Publications, Teachers College, Columbia University, 1956).

⁹⁹Wilbur B. Brookover, Shailer Thomas, and Ann Paterson, "Self-Concept of Ability and School Achievement," Sociology of Education, XXXVII (Spring, 1964), pp. 271-78.

called the "Self Concept of Ability Scale" was administered in two forms: (1) to measure the student's self concept of his general ability, and (2) to measure the self concept of ability in specific areas in arithmetic, English, social studies and science. The specific subject matter self concept of ability was found to be a significantly better predictor of ability than was the general self concept of ability. One of the conclusions reached that appears to be especially relevant for this writer's study is that "self-concept of ability makes a significant contribution to the explanation of school achievement as a means through which the evaluation of others are translated into school achievement behavior."¹⁰⁰

In a dissertation study, Harrington¹⁰¹ criticized the Brookover study by stating that the self concept also involves physical, emotional and family aspects that he [Brookover] had not considered. In addition to lack of regard given to the multidimensional aspects of self concept, the results are of questionable generalizability since the data pertains to an all-white city in the mid-west. While these criticisms appear valid, the study does represent a contribution to the knowledge of the relationships existing between self concept and academic achievement.

At least two other dissertation studies have dealt with the relationships of certain aspects of self concept and academic achievement.

¹⁰⁰ Brookover, "Self Concept of Ability," p. 278.

¹⁰¹ John J. Harrington, "The Relationship of Self Concept Measures to Selected Characteristics of Air Force Officers," (unpublished Ed.D. dissertation, The George Washington University, 1971), p. 56.

Renbarger¹⁰² found a positive relationship between self esteem and academic achievement. Students that gained in self esteem in this study demonstrated similar gains in academic achievement. Similarly, the negative influence of decreasing self esteem was reflected in decreased advances in academic achievement. Keefer¹⁰³ investigated the self prediction of academic achievement. He found that high school record and standardized achievement test data were less predictive than self predictions beyond the freshman year, i.e., the self predictory retained more accuracy.

Watley¹⁰⁴ found students do differ decidedly in their level of educational attainment; however, unequal scholastic ability or variations in high school achievement did not seem to be responsible. Family background factors and personality characteristics did appear to be related to the level of education attained. In his analysis of the self-ratings of the subjects in the study he found that the highest achievers considered themselves to be more motivated to achieve, more perservering and more concerned with scholarship than did the lower achievers.

¹⁰²Ray N. Renbarger, "An Experimental Investigation of the Relationship Between Self Esteem and Academic Achievement In a Population of Disadvantaged Adults" (unpublished Ph.D. dissertation, Michigan State University, 1969).

¹⁰³Karl E. Keefer, "Self Prediction of Academic Achievement By College Students" (unpublished Ph.D. dissertation, University of Tennessee, 1965).

¹⁰⁴Donovan J. Watley, "Career Progress: A Longitudinal Study of Gifted Students," Journal of Counseling Psychology, XVI (March, 1969), pp. 100-108.

Parental personalities and attitude have significant effects on children's self-evaluation and on their interpersonal attitudes according to a study conducted by Koppitz.¹⁰⁵ These attitudes, though formed in early childhood, appear to be relatively enduring and can be evidenced in pre-adolescent boys. Koppitz did, however, find that a modification of these attitudes and relationships can occur. Later experiences may result in the attitudes held toward significant adults in early childhood being later transferred to peers.

Since the development of the Tennessee Self Concept Scale (TSCS) in 1965, studies have been continuously conducted using this self-reporting instrument. Monograph VI, Correlates of the Self Concept, was written by Thompson¹⁰⁶ in a special effort to systematically examine the effects of age, race, socioeconomic status and intelligence upon the self concept. It also deals with the issues of whether the self concept is related to or contributes to the prediction of various other personality variables. Monograph VI, together with the other monographs written on the TSCS, constitute a kind of test of basic self theory--that "the self concept does contribute to the understanding and prediction of behavior"--above what is possible from the external frame of reference alone.¹⁰⁷

¹⁰⁵Elizabeth E. Koppitz, "Relationship Between Some Background Factors and Children's Interpersonal Attitudes," Journal of Genetic Psychology, XC (September, 1957), p. 128.

¹⁰⁶Warren Thompson, Correlates of the Self Concept, Monograph VI, (Tennessee: Dede Wallace Center, 1972).

¹⁰⁷William H. Fitts, The Self Concept and Behavior: Overview and Supplement, Monograph VII, (Tennessee: Dede Wallace Center, 1972), p. 6.

The Tennessee Self Concept Scale is presently being used in many studies of the relationship between self concept and socioeconomic level.¹⁰⁸ Since findings at this time have not been conclusive or of the nature to show significant relationships, it may be appropriate at this point to report one such study as an example of the type of investigations currently under study. Bartee¹⁰⁹ has reported TSCS scores for a group of 100 disadvantaged white and 100 disadvantaged Negro college students. The students were classified as disadvantaged on the basis of the following two criteria: (1) at least one of their parents had not graduated from high school and neither parent had gone beyond high school, and (2) the family income qualified the student for financial aid to education according to the U. S. Office of Education scale.

Results from Bartee's study indicate that the self concepts of disadvantaged college students are much better than those of other disadvantaged samples. Bartee has concluded that such selection factors were operating in his sample to the extent that it showed those disadvantaged individuals who attend college are the ones who (1) are more highly motivated, (2) are more intelligent, and (3) have more self-esteem. In addition, Bartee suggested that becoming a college student is possibly

¹⁰⁸See Monograph VI, Thompson, Correlates of the Self Concept, for studies of the relationship between self concept and other demographic variables.

¹⁰⁹Geraldine M. Bartee, "The Perceptual Characteristics of Disadvantaged Negro and Caucasian College Students" (unpublished Ph.D. dissertation, East Texas State University, 1967).

sufficient achievement to cause an increase in the disadvantaged individual's feelings of self worth and his overall level of self-esteem.

Harrington completed a rather extensive review of the literature on the use of the self concept and concluded that the "research in literature concerning the relationship of academic achievement and self concept appears to be limited in scope and the findings are neither consistent nor conclusive."¹¹⁰ He further concluded that the "findings suggest that existing relationships may account for a portion of the variance in academic performance which is not accounted for by intellectual measures."¹¹¹ The particular investigation of the relationship of self concept to college persistence and to stability of program choice as conducted in the writer's study does not appear to be extensively researched, if at all, at this time.

¹¹⁰Harrington, "Self Concepts of Air Force Officers," p. 57.

¹¹¹Ibid., p. 58.

CHAPTER III

THEORETICAL ORIENTATIONS

This research study will be centered around a view of the self as a phenomenal self. That is, the self will be presented as both object and process, and the individual will be seen as behaving according to how he perceives the situation and himself at the moment of his action. Reference group theory will be described as the over-all conceptual model guiding the construction of this research project.

Development of Self Concept Theory

Much of the present theorizing about self concept has derived from the writings of William James.¹ He presented a view of self which incorporated feelings and attitudes along with a principle of causality. According to LaBenne² a number of theorists began to present their own views on self concept a half century after the writing of James. Each of these theorists used his own preferred terminology, but all used the term "self" to have one of three meanings: (1) a dynamic process, (2) a system of awareness, or (3) an interrelated process and awareness.

In much the same manner as James, the writings of Allport³ stress the interrelatedness of the self as both object and process. Freud gives

¹William James, Principles of Psychology 2 vols. (New York: Holt, Rinehart and Winston, Inc., 1890).

²LaBenne, Self Concept Theory, p. 2.

³Gordon W. Allport, Personality: A Psychological Interpretation (New York: Holt, Rinehart and Winston, Inc., 1937).

the ego a central place in his theory of personality structure and in counterdistinction to James and Allport, Freud pays little attention to the self-image. For him the ego is a functional agent of the personality which makes rational choices and controls action in the healthy person.⁴

The theories of Freud did not immediately bring constructs concerning the self to a position of prominence in American psychology. First of all, Freud did not explicitly formalize a self construct in his early theorizing nor did he assign the ego functions much importance in comparison to the "id" concept. Secondly, his theory was found to be lacking in rigor or suitability for empirical test in comparison with the theoretical models then held in high esteem.⁵

George H. Mead represented the self as an object of awareness in contrast to Freud's conception of the ego as a system of processes. Although the mind has its focus in the individual organism, it was seen by Mead as essentially a social phenomenon. By means of communication, the individual and society inter-penetrate to an unusual degree. Through language and other symbols of communication we are able to "more or less unconsciously see ourselves as others see us" according to Mead.⁶

⁴Sigmund Freud, A General Introduction to Psychoanalysis (Garden City, New York: Garden City Publishing Co., 1943).

⁵Ruth C. Wylie, "The Present Status of Self Theory," Edgar F. Borgatta and William W. Lambert eds. Handbook of Personality Theory and Research (Chicago: Rand McNally and Co., 1968), p. 728.

⁶George H. Mead, Mind, Self and Society, edited by Charles Morris (Chicago: University of Chicago Press, 1934), pp. 68-69.

Another psychologist who saw the self as primarily an object of awareness was Helge Lundholm.⁷ He distinguished between a subjective self and an objective self with the subjective self consisting mainly of what a person comes to think about himself. This theory is somewhat similar to Mead's in that the self is primarily an object of awareness. A further expansion of the theories of Mead is seen in the writings of Symonds⁸ who combines the psychoanalytic theory of Freud with the social philosophy of Mead. Though Symonds believed the ego and self to be distinct aspects of the personality, he felt there was a good deal of interaction between them.

The self concept or self dynamism is viewed as the core of human personality by Harry S. Sullivan. There are a number of research studies which indicate that at least part of the self consists of what Sullivan calls "the reflected appraisal of others."⁹ McCandless¹⁰ also believed that the self develops according to the nature of the interpersonal relationships a person has. According to this line of thought, many of the problems and situations which one faces throughout life are intricately entangled with his conception of self and the world in which he operates.

⁷For a summary of Lundholm's beliefs on "self" see Labenne, Self Concept Theory, p. 5.

⁸Percival M. Symonds, The Ego and The Self (New York: Appleton-Century-Crofts, 1951).

⁹Harry S. Sullivan, The Interpersonal Theory of Psychiatry (New York: W. W. Norton and Co., 1953), pp. 158-71.

¹⁰Boyd R. McCandless, Adolescents: Behavior and Development (Hinsdale, Ill.: The Dryden Press, Inc., 1970), p. 438.

A description of a consistency between behavior and self concept as a dual role of self--self as object and self as process--was presented by Carl Rogers.¹¹ He believed that people behaved in terms of the manner in which they see themselves--a conscious activity. Rogers¹² has written that:

The self-concept or self-structure may be thought of as an organized configuration of perceptions of the self which are admissible to awareness. It is composed of such elements as the perceptions of one's characteristics and abilities; the percepts and concepts of the self in relation to others and to the environment; the value qualities which are perceived as associated with experiences and objects; and goals and ideals which are perceived as having positive or negative valence.

Rogers does allow for the possibility of an unconscious activity, but only when this information concerning the environment and self is brought to awareness, does it influence behavior.

Combs and Snygg¹³ place great emphasis on social relationships and action as a developer of the self concept. Conscious feelings, cognitions, and perceptions occupy a central place in the theories of phenomenologists such as Combs and Snygg. Harrington¹⁴ studied the relationship of self concept measures as they related to selected characteristics of Air Force Officers. A brief summary of the phenomenological

¹¹Carl R. Rogers, Client-Centered Therapy: Its Current Practice, Implications and Theory (Boston: Houghton Mifflin Company, 1951), pp. 190-91.

¹²Ibid., p. 136.

¹³Donald Snygg and Arthur W. Combs, Individual Behavior (New York: Harper and Row, 1949), p. 15.

¹⁴Harrington, "Self Concepts of Air Force Officers," p. 3.

viewpoint of Combs and Snygg as summarized by Harrington is as follows:

Combs and Snygg hold that psychological capacity continues to grow . . . be influenced by experience, with self perception as a factor involved in the process. That is, each person sees himself in terms of his experience and the treatment he receives from others, the perception of self is seen to be continually evolving and directly related to the perception of experience; self perception is seen to function as a limiting factor in academic achievement and attainment.

Labenne¹⁵ has summarized the position of Combs and Snygg in the following manner:

. . . how a person behaves is the result of how he perceives the situation and himself at the moment of his action. In fact, awareness is the cause of behavior: how a person feels and thinks determines his course of action. Phenomenology, then, is the study of direct awareness.

This phenomenological position places great emphasis on social relationships and action as a developer of the self concept. Stress is placed on identification with others as one of the main characteristics of the truly adequate person.

The Research Monograph Number One written by Fitts and Hamner¹⁶ presents the theoretical framework for that particular Monograph as well as for the six Monographs that have since been written on the use of the Tennessee Self Concept Scale in the various types of studies. These writers stress that the way an individual views and interacts with the world around him is partly a function of the way he views himself

¹⁵Labenne, Self Concept Theory, pp. 7-9.

¹⁶William H. Fitts and William T. Hamner, The Self Concept And Delinquency, Research Monograph No. 1 (Nashville, Tennessee: Nashville Mental Health Center, 1969). Overview inside cover page.

(his self concept); that his behavior is a reflection or expression of his self concept; that his self concept is influenced by his behavior, the reactions he gets from the external world, and his own reactions to himself. There is, then, a constant interaction between his self concept and his behavior with each influencing the other.

Battle and Rotter¹⁷ contend that members of disadvantaged subcultures possess low self concepts and show self-depreciation as a result of economic, social and cultural deprivation. How does the self concept influence vocational choice? Are there self concept differences between people in different vocations? What kinds of self concepts are essential in specific vocations or training programs? How does the self concept of the helper (counselor, teacher, therapist) affect the helping process? According to Fitts¹⁸ investigators have just begun to examine these types of questions as well as the implications of the self concept for the educational process.

The self concept is developed and achieved through accumulated social contacts and experiences with other people according to Labenne.¹⁹ People learn their identity, who and what they are, from the kinds of experiences the growing-up process provides. What a person believes

¹⁷Esther Battle and Julian Rotter, "Children's Feelings of Personal Control as Related to Social Class and Ethnic Group," Journal of Personality, XXXI (December, 1963), pp. 482-90.

¹⁸William H. Fitts, The Self Concept and Behavior: Overview And Supplement, Research Monograph No. 7 (Nashville, Tennessee: Dede Wallace Center, 1972), p. 10.

¹⁹Labenne, Self Concept Theory, p. 13.

about himself is partly a function of his interpretation of how others see him. Since he really has no way of knowing precisely how others see him, he infers this from their behavior toward him. The value system, perception of society in general and life style are influenced by one's social class as presented in the review of literature in Chapter II of this study.

The multidimensional approach used in the construction of the Tennessee Self Concept Scale is consistent with the phenomenological theory. This scale yields indices of various areas of the self in addition to the overall self concept score. Scores are also obtained on the physical, moral-ethical, personal, family and social self. The internal frame of reference as postulated by Combs and Snygg and by Rogers, discussed previously in this chapter is measured on the Tennessee Self Concept Scale by the categories of (1) Identity--items pertaining to what the individual is, his Identity Self; (2) Self Satisfaction--items describing how a person feels about himself, the Judging Self; and (3) Behavior--items describing what an individual does or how he acts, the Behavioral Self.²⁰

The theories presented thus far in Chapter III have emphasized the important effect of a positive self concept in learning. Evidence is accumulating which indicates that students with poor self concepts are more anxious, less well adjusted in general and are less effective

²⁰Thompson, Correlates of Self Concept, pp. 2-3.

individually or in groups when compared with those who have more positive self concepts. Some of the stress and anxiety accompanying the process of withdrawing from college or changing one's program of study could well be related to certain self concept variables.

Reference Group Theory

Social scientists have become increasingly concerned with the problem of the concept of the self as it is influenced and determined by groups in the social environment. One systematic approach used to deal with this problem has been reference group theory. Findings in social psychology show that a person's attitudes depend in part upon his social contacts and particularly upon the groups in which he holds membership or to which he aspires to hold membership. At the same time, it is apparent that the typical individual in our culture, simultaneously belongs to several different organizations and is associated with a variety of groups.²¹

Any group in society originated at some point in time, and its formation was determined by a particular set of conditions. There is, according to Cartwright and Zander,²² no simple answer to the question of why a collection of individuals comes to constitute a group. The reasons for the formation of a family, a committee, an adolescent gang, a business association or an ethnic group would appear to have little in common.

²¹Harold H. Kelley, "Salience of Membership and Resistance to Change of Group-Anchored Attitudes," Herbert H. Hyman and Eleanor Singer eds. Readings in Reference Group Theory and Research. (New York: The Free Press, 1968), p. 297.

²²Dorwin Cartwright and Alvin Zander eds. Group Dynamics (New York: The Free Press, 1968), pp. 53-54.

Cartwright and Zander²³ have identified three rather different kinds of circumstances under which groups come into existence: (1) a group may be created deliberately by one or more people in order to accomplish some objective, (2) a group may be formed spontaneously by the people who have come to participate in it, and (3) a collection of individuals may become a group because they are treated in a homogeneous way by other people.

At any one time, only a relatively small number of people are involved with a person. We use the word "group" to indicate these people. Depending on the act and the situation, the group not only contains different people, but the relationships among them are different. The variety of relationships among people involved together in a situation is so extensive that we have to conclude that "groupness" is a general impression, not a specific characteristic. We form our impressions of "groupness" from a large number of specific properties of the collection.

Before entering upon a discussion of the types of reference groups, a few remarks about the qualities and cohesiveness of groups would be appropriate. Gulley²⁴ has described groups as different from each other to the extent that they exhibit certain vital qualities at a particular moment. One of the important qualities of a group is cohesiveness which is a function of the attractiveness of the group for its members. A primary group, such as the family, is ordinarily more

²³Ibid., p. 54.

²⁴Halbert E. Gulley, Discussion, Conference, and Group Process (New York: Henry Holt and Company, 1960), pp. 73-75.

cohesive than a non-primary group and a continuing group is more cohesive than a momentary group.

It is a common observation that the members of a continuing group are likely to display a remarkable homogeneity of beliefs, attitudes, values and behavior. Social scientists have devoted much energy and ingenuity towards attaining a better understanding of the homogenizing effects of groups. Cartwright and Zander²⁵ have listed the following reasons for this similarity among members of a group:

1. Cognitive conflict--a collection of people exposed to the same environment are inclined to assume that there is only one "correct" description of the situation or be faced with a cognitive conflict.
2. Similarity among members environments--membership in a group determines for an individual many of the things he will see, hear, think about, learn, and do.
3. Selective membership--distinctive kinds of people may, therefore, be attracted to, or recruited by, a particular group, and a person who finds himself in a group whose members are too different from him may withdraw.
4. Common societal norms--members of a particular group are also members of a larger society and to the extent that the norms of this society affect all will result in greater similarity among members within any group.

As was pointed out in Chapter II, factors relating to attitudes, behavior, and style of life differ from class to class in society. Not only does the collection of individuals composing a group affect the nature of the group but we also find that groups affect the nature of the individuals in the group. The different types of groups in which an

²⁵Cartwright and Zander, Group Dynamics, pp. 140-42.

individual may hold membership and to which he may address his behavior are referred to as his reference groups by Thelen.²⁶ He has described five types of reference groups and they may be summarized as follows:

1. The actual group of people he is meeting with in a given time and place. This is the only group he can really interact with in a given time and place, test ideas and evaluate himself.
2. The second reference group is the group we represent or think we represent. We represent its wishes, its membership and power, and its ideas about how to proceed.
3. A third type of reference group may be characterized as the abstracted group or the "relic" group. The people, roles, and action have dropped out of memory and only the values and attitudes of these previous groups may remain.
4. A fourth type of group, under whose influence one may act in an actual group, is the "hangover" group. Basically this is a group similar to the family in which one had membership problems and anxieties which are presently not resolved.
5. The fifth type is the fantasied or constructed group. From this constructed group the person will withdraw into fantasies and receive responses which he cannot get from an actual group.

At this point it may be appropriate to summarize that: (1) the class or environment may influence the membership of groups, (2) the individual influences the group of which he is a member, (3) groups influence the individuals that comprise the group, and (4) the individual is influenced by groups other than those "actually" present. With this review of group composition and structure in mind, the writer will proceed with the discussion of the history and development of reference group theory.

²⁶Herbert A. Thelen, Dynamics of Groups at Work (Chicago: The University of Chicago Press, 1954), pp. 231-35.

The term "reference group" was first used by Herbert Hyman²⁷ in a study, The Psychology of Status, published in 1942. Certainly many earlier social scientists have made reference to group organization and societal influences on the members of society. Emile Durkheim had long ago emphasized the ability of a society to nearly achieve self regulation under the influence of organic solidarity. Through group organization, Durkheim believed that a type of collective conscience developed which served to unite individuals.²⁸

Georg Simmel objected to the postulate of a group mind as presented by Durkheim. Simmel saw society as a function manifested in dynamic relations among individuals and in interactions between individual minds. Society existed wherever a number of individuals entered into reciprocal relationships. Society is a process with the dyad being the simplest sociological formation existing between two individuals. In the triad, the group finally has emerged because the third person has been added. The analysis made by Simmel of "sociability" typifies his belief that one can distinguish between form and content of interhuman action in any human society. The individual can enter society only by foregoing some of his individuality and exchanging it for the generality demanded by the role.²⁹

²⁷Herbert H. Hyman, "The Psychology of Status," Archives of Psychology, No. 269, 1942.

²⁸For a more complete discussion of societal influence on members of a society see Durkheim's Division of Labor and Suicide.

²⁹Don Martindale, The Nature and Types of Sociological Theory (Boston: Houghton Mifflin Co., 1960), pp. 236-47.

William James, George Mead, and Charles H. Cooley have all contributed ideas implicit in reference group theory. William James had suggested in his account of the "social self" in 1890 that our potential social self was developed and inwardly strengthened by thoughts of remote groups and individuals who functioned as normative points of reference.³⁰

Cooley's foremost contribution to the theory of groups was what has come to be known as "primary groups." These primary groups are characterized by intimate face-to-face association and cooperation. The family, peer groups and the neighborhood are an integral part of the primary group concept and act as reference groups for the individual. According to Cooley primary groups are fundamental in forming the social nature and ideals of the individual.³¹

The discussion in Chapter II of William James and George Mead is also appropriate for the considerations presented in relation to reference group theory. Mead's emphasis on the "generalized other," that evolves within an individual's mind and personality, is particularly significant for reference group theory. Through the generalized other, the community exercises control over the conduct of its individual members. The two stages in the development of the self are (1) the organization of the

³⁰James, Principles of Psychology, Chapter 10.

³¹Charles H. Cooley, Human Nature and the Social Order (New York: Charles Scribner's Sons, 1902).

particular attitudes of other individuals toward one's self, and (2) the organization of the social attitudes of the generalized other toward one's self. The self reaches full development by organizing individual attitudes and generalizing them, and by becoming an individual reflection of the general systematic social pattern of group behavior in which all others are involved.³²

When Mead spoke of men taking the "role of the generalized other", he meant that each person approached his society from the standpoint of the culture of his group. Since man defines objects, other people, society, and himself from the perspective that he shares with others, he can thus guide his conduct in line with this generalized point of view. The socialized person is a society in miniature; he sets the same standards of conduct for himself as he sets for others, and he also judges himself in the same terms.³³

A contemporary of Mead, W. I. Thomas, contributed to the concept of reference group theory with his emphasis that the way an individual looks at reality is as basic as that reality itself. This "definition of the situation" was the central object of study in sociology for Thomas. The "situation" is the set of values and attitudes with which the individual or the group has to deal in a process of activity. It is also in regard to these values and attitudes that activities are planned

³²Martindale, Types of Sociological Theory, p. 358.

³³Tamotsu Shibutani, "Reference Groups as Perspectives," Hyman and Singer eds. Readings in Reference Group Theory and Research (New York: The Free Press, 1968), p. 106.

and results evaluated. Every concrete activity consists in the solution of a situation which involves three kinds of data: (1) the objective conditions under which the individual or society has to act and which at the given moment affect the conscious status of the individual or the group, (2) the pre-existing attitudes of the individual or the group, and (3) the "definition of situation" by the individual or group as a more or less clear conception of the conditions of consciousness and of attitudes. The individual develops his attitudes and makes his selection of the values, that a situation offers, on the basis of a general pattern of wishes. This typology of four wishes include the desire for new experience, security, response, and recognition.³⁴

The term "reference group" was first used by Hyman as was indicated earlier in this chapter. Hyman intensively interviewed the subjects in his study in an attempt to learn something of the meaning, genesis, criteria of and satisfaction with status. He then developed scales to measure their subjective status along various dimensions including general status, economic, intellectual, cultural, social, and physical attractiveness. Subjects were also asked to indicate their subjective status with reference to different groups: (1) the total adult population in the United States, (2) friends and acquaintances, and (3) their occupational group. Hyman found that within each status

³⁴Martindale, Types of Sociological Theory, pp. 348-51.

dimension an individual's judgment of his status shifted when reference groups were changed.³⁵

Other results of Hyman's study, reported by Sherif and Cantril,³⁶ which are particularly significant for our purposes are as follows:

1. Individuals strive for status with respect to those accomplishments or characteristics which they most highly value.
2. When an individual's status is approximately similar to the status of the group he is using as a basis for comparison, then, he shows no particular concern for his own status and no great drive to achieve a higher status.
3. Persons who regard the difference between their own status and a reference group as being determined by a social system they disapprove of also show little dissatisfaction with their own status.

This study clearly indicates, then, an individual's conception of his own status or the status of his group invariably depends upon the other groups to which he compares himself or his own group. In other words, he uses himself or his group as the anchoring point, and his own subjective status varies according to the scale provided.³⁷

At about the same time that Hyman was researching some of the ramifications of reference group theory, we find that Theodore Newcomb was working with similar concepts in his study of Bennington College students. In this study Newcomb sought to explore the ways in which

³⁵Muzafer Sherif and Hadley Cantril, The Psychology of Ego-Involvements (New York: John Wiley and Sons, Inc., 1947), p. 137.

³⁶Ibid., pp. 137-38.

³⁷Ibid., p. 138.

individuals derived their values and abilities from other groups. He sought to understand the change of attitude or lack of change among the students attending Bennington college. He tried to determine which students used the Bennington Community as their reference group.³⁸

Newcomb's study considered the social organization which affected the selection of reference groups. People frequently orient themselves to groups other than their own in shaping their own behavior and evaluations. It is the problems centered about this fact of orientation to non-membership groups that constitute some of the distinctive concerns of reference group theory. The distinction Newcomb made between the positive and negative type of reference groups serves to illustrate that individuals may form their attitudes in opposition to the norms of a group as well as in accordance with them. A positive reference group is one in which a person is motivated to be accepted and treated as a group member, either overtly or symbolically. The negative reference group concept helps us understand not only the affective tone and content of an individual's attitude but also such formal features as the congruence and organization of his attitudes. Negative reference groups motivate the person to oppose or react against that group. Certain groups according to Newcomb³⁹ can be both a positive and a negative

³⁸Theodore M. Newcomb, Personality and Social Change (New York: Dryden Press, 1943), pp. 374-86.

³⁹Theodore Newcomb et. al., Social Psychology (New York: Holt, Rinehart and Winston, 1965), p. 109.

reference group at the same time, permitting conformity to some of the group norms but not to others.

Newcomb also contributed to the study of occupational specialization when he stated that one's commitment to a given specialization could be re-enforced by positive reference groups or individuals. Negative reference groups or persons tend to pull a person away from his commitment or tendency to specialize in an area of work he might otherwise select. Subgroups and cliques within an individual's life operate as negative or positive reference groups and, as such, affect both his choice of occupation and his specialization within that occupation.

Both individual and group levels of analysis are essential to an understanding of the behavior of youths according to a study conducted by the Sherifs.⁴⁰ Although this study emphasized the primary importance of the reference group, the influences of the neighborhood and larger society were also stressed. Carolyn and Muzafer Sherif viewed reference groups as those toward which an individual is oriented regardless of whether or not he is a member of the group. An individual is usually a member of many groups, however, not all of them are equally influential on his behavior.

The concept of reference group, then, began to emerge in the course of the empirical studies of Hyman, Newcomb, and the Sherifs. The concept of "relative deprivation" as used in The American Soldier appears

⁴⁰ Carolyn W. Sherif and Muzafer Sherif, An Outline of Social Psychology (New York: Harper and Brothers, 1956), p. 83.

to be closely related to such well-known sociological concepts as "social frame of reference," "patterns of expectation," or "definition of the situation." This study by Stouffer⁴¹ of American soldiers in World War II emphasized that self-appraisal is dependent on the reference group which one employs as a point of social comparison. The sense of relative deprivation stems from the particular soldier choosing one group rather than another for comparison. This concept helps to clarify the seemingly paradoxical behavior on the part of these World War II soldiers as well as for many other societal groups.⁴²

Research from The American Soldier points directly to the problems raised by multiple group affiliations and multiple reference groups. Through these studies, in which groups of drafted married men compared themselves to unmarried army associates, Stouffer found that the married group felt they had sacrificed much more for their country. Stouffer inferred that soldiers who were considered to be the more advantaged soldiers could also feel deprived if they chose to compare themselves with others who were even better off than they were.⁴³

The theories and concepts discussed thus far were not well known until 1950 when Merton and Rossi synthesized and presented in systematic

⁴¹For a complete discussion of the studies of Stouffer and associates see Samuel A. Stouffer et.al., The American Soldier: Adjustment During Army Life, Vol. 1, (Princeton: Princeton University Press, 1949).

⁴²Herbert H. Hyman, "Reflections on Reference Groups," Public Opinion Quarterly XXIV (Fall, 1960), p. 387.

⁴³Herbert H. Hyman and Eleanor Singer eds. Readings in Reference Group Theory and Research (New York: The Free Press, 1968), pp. 30-36.

form their "contributions to the Theory of Reference Group Behavior."⁴⁴

The term "reference group" has now appeared in many writings in many countries and has been applied to various types of social and economic problems. Merton has given the following comprehensive statement concerning the aims of reference group theory:

Reference group theory aims to systematize the determinants and consequences of those processes of evaluation and self-appraisal in which the individual takes the values or standards of other individuals and groups . . . frame of reference.⁴⁵

According to Merton⁴⁶ theories of the middle range lie between the minor but necessary working hypotheses and the all-inclusive systematic efforts to develop a unified theory that will explain all the observed uniformities of social behavior, social organization and social change. Reference group theory is an example of middle range theory used principally to guide empirical inquiry. Durkheim, Sorokin, and more recently David Riesman, have used and have been advocates for the use of theories of the middle range. Merton has stated that theories of the middle range consolidate, not fragment, empirical findings. Reference group theory may be used to draw together findings from such disparate fields of human behavior as military life, race and ethnic relations,

⁴⁴Robert K. Merton and Alice Kitt Rossi, "Contributions to the Theory of Reference Group Behavior," Robert K. Merton and Paul Lazerfeld eds. Continuities in Social Research: Studies in the Scope and Method of the American Soldier (Glenecoe, Ill.: Free Press, 1950), pp. 40-105.

⁴⁵Ibid., p. 35.

⁴⁶Robert K. Merton, Social Theory and Social Structure (New York: The Free Press, 1968), pp. 39-59.

social mobility, delinquency, politics, education, or revolutionary activity.⁴⁷

There is a congruity between reference group theory and conceptions of functional sociology. Together they deal with different facets of the same subject according to Merton.⁴⁸ Reference group theory centers on the processes through which men relate themselves to groups and refer their behavior to the values of these groups. Functionalism centers on the consequences of these processes, not only for social structures, but also for the individuals and groups involved in these structures. The social function of reference group behavior is "anticipatory socialization" which is the acquisition of values and orientations found in statuses and groups in which one is not yet engaged but in which one is likely to enter.

Merton developed the concept of anticipatory socialization as a part of reference group theory to help explain the behavior of that individual who is preparing for future statuses in his status-sequence. The explicit, deliberate, and often formal part of this process is what is meant by education and training. Much of such preparation for future statuses is implicit, unwitting, and informal--it is particularly to this type of preparation that the notion of anticipatory socialization directs our attention. Even in schools, anticipatory socialization proceeds beyond the boundaries of what is formally provided for. Individuals may

⁴⁷Ibid., pp. 59-68.

⁴⁸Ibid., p. 438.

take, as a reference group, a non-membership group to which they aspire to belong. They then begin to socialize themselves to what they perceive to be its norms before they are over-exposed to the group's influence.⁴⁹

In a recently completed doctoral dissertation, William Cross⁵⁰ presented a summary of four ways in which a group may function as a reference group: (1) when an individual aspired to membership in a group, (2) when an individual strove to be like members of the reference group on one respect or tried to make one of his membership groups like the reference group, (3) when a person perceived satisfaction from being different from members of the reference group in some way and strove to maintain this difference, and (4) when an individual evaluated himself and his membership group using the reference group as a standard even though he might not strive to be either like or unlike members of the reference group.

The concept of "normative reference group" is similar to anticipatory socialization in many respects. Kelley⁵¹ has defined two functions of reference groups as being the "normative" and "comparison" functions. If a reference group is serving as the source of the individual's norms, attitudes, and values it would be classified as a normative

⁴⁹Ibid., p. 439.

⁵⁰William M. Cross, "Occupational Aspirations and Expectations of Seminary Students," (unpublished Ph.D. dissertation, South Dakota State University, 1971), p. 11. This summary originally was found in a book written by Harry M. Johnson, Sociology: A Systematic Introduction (New York: Harcourt, Brace and World, 1960), pp. 39-40.

⁵¹Hyman and Singer eds. Reference Group Theory, p. 8.

reference group in the distinction used by Kelley. The individual adheres to the norms of a group, of which he may or may not be a member, in an almost obsessive manner.

One additional consideration of the normative function of reference groups discussed by Kelley⁵² is appropriate for inclusion at this point. A group functions as a normative reference group for a person to the extent that its evaluation of him are based upon the degree of his conformity to certain standards of behavior or attitude and to the extent that the delivery of rewards or punishments is conditional upon these evaluations. A group can assume this function of norm-setting and norm-enforcement whenever it is in a position to deliver rewards or punishments for conformity or nonconformity.

The comparison function of reference groups is that of serving as or being a standard or comparison point against which the persons can evaluate themselves and others. A group functions as a comparison reference group for an individual to the extent that the behavior, attitudes, circumstance, or other characteristics of its members represent comparison points which he uses in making judgments and evaluations.

The normative and comparison functions will frequently be served in the same group. If a group is to serve both functions, it is usually the case that the group is a membership group. The distinction between the two functions is important because it makes explicit the two main

⁵²Harold H. Kelley, "Two Functions of Reference Groups," Hyman and Singer eds. Readings in Reference Group Theory and Research (New York: The Free Press, 1968), pp. 80-81.

aspects of reference group theory which are the motivational and the perceptual. A more complete theory of reference groups must consist of at least two parts according to Kelley.⁵³ One is having to do with groups as sources and enforcers of standards and the other as having to do with groups as the standards themselves.

The distinction between reference individuals and reference groups has often been neglected despite the emphasis on the reference individual as a point of social comparison in early works. Hyman stressed both concepts in his original research since over half the subjects gave evidence that they used particular other individuals--rather than the larger category of people--as reference points for appraising their status.⁵⁴ Merton used both concepts and Sherif called this reference individual "reference idol."

The reference individuals are chosen by virtue of similarity to the subject in many cases, according to Hyman.⁵⁵ Other reasons given for these choices are the reference individual is in close proximity to the subject in the actual life situation, and the reference individual is chosen as a result of objective facts which facilitate such comparisons. Some reference individuals are chosen for comparisons of status by virtue of contrast with the subject's status. The reference individuals are so different from the subject that they stand out as sources for comparison.

⁵³Ibid., pp. 80-81.

⁵⁴Hyman, "Reflections on Reference Groups," p. 390.

⁵⁵Herbert H. Hyman, "The Psychology of Status," Hyman and Singer eds. Readings in Reference Group Theory and Research (New York: The Free Press, 1968), p. 157.

Hyman⁵⁶ has also presented additional interesting findings on reference group that may be applicable for the writer's study: (1) rarely does the total population serve as a reference group, (2) the more intimate reference groups are characteristic of the process of judging status, (3) individuals operate for the most part in small groups within the total society and the total population may have little relevance for them, and (4) friends and people that one works with have far more relevance for the individual.

French and Raven⁵⁷ used the concept referent power which is suggestive of many of the fundamentals of normative reference group processes. The power of a nonmembership reference group inheres essentially in the fact that the individual through his sheer identification with the group willingly accepts what he perceives to be its norms. In contrast to this, membership groups often have the power, even when the individual does not take them as reference groups, to exact conformity in behavior through irrational means or rewards and to induce attitudes through prolonged socialization. When referent power is joined to the real power of a membership group, the combination will be very strong.

The measurement of reference groups has presented problem areas for sociologists and social psychologists. Subjective measurements

⁵⁶Ibid., pp. 155-56.

⁵⁷John French, Jr., and Bertram Raven, "The Bases of Social Power," in Dorwin Cartwright ed. Studies in Social Power (Ann Arbor: University of Michigan Press, 1959), pp. 150-67.

consist of the respondent selecting which groups serve as his reference groups. In addition to having difficulty at times in subjectively identifying the group, the respondent must also have some perception of the group's norms if he is to orient his attitudes and be compatible with them. His perception may deviate from the objective position of a group, not because he opposes the group, but simply because he conforms to false norms that he has taken for a true norm of the group. Group members and especially those members who most closely identify with the group have greater awareness of a norm than do nonmembers.⁵⁸

Other factors affecting reference group measurement are the homogeneity of the group, the clarity of the group norms and the felt legitimacy of the group. When we deal with large and heterogeneous social categories functioning as reference groups, we often find that the groups of this nature are not unified and have a set of norms rather than a norm. Measurement is enhanced if groups are clearly distinguishable from other groups and if norms are well defined. A respondent may have a particular reference group with which he identifies and may perceive its norms clearly; however, he may not regard as legitimate or appropriate the fact that the group exercise its influence in a particular jurisdiction. According to Hyman,⁵⁹ in this type of situation the respondent's behavior or attitude may not be governed by the reference group.

⁵⁸Hyman, "The Psychology of Status," p. 394.

⁵⁹Ibid., pp. 395-96.

The concept of reference group has always implied that one cannot make arbitrary assumptions about the groups to which an individual refers himself. Research has already established a number of regularities in the choices made by individuals and some of the major factors governing these selections. Hyman and Singer⁶⁰ have pointed out that theorizing about the choice of reference groups and reference individuals is often based on simple assumptions about motivation. The individual chooses a normative reference group so that in fantasy, or ultimately in fact, he can feel himself part of a more favored group. Individuals facing rapid social change may identify with the most accessible reference group. For social comparisons, an individual may choose a group in order to increase his self-regard or protect his ego.

Shibutani⁶¹ has recently contributed to reference group theory by summarizing some of the analytical uses that can be made of the concept:

The inconsistency in behavior as a person moves from one social contest to another is accounted for in terms of a change in reference groups; the exploits of juvenile delinquents, especially in interstitial areas, are being explained by the expectations of peer-group gangs; modifications in social attitudes are found to be related to changes in associations. The concept has been particularly useful in accounting for the choices made among apparent alternatives, particularly where the selections seem to be contrary to the "best interests" of the actor. Status problems--aspirations of social climbers, conflicts in group loyalty, the dilemmas of marginal men--have also been analyzed in terms of reference groups, as have the differential sensitivity and reaction of various segments of an audience to mass communication. It is recognized that the same generic processes are involved in these phenomenally diverse events, and the increasing popularity of the concept attests to its utility in analysis.

⁶⁰Hyman Singer eds., Reference Group Theory, p. 13.

⁶¹Shibutani, "Reference Groups as Perspectives," p. 103.

A further contribution which has assisted in the clarification of the reference group theory concept has been made by Shibutani.⁶² One usage of the concept is the designation of the group which acts as a point of reference in making comparisons or contrasts. As discussed in the original use of the concept by Hyman, we find the reference groups as points of comparison in evaluating one's own status. Hyman also found that the estimates varied according to the group with which the respondent compared himself.

A second use of the concept deals with that group in which the actor aspires to gain or maintain acceptance or membership. Here the concept is used to denote a group of individuals with whom the actor desires association. The reference group of the socially ambitious is said to consist of people of higher strata whose status symbols are imitated. Shibutani summarized this concept as one that used to point to an association of human beings among whom one seeks to gain, maintain, or enhance his status.

In a third usage the concept implies an existant group whose norms and values guide the individual's behavior although it is not a membership group nor need it be a group in which the individual desires membership. In this usage a reference group becomes any collectivity, real or imagined, envied or despised, whose perspective is assumed by the actor.⁶³

⁶²Ibid., pp. 103-104.

⁶³Ibid., p. 105.

Applying reference group theory to a few of the variables, commonly considered to enter into social class designations, produces some interesting points of speculation. In the light of reference group theory, the possibility exists that a person with little education in a high prestige occupation has a totally different sense of identity and far less relative deprivation than a person of high education in a low prestige occupation. The two individuals are likely to use different reference groups in appraising themselves. Campbell et al.,⁶⁴ have stated that a combination of low education and white collar occupation and a combination of high education and blue collar occupation has demonstrable effects on subjective class identification, on vocational preference and on attitude.

The review of literature and theoretical orientation presented support the contention that the individual identifies himself to some degree with those individuals and groups that have been influential in shaping his expectations. Social class variables are important determinants designating which groups may become one's actual membership reference groups. Social class variables also influence values and attitudes which have a bearing on non-membership group perceptions. The attitudes, behavior patterns and styles of life of social classes in the stratification system found in our society undoubtedly have implications for college student decisions which pertain to college persistence and stability of program choice.

⁶⁴A. Campbell et al., The American Voter (New York: Wiley and Co., 1960).

Research Hypotheses

The following research hypotheses were derived from the review of literature and the theoretical orientation:

1. Social class standing of students is related to (a) college persistence, and (b) stability of program choice.
2. Subjective estimates of social class standing by students will be similar to estimates of their social class standing determined by objective measures of income, education, and occupation.
3. The educational level of the father, educational level of the mother, family income, and occupational level of the father are related to (a) college persistence of son or daughter, and (b) stability of program choice of son or daughter.
4. Students who persist in college attendance and do not change their initial college program enrollment will have higher ACT composite scores and cumulative grade point averages than students who do not persist in college or do change their initial program of study.
5. Significant self concept differences appear to exist between persisters and non-persisters in college attendance and between changers and non-changers of academic program.
6. Self concept differences appear to exist among students of the various social class levels.
7. College persistence and stability of program choice appear to be related to (a) size of the student's high school graduating class, (b) size of community of parent's residence, and (c) the student having had a counselor in high school.

CHAPTER IV

METHODOLOGY

Collection of Data

A number of methods of measuring social class position are described by Hodges¹ along with the instruments that may be used for this measurement. The instrument used in Warner's² book, Social Class in America was used as the model for the formulation of the instrument to determine social class standings of students included in this study. The writer has updated and revised Warner's Index of Status Characteristics to allow for changes in the economic conditions that have occurred over the years and to improve its applicability for use with mid-western college and university students.

Various cross validation mechanisms have also been included in the writer's instrument³ to measure social class standing of students at South Dakota State University. Since parental occupation and education are collected with the writer's instrument, it is possible to obtain a social class designation using Hollingshead Two-Factor Index.⁴ The social class designation obtained from the revision of Warner's Index of

¹Hodges, Social Stratification, pp. 78-101.

²Warner, Meeker, Eels, Social Class in America, pp. 131-59.

³See Appendix A for the writer's instrument used to collect social class data on South Dakota State University students.

⁴Hollingshead, Elmtown's Youth.

Status Characteristics was compared with the social class designations obtained from the Minnesota Scale for Paternal Occupations.⁵ A number of subjective evaluations (self-estimates) of social class standing are also included in the writer's instrument and these estimates are compared to the designations obtained from the revision of Warner's scale. A further discussion of determining the validity of the writer's instrument to obtain social class standing of students at South Dakota State University will be included in a later section in this chapter on "Pre-testing the questionnaire."

The Tennessee Self Concept Scale (hereafter referred to as TSCS) developed by Fitts⁶ was used in this study to collect selected self concept data on the various student groups. The Clinical form of the TSCS used in this study makes possible the study of the self concept in some depth and scope through the use of 100 self-descriptive statements to which the subject responds on a 5-point Likert type response scale ranging from "Completely true" to "Completely false." The overall self concept is reflected in the Total Positive Score which indicates the subject's general level of self-esteem. This, in turn, is partitioned into a 3 x 5 matrix of sub-scores. The three rows are concerned with how the individual describes himself from an internal frame of

⁵The Institute of Child Development, The Minnesota Scale For Paternal Occupations, (University of Minnesota: Minneapolis, Minn.).

⁶Fitts and Hamner, The Self Concept and Delinquency, p. 2.

reference. The three rows then may be seen as focusing on (1) "What he is" (2) "How he feels about himself," and (3) "What he does."⁷ The five columns deal with the external frame of reference the individual uses to describe himself:

Column A: Physical Self

Column B: Moral-Ethical Self

Column C: Personal Self (Personal self-worth, psychological traits and characteristics)

Column D: Family Self (Self in relation to the primary social group, family and close friends)

Column E: Social Self (Self in relation to the secondary social group)

For a more detailed discussion of the various scales and scores obtained from the TSCS see Appendix B.

One of the more thorough and complete studies of the methodological problems in the measurement of self concept was recently completed by Leake. Among the topics discussed by Leake were the criteria for establishing construct validity, possible irrelevant response determinants, inter-correlations among self esteem instruments, internal factor analyses, relationships between self esteem and other variables, and discriminant validity. After examining a number of self concept and self esteem measures in terms of these issues and others, Leake⁸

⁷Ibid., pp. 2-3.

⁸Donald A. Leake, "The Measurement of Self Esteem" (unpublished master's thesis, Ohio State University, 1970), p. 83.

has concluded:

The discussion(s) . . . in the present section of this paper suggest the superiority of the TSCS to the other instruments for the measurement of self concept metadimensions, including self esteem

The author of the TSCS, William H. Fitts, has supplied some 275 references which can be used to examine the uses and reviews that have now been completed on the instrument. Fitts states that his scale is "simpler for the subject, more widely applicable, and better standardized than other similar measuring devices."⁹

Crites¹⁰ has commented on both the reliability and validity of the TSCS. In one test of reliability (test-retest reliability), Crites reported coefficients based on a small sample (N=60) of college students over a two week period that were generally in the .70's and .80's with only four or five dipping as low as .60's. In regard to validity, Crites has reported that the results are promising that the instrument tends to meaningfully discriminate psychiatric groups from normals and different psychiatric groups from each other. He further has concluded that the initial data on the Scale's psychometric attributes indicate that it "measures up" by traditional criteria rather well. Crites questioned whether the TSCS had any particular advantages over its long line of precursors, i.e., Bills Index of Adjustment and Values, the various published Q sorts, etc.

⁹Fitts and Hamner, Self Concept and Delinquency, p. 2.

¹⁰John O. Crites, "Test Reviews: Tennessee Self Concept Scale," Journal of Counseling Psychology, XII (Fall, 1965), pp. 330-31.

The TSCS and the instrument designed by the writer to collect social class characteristics on students attending South Dakota State University were used to collect data for this study. A further discussion of collection procedures and population groups is included in this chapter under the heading of Population.

Pretesting the Questionnaire

On May 5, 1972, the combined instrument of the writer's revision of Warner's Index of Status Characteristics and the TSCS were administered to 100 members of the Introduction to Sociology classes of the Spring 1972 term. Attention was directed towards difficulties encountered in the administration and collection of data with the pretest instrument so that revisions could be made. Various statistical procedures were used with the data collected with the pretest instrument. These procedures also aided in the final formulation of the instrument and provided insights into more efficient use of the data.

Information collected from previous years on students who withdrew and those who changed colleges (see Appendix C) was compared with pretest data. This information was used to determine the method of selecting the sample of those students in the final study who do not change program of study and do persist in college enrollment. The various cross validations referred to under Collection of Data in this chapter were completed on the pretest data. The writer's version of Warner's Index of Status Characteristics appeared to more adequately designate social class standing than did the other single or two factor

instruments. Using the occupation of banker as an example, we find that the Minnesota Scale For Paternal Occupations classifies all bankers into Class II. The instrument used for this study enters such additional considerations as size of banking operation, source of income, educational level, and type of family residence to determine social class designation.

Population

The fall semester of the 1972-1973 academic year was essentially the time interval chosen to collect data for this study. In recent years the largest majority of students who changed their program of study at South Dakota State University did so during fall terms. There is no reason to doubt from data collected to date that these fall changers would not be representative of the entire population that changed college within one school term. More students also terminate their enrollment with the University during fall terms than during the spring terms (see Appendix C). A random sample of those students who withdrew between terms was also included in this group of students who did not persist in enrollment. Changers and non-persisters completed the social class evaluation instrument and TSCS when they reported to Student Services to complete the change or withdrawal forms.

A stratified random sample (representation by college of the University and grade level similar to the changers and non-persisters) was selected from the students enrolled from the fall 1972-1973 term who persisted and had not changed their program of study as the 1973 spring term began. The pretesting of the questionnaire showed that the

Introduction to Sociology classes, Intermediate Sociology and Population classes basically contained the representations needed for this non-changer persister group. The social class evaluation instrument and TSCS was administered to several randomly selected sections of these Sociology classes during the fall term. All of the students included in the study were full-time undergraduate students (those enrolled for 12 or more semester hours). Academic and socioeconomic characteristics of the three groups included in this study appear in Chapter V in narrative and table form.

Analysis Procedures

The information obtained from the instruments used in this study was coded for transfer to punch cards and electronic computer analysis techniques. A number of descriptive tables and tabulations are included in Chapter V so that the characteristics, number and percentages of the three groups of the study may be adequately defined. The chi-square test has been used in this study when two nominal-scale variables have been cross-classified. According to Blalock,¹¹ the chi-square test is a very general test which can be used whenever we wish to evaluate whether or not frequencies which have been empirically obtained differ significantly from those which would be expected under a certain set of theoretical assumptions.

The dependent variables are by the nature of the study designed to be dichotomous i.e., persister versus non-persister and changer of

¹¹Hubert M. Blalock, Social Statistics (New York: McGraw-Hill Book Company, 1960), p. 212.

program of study versus non-changer. The least squares analysis of variance represents an extension of the difference-of-means test and was generally used whenever testing for a relationship between nominal (or higher order) scales and an interval scale. The basic assumptions of analysis of variance for this study are: (1) assumption of normality, (2) independent random samples, (3) equal population standard deviations, and (4) use of the null hypothesis that population means are equal. Index scores derived from Warner's Index of Status Characteristics and the TSCS have been assumed in the past to satisfy the assumptions required for analysis of variance. A difference at or beyond the .05 level of significance was considered sufficiently large to warrant rejection of the null hypotheses in this study.

The final statistical procedure used in this study was a step-wise-up least squares multivariate regression procedure. This technique was designed to account--in rank order fashion--for the variability of the dependent variable as it might be associated with variability of the selected independent variables under conditions of the study. Total accountable variability was also shown through the use of this procedure.

The .05 level of significance was used and thus there existed a five per cent chance of rejecting the null hypotheses when they were true. The formula for the regression equation assumed the form:

$$Y = a + b_1X_1 + b_2X_2 + \dots + b_kX_k.$$

Limitations of the Study

It will be noted from the listing of objectives in Chapter I that this research project was also designed to make a contribution of devising an instrument that successfully appraises social class standing of students at South Dakota State University. The obvious limitation which exists is that there may be developed more accurate instruments with greater possibilities for generalizing to other populations than was possible with the instruments used. Since only South Dakota State University students were used, further limits must be recognized when generalizing to other populations. The writer is hopeful that this initial contribution will lead to the use of this type instrument on various populations, for varying time intervals, and with greater sophistication of statistical techniques.

South Dakota State University is a land grant institution and as such differs in philosophy and admission standards from that of private colleges and universities. It is possible that greater similarity exists in academic characteristics among persisters, non-persisters and changers in a University that does not have an "open-door" admissions policy.

The persisting student population used for this study is recognized to be more representative of the freshmen and sophomore students at South Dakota State University. This may result in some generalizing limitations. Data collected previously on the types of groups included in the study indicated that comparability between groups would be enhanced if the groups were similar in college grade level.

Certain limitations are imposed on this study by the theoretical perspective and variables selected for study. Various personality and motivation factors were considered to be beyond the scope of an introductory type study. As a result of the literature reviewed and theoretical orientation, the socioeconomic variables were selected for this study. The number of variables that could be manipulated effectively and efficiently also entered into the selection of variables.

The number of cases within each socioeconomic level and their disproportionality among levels imposed limitations on the statistical analysis of the data. Analysis of data for possible interactions was thus limited. The dichotomous nature of the dependent variable of persistence versus non-persistence in college enrollment and changing versus not changing program of study placed limitations on statistical analysis.

Finally, the limitations imposed by the validity and reliability of the instruments used for the measurement of variables must be considered. The review of related studies and of the instruments used in these studies was of great assistance in determining the selection of the instruments to be used for this study. The instruments selected should impose no more serious limitations than that found in other research studies where human characteristics are measured.

CHAPTER V

ANALYSIS OF DATA

The purpose of this chapter will be to analyze the data and test the relationships stated in null hypothesis form. Tables included in the first part of Chapter V are descriptions of the three sample groups of the study (changers, withdrawers and persisters). Academic, social class and self concept data are presented in succeeding sections of this chapter.

General Description of Sample Groups

The number of South Dakota State University students in each of the three sample groups by college is presented in Table 4 on the next page. Appendix C contains the comparative change of college and withdrawal data for the two previous fall terms. The number of students changing college is not as large in the sample group as it is in the comparative data for previous school terms. Not all changes were considered changes of college for this study as was previously defined; however, all changes of college were included in tabulations for previous terms. For example, a change of college from Biology in the college of Agriculture to Biology in Arts and Science would have been included as a college change in the data for the fall terms of 1970 or 1971 but was not considered as a program change in this study.

TABLE 4.--NUMBER OF STUDENTS IN SAMPLE GROUPS BY COLLEGE OF ENROLLMENT

College of Initial Enrollment	Number Who Changed College		Number Who Withdrew Enrollment		Number Per- sisted in Enrollment		Total	
	No.	%	No.	%	No.	%	No.	%
Agriculture	16	10.60	21	23.08	59	23.05	96	19.28
Engineering	17	11.26	5	5.49	6	2.34	28	5.62
Arts and Science	26	17.22	25	27.48	90	35.15	141	28.32
Home Economics	5	3.31	9	9.89	31	12.11	45	9.04
Pharmacy	9	5.96	5	5.49	10	3.91	24	4.82
General Registration	66	43.70	16	17.58	41	16.02	123	24.69
Nursing	12	7.95	10	10.99	19	7.42	41	8.23
Total	151	100.00	91	100.00	256	100.00	498	100.00

There is a greater proportion of General Registration students included in this study than is found in the undergraduate University population. General Registration students are allowed to remain in that Division for only two years and must change college before their junior year. This requirement accounts for the disproportionate number of General Registration students in the changing college sample.

The grade level or class standing of the students in the sample groups is shown in Table 5. A greater number of students change college and withdraw from college at the freshman and sophomore class levels at

South Dakota State University. Combining the classes into lower and upper classmen (freshmen and sophomores into the lower and juniors and seniors in the upper group) reveals that the sample groups support this fact. Seventy-three per cent of the sample group who changed college were lower classmen, seventy-nine per cent of the persisters were lower classmen, and eighty-three per cent of the withdrawers were lower classmen. Approximately 75 per cent of the students that withdrew during the fall term of 1971-72 were lower classmen and 79 per cent of the students who changed college were lower classmen.

TABLE 5.--CLASS STANDING OF STUDENTS IN THE SAMPLE GROUPS

Class Standing	Number Who Changed College		Number Who Withdrew Enrollment		Number Persisted in Enrollment		Total	
	No.	%	No.	%	No.	%	No.	%
Freshmen	52	34.44	48	52.75	156	60.94	256	51.41
Sophomores	59	39.07	28	30.77	48	18.75	135	27.11
Juniors	35	23.18	9	9.89	37	14.45	81	16.26
Seniors	5	3.31	6	6.59	15	5.86	26	5.22
Total	151	100.00	91	100.00	256	100.00	498	100.00

The sex of the students who changed college, withdrew or persisted is shown in Table 6. The expected frequencies are included in parentheses in Table 6 and in the other tables when chi square analysis is used. The chi square value, degrees of freedom and probability of obtaining this chi square value at the .05 level are given immediately below Table 6. This procedure will be followed whenever the chi square test is used.

TABLE 6.--SEX OF STUDENTS WHO CHANGED COLLEGE, WITHDREW, OR PERSISTED

Sex of Student	Number Who Changed College	Number Who Withdrew Enrollment	Number Per- sisted in Enrollment	Total
Males	71 (73.1)	51 (44.0)	119 (123.9)	241
Females	80 (77.9)	40 (47.0)	137 (132.1)	257
Total	151	91	256	498

$$\chi^2 = 2.60$$

$$df = 2$$

$$P > .05$$

The null hypothesis of no relationship between male-female and changing college, withdrawing, or persisting can not be rejected at the .05 level.

The religion of the family and the occupation of parents of the students of the sample groups were obtained from the social class questionnaire. The tabulation of this information by sample groups appears in Appendix D.

Description and Analysis of Academic Variables

Table 7 presents the ACT composite score averages of the three sample groups. These data may be compared with the academic characteristics of students in these categories for the two previous terms by referring to Appendix C.

TABLE 7.--ACT COMPOSITE AVERAGE SCORES FOR STUDENTS IN SAMPLE GROUPS
BY COLLEGE OF ENROLLMENT

College of Enrollment	Changer Group		Withdrawal Group		Persister Group		Total	
	No.	Ave.	No.	Ave.	No.	Ave.	No.	Ave.
Agriculture	16	22.69	21	20.90	59	22.95	96	22.46
Engineering	17	24.53	5	24.00	6	25.67	28	24.68
Arts and Science	26	22.73	25	21.36	89	22.27	140	22.19
Home Economics	5	23.80	9	18.11	31	23.16	45	22.22
Pharmacy	8	25.75	5	23.20	10	24.40	23	24.61
General Registration	66	21.74	16	20.44	40	21.80	122	21.59
Nursing	12	21.58	10	23.20	18	23.89	40	23.03
Total/Ave.	150	22.60	91	21.22	253	22.74	494*	22.42

*ACT composite scores were not available for four students.

The null hypothesis of no difference in ACT composite scores between (1) the college persisters and withdrawers and (2) college changers of program and withdrawers can be rejected at the .05 level.

The difference in ACT composite scores between persisters and changers was not significant at the .05 level.

Sample Groups	<u>t</u> Values	Significance Level
Persisters and Withdrawers	2.895	$P < .01$
Changers and Withdrawers	2.442	$P < .02$
Persisters and Changers	.327	$P > .05$

The ACT composite scores were thus significantly lower for the withdrawal group. This finding is comparable to that of Summerskill¹ which is described on pages 29 and 30 in this study. In a review of nineteen studies, Summerskill found that scholastic aptitude scores when measured by standardized tests were generally lower for withdrawers.

The least squares analysis of variance was used for testing the relationship between (1) various academic characteristics and social characteristics and (2) changing program of study, withdrawing or persisting in enrollment. The academic characteristics included were the ACT composite scores, educational level of the father and educational level of the mother. The educational level of the father and educational level of the mother were not significantly associated with changing, persisting or withdrawing enrollment. The ACT composite score again was significant as shown in Table 8 on the next page.

¹Summerskill, "Dropouts From College," pp. 634-35.

TABLE 8.--LEAST SQUARES ANALYSIS OF VARIANCE OF RELATIONSHIP BETWEEN ACT COMPOSITE SCORES AND CHANGERS, PERSISTERS AND WITHDRAWERS

Source	DF	Sum of Squares	Mean Squares	F Ratio
Total	467	8553.202991		
Between	2	191.668901	95.834451	5.330
Within	465	8361.534090	17.981794	P < .01

The least squares analysis of variance was also used for testing the relationship between ACT composite scores and social class standing. The null hypothesis of no relationship could not be rejected at the .05 level.

The null hypotheses of no differences in GPA among (1) college persisters and withdrawers, (2) college changers of program and withdrawers, and (3) college persisters and changers could be rejected at the .05 level as shown below:

Sample Groups	t Values	Significance Level
Persisters and Withdrawers	5.125	P < .001
Changers and Withdrawers	3.250	P < .01
Persisters and Changers	2.500	P < .02

The review of literature included in Chapter II on academic factors and withdrawal served to make us cognizant of the multivariate

explanations that now abound in this area. Students withdrawing from South Dakota State University are not experiencing the academic success that the persisters and non-changers do. It is interesting to note in Table 9, however, that the GPA of the withdrawer group is still above a 2.00 ("C" average). Non-academic factors must also be considered when examining the reasons for withdrawal from college.²

TABLE 9.--GRADE POINT AVERAGE FOR STUDENTS IN SAMPLE GROUPS BY COLLEGE OF ENROLLMENT

College of Enrollment	Changer Group		Withdrawal Group		Persister Group		Total	
	No.	Ave.	No.	Ave.	No.	Ave.	No.	Ave.
Agriculture	16	2.56	18	2.08	59	2.51	93	2.43
Engineering	17	2.30	5	1.85	6	2.69	28	2.31
Arts and Science	26	2.34	19	2.36	90	2.60	135	2.51
Home Economics	5	2.77	5	1.72	31	2.83	41	2.69
Pharmacy	9	2.50	3	2.89	10	2.69	22	2.64
General Registration	66	2.51	10	2.15	41	2.49	114	2.47
Nursing	12	2.10	7	2.27	19	2.58	38	2.37
Total/Ave.	151	2.44	67	2.18	256	2.59	474	2.48

²The reader is invited to refer back to pages 24 to 34 of this study for the various factors reviewed as they relate to college persistence.

Tables 10 and 11 respond to the research hypothesis number seven in Chapter III. Stating this research hypothesis in null hypothesis form and as two separate hypotheses, they appear as follows:

H_0 - There is no relationship between having a full-time, part-time, or no high school counselor and changing program of study, withdrawing from or persisting in college enrollment.

H_0 - There is no relationship between size of high school graduating class and changing program of study, withdrawing, or persisting in college enrollment.

These two null hypotheses cannot be rejected at the .05 level as is shown in Tables 10 and 11. It is interesting to note the very small difference obtained between the observed and expected frequencies in these tables. Evidently there are quite a number of factors that have contributed to this successful high school performance. Size of high school graduating class and having a high school counselor or not may be only a small part of the total picture.

This finding of no significant relationship among the high school factors described in the null hypotheses above and changing college, persisting or withdrawing enrollment is also not too surprising if examined through the perspective of reference group theory. The enrolled students have already established identification with multiple college groups as both normative and comparative reference groups. Students coming from small high schools are able today to prepare themselves for college by selecting appropriate referent individuals and groups and thereby acquiring some perception of attitudes and values compatible

with success in college. These referent groups may also serve to supplement the role of the high school counselor who has some responsibility for preparing high school students for their college roles.

TABLE 10.--RELATIONSHIP BETWEEN HAVING A FULL-TIME, PART-TIME OR NO HIGH SCHOOL COUNSELOR AND CHANGING PROGRAM OF STUDY, WITHDRAWING FROM OR PERSISTING IN COLLEGE ENROLLMENT

Did You Have A High School Counselor?	Number Who Changed College	Number Who Withdrawn Enrollment	Number Per- sisted in Enrollment	Total
Yes	93 (93.4)	53 (56.3)	162 (158.3)	308
Part-Time Counselor	39 (42.1)	31 (25.4)	69 (71.5)	139
No	19 (15.5)	7 (9.3)	25 (26.2)	51
Total	151	91	256	498

$$\chi^2 = 3.24$$

$$df = 4$$

$$P > .05$$

TABLE 11.--RELATIONSHIP BETWEEN SIZE OF HIGH SCHOOL GRADUATING CLASS AND CHANGING PROGRAM OF STUDY, WITHDRAWING, OR PERSISTING IN COLLEGE ENROLLMENT

Size of High School Graduating Class	Number Who Changed College	Number Who Withdrew Enrollment	Number Persisted in Enrollment	Total
Fewer than 25	14 (12.1)	3 (7.3)	23 (20.6)	40
25 to 99	68 (71.6)	46 (43.1)	122 (121.3)	236
100 to 399	42 (42.2)	28 (25.4)	69 (41.4)	139
400 or more	27 (25.1)	14 (15.2)	42 (42.7)	83
Total	151	91	256	498

$$\chi^2 = 4.09$$

$$df = 6$$

$$P > .05$$

Table 12 is a tabulation of the number and percentage of fathers and mothers at the educational levels included on the questionnaire. The largest percentage difference is at the eighth grade education or less level with more fathers than mothers at this level. The second largest difference is at the college or university graduate level with more mothers than fathers represented at this level.

TABLE 12.--EDUCATIONAL LEVEL OF FATHER AND MOTHER OF STUDENTS INCLUDED IN THE SAMPLE GROUPS

Educational Level	Father		Mother	
	No.	%	No.	%
Eighth Grade Education or Less	89	18.1	33	6.6
Some High School But Didn't Graduate	48	9.7	26	5.2
Graduated From High School	173	35.0	203	40.9
Went to Vocational or Technical School	23	4.7	48	9.7
Some College or Univ. But Didn't Graduate	73	14.8	86	17.3
College or University Graduate	54	11.0	90	18.1
Graduate Degree (M.A., Ph.D., etc.,)	33	6.7	11	2.2
Total	493	100.0	497	100.0

The educational level the students desired to attain within ten years was included in the questionnaire. The null hypothesis of no difference in educational aspirations among students who changed college, withdrew or persisted in enrollment can be rejected at the .05 level

using the chi square analysis. Table 13 presents the obtained and expected frequencies of educational aspirations of the three sample groups.

TABLE 13.--EDUCATIONAL ASPIRATIONS OF STUDENTS CHANGING PROGRAM OF STUDY, WITHDRAWING, OR PERSISTING IN COLLEGE ENROLLMENT

Educational Level	Changer Group	Withdrawal Group	Persister Group	Total
Some College, But Didn't Graduate	6 (8.7)	10 (4.6)	12 (14.7)	28
College or Univ. Graduate	106 (102.7)	58 (54.5)	167 (173.8)	331
Graduate Degree (M.A., Ph.D.,)	35 (35.6)	10 (18.9)	70 (60.5)	115
Total	147	78	249	474

$$\chi^2 = 13.98$$

$$df = 4$$

$$P < .01$$

The persister group aspired to obtaining a college degree or advanced degree more frequently than was expected. The withdrawer group did not aspire to obtaining these degree levels as frequently as would be expected. Students who withdraw from the University have no doubt experienced some disillusionment with respect to educational goals which is reflected in their educational aspirations.

The finding that students aspired to higher educational levels than their parents was not surprising. The research of Hodges³ and Kahl⁴

³Hodges, Social Stratification, p. 249.

⁴Kahl, The American Class Structure, p. 263.

reviewed in Chapter II presented similar results. The middle social classes typically contain a familial structure and value system conducive to a high level of educational and occupational aspirations. Seventy-nine per cent of the students included in the sample groups came from middle class homes (social classes III and IV).

Reference group theory is also of assistance in explaining the disparity between educational aspirations of students who withdraw enrollment and those students who persist in enrollment. Frequently the student thinks about withdrawing for some time before actually doing so. The peer groups that at one time served as a positive reference group may become a negative type of reference group. Numerous withdrawing students are actually antagonistic towards higher education at the time of their withdrawal. The negative reference group concept postulated by Newcomb⁵ helps us better understand the affective tone and content of the individual's attitudes.

Some additional data pertaining to the analysis of academic variables appears in the last section of this chapter. This final chapter section is the description of the results obtained through the utilization of the step-wise least squares multiple regression procedure as defined in Chapter IV.

Description and Analysis of Social Class Variables

A tabulation of students by college by three social class

⁵Newcomb, Personality and Social Change, pp. 374-86.

levels is shown in Table 14. Class designations I and II derived from the writer's revision of the Warner Scale were combined to form the Upper Class for this table; classes III and IV were combined to form the Middle Class; and classes V, VI and VII were combined for the Lower Class. The chi square analysis was used to test the null hypothesis of no relationship between social class level and college of enrollment. It was not possible to reject this null hypothesis at the .05 level.

TABLE 14.--NUMBER OF UPPER, MIDDLE AND LOWER SOCIAL CLASS STUDENTS ENROLLED BY COLLEGE OF THE UNIVERSITY*

College	Upper Class	Middle Class	Lower Class	Total
Agriculture	7 (9.4)	80 (75.4)	9 (11.2)	96
Engineering	0 (2.8)	26 (22.0)	2 (3.2)	28
Arts and Science	18 (13.9)	103 (110.6)	20 (16.5)	141
Home Economics	5 (4.4)	32 (35.4)	8 (5.2)	45
Pharmacy	2 (2.4)	20 (18.8)	2 (2.8)	24
General Registration	11 (12.1)	98 (96.6)	14 (14.3)	123
Nursing	6 (4.0)	32 (32.2)	3 (4.8)	41
Total	49	391	58	498

$$\chi^2 = 11.88$$

$$df = 12$$

$$P > .05$$

*Classes combined to avoid numerous empty cells for chi square analysis.

The distribution of students into Classes I through VII as they were derived from the writer's revision of the Warner Scale is shown in

Table 15. The average social class for all the students included in the study was nearly midway between Class III and IV (3.48) with little variation in averages from one college to another. Seventy-nine per cent of the students come from homes in the Class III and IV category.

TABLE 15.--NUMBER OF STUDENTS IN EACH SOCIAL CLASS BY COLLEGE OF THE UNIVERSITY AND AVERAGE SOCIAL CLASS STANDING OF STUDENTS IN EACH COLLEGE

College	Class I	Class II	Class III	Class IV	Class V	Class VI	Class VII	Total (Ave.)
Agriculture	0	7	45	35	9	0	0	96 (3.48)
Engineering	0	0	15	11	2	0	0	28 (3.54)
Arts & Science	1	17	53	50	20	0	0	141 (3.50)
Home Economics	0	5	16	16	6	1	1	45 (3.67)
Pharmacy	0	2	13	7	2	0	0	24 (3.38)
General Reg.	0	11	58	40	13	1	0	123 (3.47)
Nursing	0	6	21	11	3	0	0	41 (3.27)
Total	1	48	221	170	55	2	1	498 (3.48)

The number and percentage of families found at the various interval levels of the social class variables listed below are presented in table form in Appendix D. They are as follows:

1. Student Estimate of Family Income Level
2. Size of Community of Parent Residence
3. Student Estimate of Class Standing of Parents
4. Student Comparison of Income of Parents to Others
5. Student Estimate of Value of Home Compared to Others

The least squares analysis of variance was used for testing the null hypotheses of no relationship among selected social class variables and changing college, withdrawing, or persisting in enrollment. The null hypotheses of no relationship for all the social class variables entered could not be rejected at the .05 level. These variables were as follows:

1. Educational level of the father
2. Educational level of the mother
3. Family income level as estimated by the student
4. Size of community of residence of parents
5. Subjective estimate of class standing of parents
6. Father's social class level as determined by the Minnesota Scale For Paternal Occupations
7. Market value of home as estimated by the student
8. Class standing of friends of the family
9. Class standing as ascertained by revision of Warner's Scale
10. Comparison of family income to other incomes in the community

The variable that most nearly approached being significant at the .05 level was the comparison of family income to other incomes in the community (no. 10 on list above) and changing, withdrawing or persisting in enrollment.

The review of literature had indicated that socioeconomic factors do not consistently show a relationship to college persistence. Research indicating some relationships between the occupation of father and college persistence was reported by Summerskill⁶ and Marsh.⁷ This relationship was not supported by the findings of this study. The

⁶Summerskill, "Dropouts From College," p. 637.

⁷Marsh, "College Drop-outs," p. 477.

correlation matrix contains very small correlations among changing college, withdrawing or persisting and the other social variables.

The least squares analysis of variance was also used for testing the null hypotheses of no relationship between selected social class variables and class standing as determined by the revision of Warner's Index of Status Characteristics (WISC). The null hypotheses could be rejected at the .001 level for the variables listed below:

1. Education of father
2. Family income level as estimated by the student
3. Student estimate of class standing of parents
4. Comparison of family income to other incomes in the community
5. Father's social class level as determined by the Minnesota Scale For Paternal Occupations
6. Market value of home as estimated by the student
7. Class standing of friends of the family

The tables which show the sum of squares, mean squares and F ratio for these variables and the correlation matrix is in Appendix D.

The null hypothesis of no relationship between social class as determined by WISC and education of mother can be rejected at the .01 level. The table showing the sum of squares, mean squares and F ratio for this variable is also presented in Appendix D.

Null hypotheses of no relationship between subjective and objective estimates of social class and WISC social class designations can then be rejected at the .001 or .01 level. The phenomenological theories are of great assistance in explaining the apparent subjective aspect of social class designations. What a person believes about himself is partly a function of his interpretation of how others see him. Table 16 is a tabulation of the overall means, standard deviations and correlations of these social class variables.

TABLE 16.--OVERALL MEANS, STANDARD DEVIATIONS AND CORRELATIONS OF
SUBJECTIVE AND OBJECTIVE ESTIMATES OF SOCIAL CLASS AND
WARNER'S INDEX OF STATUS CHARACTERISTIC CLASS DESIGNATIONS

Social Class Variable	Overall Mean	Standard Deviation	Correla- tion
Education of Father	3.46368	1.79720	.39
Education of Mother	3.85256	1.52132	.18
*Student Estimate of Family Income	3.50427	1.47861	.45
Size Community of Parent's Residence	3.15598	2.12843	.03
*Student Est. Parent's Social Class	3.42308	0.86847	.45
*Comparison Parent's Income to Others	3.37821	1.07339	.47
Father's Occupation (MSOP)	3.61752	1.19648	.47
*Market Value Home Compared to Others	3.46368	1.08364	.48
Class Standing of Friends of Family	3.41667	0.90885	.37

*Subjective estimates of parent's level by the student.

The writer's revision of Warner's Index of Status Characteristics (WISC) yielded an overall mean of 3.49786 and a Standard Deviation of 0.88451.

There was little variation among these three measures (subjective, objective and WISC) as previously stated. The correlations listed in Table 16 are not as high as would be expected in relationship to the ability to use significance levels of .001 to reject null hypotheses of no relationship. The ratio of between variance to within variance is very comparable when using any of these three measures. However, the measure of individual class designation

arrived at by one type of measure i.e., subjective measure, compared with the individual class designation derived from the WISC, shows enough variability to yield correlations ranging only from .03 to .48. Additional discussion of the use of subjective, objective or WISC will be presented in the last section of this chapter under "Step-Wise Multiple Regression Procedures."

Students in the three sample groups were asked to list the occupation they desired to be pursuing ten years from the present. The occupations listed were scaled into classes using the Minnesota Scale For Paternal Occupations (MSOP). Table 17 presents the observed and expected frequencies for the chi square analysis used to test the null hypothesis of no difference in occupational level aspirations among changer, withdrawer, or persister groups. This null hypothesis can be rejected at the .01 level. Students in the withdrawer group did not aspire to the Class I and II levels as frequently as would be expected whereas the changers and persisters aspired to Class I and II occupations more frequently than expected.

Parents of the students in the three sample groups were scaled into classes using the MSOP as were the students. Note the differences shown in Table 18 between the average class level of the parents in the three groups and the class level aspired to by the students. This data compares to the findings of Kahl⁸ reported in Chapter II on occupational mobility of offspring.

⁸See the discussion of occupational mobility pages 20-22.

TABLE 17.--OCCUPATIONAL ASPIRATION CLASS LEVEL OF STUDENTS CHANGING,
WITHDRAWING OR PERSISTING IN ENROLLMENT

Class Level of Occupation	Changer Group	Withdrawer Group	Persister Group	Total
Class I	15 (10.6)	3 (5.7)	16 (17.7)	34
Class II	52 (54.0)	20 (29.0)	102 (91.0)	174
Class III	60 (60.5)	37 (32.5)	98 (102.0)	195
Class IV	9 (9.3)	10 (5.0)	11 (15.7)	30
Class V	0 (1.6)	3 (.8)	2 (2.6)	5
Total	136	73	229	438

$$\chi^2 = 22.45$$

$$df = 8$$

$$P < .01$$

TABLE 18.--COMPARISON OF AVERAGES OF CLASS LEVEL OF PARENTS AND
ASPIRATION CLASS LEVEL OF STUDENTS IN CHANGER, WITHDRAWER
AND PERSISTER SAMPLE GROUPS

Occupational Class Level	Changer Group	Withdrawer Group	Persister Group
Parent Class Level	3.68	3.42	3.61
Student Aspired Class Level	2.45	2.86	2.47
Difference In Class Level	1.23	.56	1.14

The null hypothesis of no difference between occupational level of parents and student occupational aspiration for the three sample groups can be rejected at the .05 level. The data below is a tabulation of the three sample groups for the t values obtained and significance level for rejection of null hypotheses.

Sample Groups	t Values	Significance Level
Withdrawers - Parents vs Students	2.865	P .01
Changers - Parents vs Students	3.289	P .01
Persisters - Parents vs Students	12.105	P .001

Description and Analysis of Self Concept Variables

The least squares analysis of variance was used to test the null hypotheses of no difference of self concept between persisters and non-persisters in college attendance and between changers and non-changers of academic program. As will be noted in Table 20, it is not possible to reject the null hypotheses of no differences at the .05 level for any of the self concept variables included in the study except for Column B (Moral-Ethical Self).

The sum of squares, mean squares and F ratio for Moral-Ethical Self and withdrawing, changing or persisting are shown in Table 19. This moral-ethical frame of reference (especially the feelings of being a "good" or "bad" person) may temporarily fluctuate when a student withdraws or changes college. It would appear, however, that the self concept as measured by the TSCS is little influenced by changing college or withdrawing from the University.

TABLE 19.--LEAST SQUARES ANALYSIS OF VARIANCE OF RELATIONSHIP BETWEEN CHANGERS, PERSISTERS AND WITHDRAWERS AND MORAL-ETHICAL SELF CONCEPT SCORE

Source	DF	Sum of Squares	Mean Squares	F Ratio
Total	467	28446.145299		
Between	2	472.163904	236.081952	3.924
Within	465	27973.981395	60.159100	P < .05

The least squares analysis of variance was used to test the null hypotheses of no difference in self concept among students of various social class levels. Table 21 is a listing of these variables, F ratio obtained and level of significance.

The "social self" found to be significant at the .01 level is the "self as perceived in relation to others" category. According to the description of this TSCS scale included in Appendix B, this variable refers to "others" in a more general way. It reflects the person's sense of adequacy and worth in his social interaction with other people in general.

This view of self is compatible with the discussion of the theories of George Herbert Mead⁹ presented in Chapter III. Since there is a substantial subjective evaluation involved in one's concept of social class, this significant relationship between social class level

⁹Mead, Mind, Self and Society, pp. 68-69.

TABLE 20.--SELF CONCEPT VARIABLE OVERALL MEANS, STANDARD DEVIATION AND F RATIOS OBTAINED IN
LEAST SQUARE ANALYSIS OF VARIANCE WITH PERSISTER, CHANGER AND WITHDRAWER SAMPLE GROUPS

Self Concept Variable	Overall Mean	Standard Deviation	<u>F</u> Ratio	Significance Level*
Self Criticism	36.41667	5.57636	0.408	n.s.
Total Positive Score	333.84402	21.45704	1.281	n.s.
"What he is"	122.49145	10.62813	0.415	n.s.
"How he feels about himself"	103.16026	14.29986	1.750	n.s.
"What he does"	108.19444	10.74578	1.741	n.s.
Physical Self	68.23932	7.50805	0.167	n.s.
Moral-Ethical Self	66.76496	7.80465	3.924	.05
Personal Self	63.78632	7.89934	0.453	n.s.
Family Self	69.07051	8.73996	0.857	n.s.
Social Self	65.98932	7.56569	0.983	n.s.
Total Variability Score	44.96154	12.05104	1.654	n.s.
Total Distribution Score	103.85897	24.58254	0.235	n.s.

*An F ratio of 2.99 or greater was needed to be significant at the .05 level.

TABLE 21.--LEAST SQUARES ANALYSIS OF VARIANCE F RATIOS AND LEVELS OF SIGNIFICANCE OBTAINED BETWEEN SOCIAL CLASS AND SELECTED TSCS SELF CONCEPT VARIABLES

TSCS Self Concept Variable	<u>F</u> Ratio	Significance Level*
Self Criticism	0.869	n.s.
Total Positive Score	2.055	n.s.
"What he is"	2.101	.05
"How he feels about himself"	1.225	n.s.
"What he does"	2.116	.05
Physical Self	0.546	n.s.
Moral-Ethical Self	0.632	n.s.
Personal Self	2.079	n.s.
Family Self	2.554	.05
Social Self	2.875	.01
Total Variability Score	0.648	n.s.
Total Distribution Score	1.510	n.s.

*An F ratio of 2.09 or greater was needed to be significant at the .05 level and an F ratio of 2.80 or greater at the .01 level.

and social self is not too surprising. Stouffer¹⁰ emphasized that self-appraisal is dependent on the reference group which one employs as a point of social comparison. Additional research is needed to determine the extent and direction of the self concept differences among the various class levels and more importantly, the causes for these variations.

The individual's basic identity (what he is as he sees himself); the individual's perception of his behavior; and the individual's feelings of adequacy, worth and value as a family member vary sufficiently among the various social classes of this study to be significant at the .05 level. As shown in Table 21, the Total Positive Score (reflection of the overall level of self esteem) and the Personal Self Score (reflection of the individual's sense of personal worth) were very close to being significant at the .05 level. Again this variation from social class to social class with these phenomenologically related self concept variables must be examined in greater detail in future research.

Results of Step-Wise Multiple Regression Procedures

The final statistical procedure used in this study was a step-wise least squares multiple regression procedure. Eleven independent variables were entered into the multiple regression procedure to predict the dependent variable of persisting, changing or

¹⁰Stouffer, The American Soldier, Vol. 1.

withdrawing enrollment.¹¹ Through the step-wise process of multiple regression analysis, the variables were ranked in final form as follows:

Variable Number Rank	Variable Number	Variable Name	Sum of Squares Reduced*	R ²
1)	X ₁₁	ACT Composite Score	2.586	.108
2)	X ₁	Education of Father	1.650	.139
3)	X ₁₂	Total Positive Score	1.259	.158
4)	X ₃	Student Est. Family Income	0.250	.162
5)	X ₇	Comparison Value of Home to Others	0.193	.164
6)	X ₆	Father's Occupation (MSOP)	0.126	.166
7)	X ₈	Occupation Family Friends	0.112	.168
8)	X ₅	Student Est. Parent's Class Standing	0.110	.169
9)	X ₁₀	Social Class Standing (WISC)	0.019	.169
10)	X ₂	Education of Mother	0.012	.170
11)	X ₄	Size Home Community	0.001	.170

*A reduction in sum of squares of 1.811 or more is required to be significant at the .05 level.

Only the first variable (ACT Composite Score) reduced the sum of squares significantly at the .05 level. A coefficient of multiple correlation (R^2) was also computed and served as an indication of common factor variance. The R^2 of the significant variable (ACT composite score) was .108 and the R^2 for all eleven variables entered was only .170.

The final regression equation yielding, through the step-wise

¹¹Blalock, *Social Statistics*, p. 275. (Hereafter X refers to the independent variable and Y refers to the dependent variable.)

or iterative process, an R^2 of .108 is stated as:

$$Y = 2.27459 + 0.01740 (X_{11})$$

The social class variables entered into the multiple regression procedure do little in the way of enabling the prediction of persisting, changing or withdrawing enrollment. Academic variables (GPA and ACT composite scores) as previously discussed on pages 93 - 95 appears to hold much more promise in this respect at South Dakota State University.

Ten independent variables were also entered into the multiple regression procedure to predict the dependent variable of social class standing. Through the step-wise process of multiple regression analysis, the variables were ranked in final form as follows:

Variable Number Rank	Variable Number	Variable Name	Sum of Squares Reduced*	R^2
1)	X7	Comparison Value of Home to Others	79.108	.482
2)	X6	Father's Occupation (MSOP)	55.883	.629
3)	X5	Student Est. Parent's Class Standing	17.649	.669
4)	X3	Student Est. Family Inc.	11.012	.693
5)	X8	Occupation Family Friends	1.984	.697
6)	X4	Size Home Community	1.881	.701

7)	X1	Education of Father	1.408	.704
8)	X2	Education of Mother	0.860	.706
9)	X11	ACT Composite Score	0.475	.707
10)	X12	Total Positive Score	0.119	.707

*A reduction in sum of squares of 1.442 or more is required to be significant at the .05 level.

The independent variables above the broken line reduced the sum of squares sufficiently at the .05 level to be significant. Both subjective and objective estimates of social class are included in the

list of significant variables in predicting social class as ascertained by the writer's revision of Warner's Index of Status Characteristics.

The multiple correlation coefficients are also shown in the ranking of variables. The independent variable of "Comparison of Market Value of Home to Others" (X_7) appearing in position one (1) contributed over half of the total R^2 of .707. Surprisingly the Education of Father (X_1) and Education of Mother (X_2) contributed very little to the total R^2 and did not appear as significant variables. Some measures of social class rely heavily on the education of father in assessing social class as was indicated in Chapter II.

The academic and self concept variables included in the step-wise multiple regression procedure were at the bottom of the hierarchical order of independent variables. These results are consistent with the previous findings obtained with the least squares analysis of variance.

The final regression equation yielding, through the step-wise or iterative process, an R^2 of .701 is stated as:

$$Y = 0.43344 + .21223 (X_7) + .21195 (X_6) + .19439 (X_5) + .12128 (X_3) + .10814 (X_8) + .03342 (X_4)$$

CHAPTER VI

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Colleges attract diverse groups of students and there is a need for greater congruence between institutional planning and this range of student differences. Students differentially select themselves into--and are selected differentially by--different kinds of colleges. Socioeconomic and academic factors have been reviewed as important aspects of this selectivity.

Relationships between (1) socioeconomic, academic, and self concept variables and (2) college persistence and stability of program choice were investigated in this study. Data collected over several previous terms at South Dakota State University indicate that changes in program of study and college withdrawal are significant areas of concern at this institution. Academic characteristics of the students had been appraised for some time; however, little social class data had previously been collected.

The writer's revision of Warner's Index of Status Characteristics (WISC) and the Tennessee Self Concept Scale (TSCS) were given in a pretest. With minor revisions these two instruments were used in this study to collect socioeconomic and self concept data on the three sample groups (changers, persisters, and withdrawers). Students who changed college or withdrew their enrollment during the 1972 Fall term completed the WISC and TSCS when they reported to Student Services to

complete the change or withdrawal forms. A stratified random sample of students who persisted and had not changed their program of study comprised the third sample group in the study.

This research was centered around the view of the self as a phenomenal self. The individual was seen as behaving according to how he perceived the situation and himself at the moment of his action. This phenomenological position, as summarized by Labenne,¹ places great emphasis on social relationships and action as a developer of the self concept.

Reference group theory is one systematic approach used to deal with the problem of the concept of the self as it is influenced by groups in the social environment. A succinct statement of the theoretical orientations presented in Chapter III is supplied to us by Kelley² when he says, "the attitudes a person holds depend in part upon his social contacts and particularly upon the groups in which he holds membership." The review of literature in Chapter II supported the viewpoint that the value system, perception of society in general, and life style are influenced by one's social class standing.

Hyman,³ and particularly Newcomb,⁴ explored the ways in which social organization affected the selection of reference groups.

¹Labenne, Self Concept Theory, pp. 7-8.

²Kelley, "Group Anchored Attitudes," p. 297.

³Sherif and Cantril, The Psychology of Ego-Involvements, pp. 137-38.

⁴Newcomb, Personality and Social Change, pp. 374-86.

Problems centered about this phenomenon of orientation to non-membership groups constitute some of the distinctive concerns of reference group theory. Research by Stouffer⁵ reviewed in Chapter III dealt with the problems raised by multiple group affiliations and multiple reference groups. Merton,⁶ one of the leading proponents of reference group theory as theories of the middle range, developed the concept of anticipatory socialization to help explain the behavior of the individual who is preparing for future statuses in his status-sequence.

The review of literature and theoretical orientation supported the contention that the individual identifies himself to some degree with those individuals and groups that have been influential in shaping his expectations. This study was particularly concerned with those attitudes, behavior patterns and styles of life of social classes which reflect implications for college student decisions that pertain to college persistence and stability of program choice.

Nearly 80 per cent of the students included in the three sample groups came from social class levels of Class III and IV (middle social classes). This average class standing was obtained from the writer's revision of the WISC as well as by the various subjective and objective estimates of class included in the evaluation instrument. The representation from the extreme upper and lower classes was somewhat less

⁵Stouffer, The American Soldier, Volume 1.

⁶Merton, Social Theory and Social Structure, pp. 39-59.

than had been anticipated from the review of literature. There is apparently very little difference in average social class level by college at South Dakota State University. Farming or ranching was the most frequently listed occupation of parents of the student sample groups.

The remaining summary of findings of this study are presented in conjunction with the research hypotheses derived from the review of literature and theoretical orientations stated on page 77 in Chapter III.

Hypothesis I

Three separate estimates of social class standing of the parents of the students included in the samples were obtained. The correlation between the three estimates and changing program of study, persisting, or withdrawing enrollment were as follows:

- .03 Negative correlation between changing, persisting, withdrawing and subjective estimate of class standing. (This was the student estimate of parent social class standing.)
- .07 Negative correlation between changing, persisting, withdrawing and objective measures of class standing. (Father's occupation scaled to social class with the use of the Minnesota Scale of Paternal Occupations.)
- .04 Negative correlation between changing, persisting, withdrawing and the writer's revision of the WISC.

The step-wise multiple regression procedure revealed that the amount of the sum of squares reduced by the above listed social class measures added together was only .255 of the total of 219.769 sum of squares. For purposes of this analysis, a reduction in the sum of squares

of 1.811 was required to be a significant reduction at the .05 level. The academic variables entered contributed a still smaller reduction of sum of squares in the multiple regression procedure.

Hypothesis II

Significant relationships at the .001 or .01 level were found between (1) the student subjective estimates of class standing, family income, and value of home, and (2) objective measures of education of father, education of mother, father's occupation, and occupation of friends of the family. The correlations ranged from .18 to .53. These results are comparable to those obtained by Centers⁷ reported in Chapter II. Clear-cut relationships between subjective and objective estimates were found but the correlations were far from perfect ones.

Students did experience some difficulty supplying an estimate of family income on the social class evaluative instrument. The subjective estimates of class standing and value of home presented less difficulty as these two estimates were presented in such manner that students were using comparisons (comparison of home or class standing to others in the community). Subjective estimates placed more families in the Class I and II categories than did the writer's revision of the WISC.

Hypothesis III

Social class variables included in this study were not found to be significantly related to (1) college persistence and (2) stability of program choice. The largest correlation obtained was at .08 between

⁷Centers, Psychology of Social Classes, p. 224.

education of father and college persistence, withdrawing or stability of program choice. The results of the step-wise multiple regression analysis would rule out this use of the social class variables of the study to predict persistence or withdrawal from South Dakota State University.

Several significant relationships between such socioeconomic variables as education of parents, occupation of father and social class standing were reported in the review of literature. The results of the writer's study were similar to those reported by Goldstein⁸ for Brown University.

Nearly 28 per cent of the fathers included in the sample had not completed a high school education whereas only 12 per cent of the mothers did not have a high school education. At the advanced degree level (M.A., Ph.D., etc.) more fathers than mothers were represented at a ratio of 6.7 per cent to 2.2 per cent. In general, the mothers of students at South Dakota State University had completed a higher level of education than did the fathers.

Hypothesis IV

The average ACT composite score for students withdrawing from South Dakota State University (21.22) was significantly lower (at the .01 level) than the average of the students included in the study who persisted in enrollment (22.74). Withdrawing students also had

⁸Goldstein, "Effects of Social-Class Background," pp. 97-99.

significantly lower average ACT composite scores (at the .02 level) than did the students included in the study who changed college (average ACT composite 22.60). The difference in average ACT composite scores between changers and persisters was not significant at the .05 level.

A negative correlation of $-.11$ was found between ACT composite scores and changing, persisting or withdrawing enrollment. ACT composite scores (the only variable found to be significant at the .05 level) entered into the step-wise multiple regression procedure to predict changing, persisting, or withdrawing enrollment. The multiple factor explanation of Wiseman⁹ presented in the review of literature appears to be applicable at South Dakota State University since ACT composite scores alone accounted for such a small reduction of sum of squares (.108). Social class variables contributed negligibly to this reduction of sum of squares.

These ACT findings were remarkably similar to those obtained by Hofland¹⁰ in his change of major study of 1967. He, of course, studied changes of major at South Dakota State University which may or may not be similar to a change of college.

Cumulative grade averages (GPA's) differed significantly at the .001 level between persisters (average GPA of 2.59) and withdrawers (average GPA of 2.18) for the students included in the samples. Withdrawing students also had significantly lower (at the .01 level) average

⁹Wiseman, Education and Environment, p. 174.

¹⁰Hofland, "Choosing a Major at South Dakota State University," pp. 81-83.

GPA's than did changers of program (average GPA of 2.44). This difference in GPA's between persisters and changers was significant at the .01 level.

Results of this study would not warrant a report such as that made by Bradley¹¹ and Brass¹² in which they stated that "one of the major reasons students change their curricula is due to poor grades." It must be noted that seventy-three to eighty-three per cent of the students in the sample groups were lower classmen. The average GPA earned by students withdrawing was well above the level required to avoid academic suspension from South Dakota State University.

Hypothesis V and VI

The association between the various self concept variables of the TSCS included in the study and (1) changing, persisting or withdrawing enrollment and (2) social class standing, was for the most part not significant at the .05 level. Only the self concept variable of Moral-Ethical Self (Column B) was significantly related to changing, persisting or withdrawing enrollment at the .05 level.

The Total P score is the single most important TSCS score reflecting the overall level of self esteem. This self concept variable was entered into the step-wise multiple regression procedure and did not significantly reduce the sum of squares at the .05 level.

¹¹Bradley, "Variables Relating to Student's Persistence," p. 57.

¹²Brass, "Changing Schools Within Purdue University," pp. 79-84.

Research by Harrington¹³ and Brookover¹⁴ reviewed in Chapter II elicited expectations of finding more numerous significant associations between TSCS variables and changing, persisting, or withdrawing enrollment.

The least squares analysis of variance was used to test the null hypothesis of no difference in the various self concept variables of the study among students of the various social class levels. The two null hypotheses of no relationship between social class and Row 1 (Identity--"What I Am") and Row 3 (Behavior--"The Way I Act") were rejected at the .05 level. Also, two hypotheses of no difference in the TSCS variables of Column D (Family Self) and Column E (Social Self) and social class were rejected at the .05 and .01 level, respectively.

The TSCS research reviewed in Chapter II presented few findings of a conclusive nature or of the nature to show significant relationships between socioeconomic variables and TSCS scales. With respect to the results described above, it is interesting to examine in greater detail those scales which yielded the significant relationships with social class. First, the "Family Self" score reflects one's feelings of adequacy, worth and value as a family member. It refers to the individual's perception of self in reference to his closest and most immediate circle of associates. Second, the "Social Self" is another "self as perceived in relation to others" category but pertains to "others" in

¹³Harrington, "Self Concepts of Air Force Officers," pp. 56-57.

¹⁴Brookover, "Self Concept of Ability," pp. 278-79.

a more general way. It reflects the person's sense of adequacy and worth in his social interaction with other people in general. Finally, the decisions required to arrive at a social class designation on the writer's revision of the WISC may very well impart a subjective element to the social class designation. The writer had aspired to a goal of measuring social class as objectively as possible without the complete elimination of the subjective aspect. Should additional research confirm a consistent relationship between phenomenologically designed TSCS scales and the writer's revision of the WISC, this aspiration will have been realized.

Hypothesis VII

College persistence and stability of program choice was not significantly related at the .05 level in this study to:

1. Size of student's high school graduating class
2. Size of community of parent's residence
3. Having a high school counselor or not

A correlation of .02 was obtained between size of community and changing, persisting, or withdrawing enrollment. The largest correlation yielded by size of community was at .34 when correlated with the occupational level of parents' friends.

Conclusions

Social class standing of students at South Dakota State University was not found to be significantly related at the .05 level to (1) stability of program choice or (2) persistence of enrollment. The small number of students at the extreme lower and upper social class

levels along with the selective University admission requirements contributes to a more homogenous student body. Thus the likelihood of finding a relationship between social class and persisting, changing or withdrawing was reduced.

The image of South Dakota State University is projected into the homes of prospective students as well as into the homes of enrolled students. The homes, high schools, and student's friends are exposed to the many numerous media that convey these messages. Anticipatory socialization prior to entering South Dakota State University as well as during the first few terms at the University tends to dilute differences that do otherwise exist among the students. High school students are likely to use older siblings and friends attending the University as comparative referents in anticipation of their own future enrollment.

It is indeed encouraging to note that the socioeconomic variables selected for the study did not contribute significantly in predicting changing, persisting, or withdrawing enrollment at South Dakota State University. A negligible amount (.013) sum of squares was reduced in the multiple regression procedure by combining the reduction of the independent variables of (1) education of parents, (2) family income, (3) value of home, (4) father's occupation, (5) social class standing, and (6) size of community. The University must be able to accommodate the variety of students that enroll in respect to the above listed independent variables. In addition, judging from the disparities

observed between (1) the educational and occupational levels of the parents and (2) the educational and occupational aspiration levels of their offspring, South Dakota State University does provide avenues for upward social mobility.

Peer group structures and influences tend to place constraints on social class origin as bases for subcultural distinctions after students arrive at college. As early as 1942, Parsons¹⁵ saw that one of the major effects of youth and "youth cultures" was that it led young people to turn their backs on the status of the family of orientation. Ties to family and social class origin have less effect than previously.

Students who withdraw from the University have lower ACT composite scores and have not enjoyed the academic success as measured by GPA that persisters have had. In spite of this finding, it would still be very appropriate to accept the statement of Marsh¹⁶ that "a large percentage of withdrawals are not explained on the basis of academic ability as it is currently measured." First of all, the ACT composite average score of withdrawers (21.22) is well above the ACT composite entrance requirement (20.0). Secondly, the GPA average of withdrawers (2.18) is well above the level required to avoid academic suspension

¹⁵Talcott Parsons, "Youth in The Context of American Society," in Erik H. Erikson (ed.), Youth: Change and Challenge (New York: Basic Books, 1963), p. 111.

¹⁶Marsh, "College Drop-outs," p. 476.

from South Dakota State University. Finally, it must be remembered that ACT composite average scores only reduced the sum of squares 2.586 of the total sum of squares of 219.769 in the multiple regression procedure for predicting changing, persisting or withdrawing enrollment. Although this was a significant reduction at the .05 level it was adequate only for an R^2 of .108 in this procedure.

Difficulties are encountered when using a single indicator to ascertain social class standing. Results of this study would not justify using such single indicators as education of parents, family income or occupation of parents to arrive at a social class designation. Furthermore, results obtained from this study would not warrant the use of only subjective estimates as the sole criteria for social class designation. The method used to measure social class standing must be able to differentiate with respect to various occupational levels, i.e., all bankers cannot be placed in social class I or II. There may well be a considerable difference in social class standing between a banker in one community compared to a banker in another community.

It was quite apparent from this study that the Tennessee Self Concept Scale (TSCS) holds little promise for use in (1) predicting changing, persisting, or withdrawing enrollment from South Dakota State University, or (2) predicting social class standing of students. In the step-wise multiple regression procedure the Total Positive Score (the reflection of the overall level of self esteem) was the last step entered of the ten independent variables which reduced the sum of

squares 0.119. A reduction of 1.442 was required to be significant at the .05 level.

Bartee¹⁷ has suggested that becoming a college student is possibly sufficient achievement to cause an increase in the disadvantaged individual's overall level of self-esteem. With this in mind, it is possible that the TSCS is not a powerful enough discriminator to distinguish self concept changes that may occur when the individual changes college or withdraws. The use of other measures of self concept may possibly produce more significant relationships than were obtained in this study.

The TSCS appears to hold more promise for examining relationships between social class standing and self concept variables. This study indicated that there is a phenomenological aspect to social class designations. Serious consideration must be given to including this aspect when measuring social class standing.

Recommendations

Certain institutional characteristics may affect the stability of program choice of students and persistence of enrollment. A number of such characteristics may be related to curriculum organization, faculty advising procedures, counseling facilities, admission and grading practices and community relationships. The interaction between

¹⁷Bartee "Perceptual Characteristics of Students."

institutional characteristics and student characteristics (academic and socioeconomic) would then be a feasible area for future research.

In depth and longitudinal study of students who withdraw enrollment or change program of study will be required to adequately investigate the academic, socioeconomic or other variables associated with the two phenomenon. It is apparent that a multi-factor approach must be used to research this area, particularly if the ultimate objective is to arrive at a regression equation to predict changing college or withdrawing from college. Feldman and Newcomb¹⁸ have reported that once the degree of discordance between student and institutional characteristics has been determined, the evidence shows a tendency for students who are incongruent with the specific college to be more dissatisfied with their experiences at the college and therefore to be more likely to withdraw. The development of a University-wide student flow model would facilitate this research process.

Through the use of admissions data and ACT data, efforts should be continued to learn more about the characteristics of the students enrolled at South Dakota State University. Until we learn more about the opportunities and rewards the University offers in relation to the goals and desires of the students recruited, many of the causes of withdrawal and program change will continue to escape identification.

¹⁸Feldman and Newcomb, Impact of College, pp. 290-93.

The increased knowledge of the academic and socioeconomic characteristics of students at South Dakota State University should be utilized by the High School Relations Department, Office of Admissions, and Orientation Director. An accurate portrayal of the University and students enrolled may facilitate the processes of "anticipatory socialization" and "definition of situation."¹⁹

Various researchers have reported that program choice of students entering college is already linked to social class standing. A more detailed study should be made of the social class level of students choosing and enrolling in the various majors of the University.

The writer's study using his revision of the WISC should be replicated at South Dakota State University as well as at other insititutions. A comparison of results so obtained may very well extend the generalizability of the instrument and findings of such studies. Additional self concept scales should be utilized to more adequately explore relationships between self concept and (1) changing program of study, (2) persisting in enrollment, and (3) withdrawing enrollment.

The TSCS scales which were significantly associated with social class should be examined in greater detail. Additional research is needed to explain and confirm the relationships obtained between the phenomenologically designed TSCS scales and the WISC.

¹⁹See discussions of these two concepts on pages 68 and 62 respectively.

Upward mobility was evidenced in this study by the difference observed between the class standing of parents and the educational and occupational aspirations expressed by the students. A follow-up study should be conducted on the students in the three sample groups to ascertain (1) how much class level differences actually materialized between parents and sons or daughters, and (2) what differences in class standing were eventually measurable between students in the three sample groups.

The respective colleges of South Dakota State University must address themselves to preparing students, typically coming from social class III and IV homes, for entering occupations of a much higher social class level. This higher social class of the occupation they are entering upon graduation frequently commands a different life style than that to which the student was accustomed in his home of orientation. A few examples of differences are found with respect to (1) social position within the community, (2) style of home, (3) hobbies, (4) community involvements, and (5) cultural and travel experiences.

It would appear that a certain amount of changing of program of study should occur in a University setting. Students must be given the opportunity to explore their various areas of interest and ability and thus change program of study accordingly. Further study should also be pursued in the area of parental influence on (1) the student decision to attend college, and (2) initial choice of program of study.

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APPENDIX A

SOCIAL CLASS AT SOUTH DAKOTA STATE UNIVERSITY

Introduction

The items in this questionnaire are designed to provide data to assist in the determination of the degree of social class stratification among the students at South Dakota State University. You will note that many of these items refer to your parental home and request that your responses truly reflect your impressions of this home. Your responses will be treated anonymously using an ID number identification, and will be used only for the purposes of this study. Your cooperation is appreciated!

Part I. Personal Data. Complete this section by filling in the blank on the answer sheet with the number of the response that best applies to you. Do not write on the questionnaire booklet.

1-5. Enter your ID number.

6. Enter the number which corresponds to your present college enrollment.

- | | | |
|---------------------|-------------------------|-------------|
| 0. Agriculture | 3. Home Economics | 6. Graduate |
| 1. Engineering | 4. Pharmacy | School |
| 2. Arts and Science | 5. General Registration | 7. Nursing |

7. Have you ever changed college within the University?

- | | |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

8-9. What is your present college major?

10. Have you ever changed major while enrolled at SDSU?

- | | |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

11. What is your present class standing?

- | | | |
|--------------|-----------|---------------------|
| 1. Freshman | 3. Junior | 5. 5th Year Senior |
| 2. Sophomore | 4. Senior | 6. Graduate Student |

12. Are you male or female?

- | | |
|---------|-----------|
| 1. Male | 2. Female |
|---------|-----------|

13. Did your high school have a high school counselor?

1. Yes--a full time counselor(s)
2. Yes--a part-time counselor i.e., teacher-counselor
3. No, did not have a counselor

14. What was the size of your high school graduating class?

- | | |
|------------------|-------------------------|
| 1. Fewer than 25 | 3. 100 to 399 |
| 2. 25 to 99 | 4. 400 or more students |

Part II. Background Family Data. If only living with one parent--respond according to the parent providing your support. If parents have now retired--respond to this section according to the period immediately preceeding retirement.

15-16. Indicate on the answer sheet the number which corresponds with the highest grade level of education completed by your father (enter response in blank number 15) and for your mother (use blank 16).

1. Eighth grade education or less
2. Some high school but didn't graduate
3. Graduated from high school
4. Went to vocational or technical school after high school
5. Some college or university but didn't graduate
6. College or university graduate
7. Graduate degree i.e., M.A. or Ph.D.

17. What is your estimate of family income (before taxes)?

- | | |
|-----------------------|---------------------|
| 1. \$25,000 and over | 5. \$6,000 to 8,999 |
| 2. \$15,000 to 24,999 | 6. \$3,000 to 5,999 |
| 3. \$12,000 to 14,999 | 7. Under \$3,000 |
| 4. \$ 9,000 to 11,999 | |

18. Size of community of parent's residence:

- | | |
|---------------------------|-------------------|
| 1. Farm or open country | 4. 2,500 to 4,999 |
| 2. Up to 1,000 population | 5. 5,000 to 9,999 |
| 3. 1,000 to 2,499 | 6. 10,000 or over |

19. My parents (or guardians) are considered by most people in the community to be:

- | | |
|---|---------------------------------|
| 1. Very important people | 4. Average people |
| 2. Important people | 5. Somewhat less than average |
| 3. Somewhat more important than average | 6. Less than average importance |
| | 7. Not at all important |

20. Compared to the income of parents of other people in the community, the income of my parents is:

- | | |
|---------------------------------|-------------------------------|
| 1. One of the highest incomes | 4. Average income |
| 2. Higher than the average | 5. Somewhat less than average |
| 3. Somewhat higher than average | 6. Less than average income |
| | 7. One of the lowest incomes |

21. What is the religious identification of your family? If your family religion is not listed, write your religious identification in the blank on the answer sheet.

- | | |
|-----------------|---------------------------------|
| 0. Baptist | 5. Presbyterian |
| 1. Episcopalian | 6. Roman Catholic |
| 2. Jewish | 7. United Church of Christ |
| 3. Lutheran | 8. Other (list on answer sheet) |
| 4. Methodist | 9. None |

22. My father's major occupation (job that provides the major portion of income) is: (Be specific)

23. My mother's major occupation (job that provides the major portion of income) is: (Be specific)

24. How does the market value of your parent's home compare with the market value of the other homes in your town or city? If you live on a farm or ranch use the responses below to compare the market value of your family ranch or farm to those in the county you reside in.

1. One of those of the highest market value
2. High market value
3. Somewhat higher than average market value
4. Average market value
5. Somewhat less than average market value
6. Less than average market value
7. One of those of the lowest market value

25. List the occupations of three of the closest friends of the family on the answer sheet under number 25 (a), (b), and (c).

26. Projecting yourself ten years from now, give the occupation you hope to be pursuing.

27. Projecting yourself ten years from now, what is the educational level you hope to have attained?

Part III. This section will be found on pages 4, 5, and 6 of this questionnaire. Select the number that best applies for each page and enter it on the answer sheet in blanks numbered 28, 29 and 30.

Part III, 1. Designation of Occupation of Major Family Wage Earner. To locate the occupational position of the major wage earner of the family, read across the top of the table to find the occupational classification that best applies. Next read down on this column and find the occupational title or one that is most similar to that of the major family wage earner. Circle the number on the left margin that corresponds to that occupational title (Number 1 - 7).

Rating Assigned to Occupation	Professionals	Proprietors and Managers	Business Men	Clerks and Kindred Workers, Etc.	Manual Workers	Protective and Service Workers	Farmers
1	Doctor, lawyer, dentist, Federal, State legislative official, Mayor (city over 25,000), college professor, other advanced degree professionals	Businesses valued at \$150,000 and over	Regional and divisional manager of large financial and Ind. enterprise; Bank president				Gentleman farmer or rancher (does not work land - others manage large number of farms for him)
2	Nurse, chiroprapist, high school administrator, instructor college staff, newspaper editor, engineer, economist	Businesses valued at \$50,000 to \$150,000	Ass't Mgr. and office dept. mgr. of large business, and/or insurance Ass't to executive, (own agency) Vice Pres. of bank	Accountant, sales-man of real estate			Large farm or ranch owner
3	High school instructor, social worker, grade school teacher, county agriculture agent, newspaper reporter, army officer, librarian	Businesses valued at \$25,000 to \$50,000	All minor officials of business	Auto salesman, bank clerk & cashier, postal clerk, secretary to executive, supervisor, justice of peace	Contractors		Above average size farm or ranch owner
4		Businesses valued at \$10,000 to \$25,000		Stenographers, book-keepers, rural mail clerks, railroad ticket agents, etc.	Factory foreman, electrician, plumber, bus-carpenter (mess)	Dry cleaners, butchers, sheriff, railroad engineer, railroad conductor	Average farm or ranch owner
5		Businesses valued at \$1,000 to \$10,000		Store clerks, hardware salesman, beauty operator, telephone operator	Plumber, carpenter, telephone lineman, radio repairman, other skilled workers	Barber, fireman, practical nurse, policeman, cook in restaurant, bartender	Tenant farmer
6		Businesses valued at less than \$1,000			Semi-skilled workers, assistant to carpenter, etc.	Night policemen, taxi and truck driver, gas station attendant, waitress	Small tenant farmer
7					Heavy labor, migrant work, odd-job men, miner	Janitor, cleaning woman, garbage laborer collector	Migrant farm

PART III Continued. Source of Family Income. Instructions: Circle the number in left margin of line that best describes family source of income.

1. If the family income is derived from more than one source--classify according to the chief source of income.
2. If the family income comes about equally from two sources circle numbers of both lines which apply.
3. Families now living on life insurance policies, social security benefits, or other pension or retirement plans should answer according to the chief source of income during the previous period of occupational activity.
4. If family income does not match categories below, briefly describe income source here _____

Rating of Source of Income	Source of Income	Description of Source of Income
1	<u>Inherited Wealth</u>	The family can very well afford to live in luxury on money made by a previous generation. This includes money derived from savings and investments or business enterprises inherited from an earlier generation. Inherited wealth is frequently referred to as "old money" as the money has been in the family line for several generations.
2	<u>Earned Wealth</u>	Families living in considerable luxury from savings or investments earned by the present generation (not inherited). This family has amassed a large amount of money so that it is no longer necessary to engage in other occupational pursuits should they choose not to do so.
3	<u>Profits and Fees</u>	This includes money paid to professional men for services and advice. It also includes money made by owners of business for the sale of goods and royalties paid to writers, musicians, etc.
4	<u>Salary</u>	This is a regular income paid for services on a monthly or yearly basis. This category also includes the commission type of salary paid to salesmen.
5	<u>Wages</u>	This is distinguished from salary since the amount is determined by an hourly rate. It is usually paid on a weekly basis.
6	<u>Private Relief</u>	This includes money paid by friends or relatives for the sake of friendship or because of family ties. It also includes money given by churches, associations, etc., when the agency does not reveal the names of those receiving aid. Families receiving this form of income usually have no money themselves and would probably qualify for public relief.
7	<u>Public Relief</u>	Families supported by welfare programs and money or goods received from a government agency or from some semi-public agency that does not mind revealing the names of those receiving aid.

Part III Continued. Family Dwelling-House Type. Instructions: Circle the number in the left margin of the line that best describes your family home. If the responses below do not seem to be appropriate for your family home, briefly describe your home here _____
 Rate apartments or multiple dwellings by categories below but also indicate this by writing apartments etc. under number circled.

Rating of House Type	Size of Home	Condition of Home	Landscaping	Design	Fireplace(s)	Garage(s)
1	Very large single-family dwelling. More than 10 rooms in home.	Excellent repair and condition. Excellent appearance and upkeep.	Spacious lawn and yard. Well cared for. Hired gardener or groundskeeper.	Distinguished appearance such as large plantation style, etc. Designed by architect.	Home may very well have two or more fireplaces.	Home will have two-car garage and often room for more cars.
2	Very good houses. Roughly, this includes all houses which do not quite measure up to category one. The primary difference is one of size. They are slightly smaller, but still larger than utility demands for the average family.					
3	Only slightly larger than the needs of an average family.	Good repair and condition. More conventional appearance.	Lawns well cared for by owner. Yard slightly larger than average in community.	Lack the distinguished appearance of the upper two categories.	May have a fireplace or two.	Has at least one-car garage and may have a two-car garage.
4	Average houses. One-and-a-half to two-story wood-frame and brick single-family dwellings. Conventional style, with lawns well cared for but not landscaped. May be mass produced by contractors but design would then vary from house to house within the housing tract.					
5	Small house for the size of family in very good condition. House of adequate size for the family in fair condition.		Lawns and shrubbery may appear somewhat neglected at times.	Very conventional style--often mass produced by contractors.	Rarely have a fireplace.	May have one-car garage or no garage.
6	Same size qualification as for line 5. Note condition of home.	House has deteriorated but can be repaired. In poorer condition than 5.	Suffers from lack of care but not cluttered with debris as in line 7.	Not planned.	No.	Usually has no garage or a garage in poor condition
7	Size is somewhat irrelevant in this category. Home is in very poor condition and cannot be repaired. Includes buildings not intended for housing.		Yards littered with junk and various types of debris.	Not planned.	No.	Usually no garage or in very poor condition.

Name _____
 (Last) (First) (Middle)

Part I.

1-5. ID Number _____

6. _____

7. _____

8-9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

Part II. Family Background Data

15. Father _____

16. Mother _____

17. _____

18. _____

19. _____

20. _____

21. _____

22. _____

23. _____

24. _____

25. a. _____

b. _____

c. _____

26. _____

27. _____

Part III.

28. _____ Occupation Major Wage Earner

29. _____ Source of Family Income

30. _____ Family Dwelling House Type

Part IV. This section to be completed by the examiner.

31. _____ 57. _____

32. _____ 58. _____

33. _____ 59. _____

34. _____ 60. _____

35. _____ 61. _____

36. _____ 62. _____

37. _____ 63. _____

38. _____ 64. _____

39. _____ 65. _____

40. _____ 66. _____

41. _____ 67. _____

42. _____ 68. _____

43. _____ 69. _____

44. _____ 70. _____

45. _____ 71. _____

46. _____ 72. _____

47. _____ 73. _____

48. _____ 74. _____

49. _____ 75. _____

50. _____ 76. _____

51. _____ 77. _____

52. _____ 78. _____

53. _____ 79. _____

54. _____ 80. _____

55. _____

56. _____

TABLE 22.--SCALE USED TO CONVERT RATINGS OF WARNER'S INDEX (BASED ON
OCCUPATION, SOURCE OF INCOME AND FAMILY DWELLING HOUSE TYPE)
TO SEVEN SOCIAL CLASS LEVELS

Index Values	Class Level	Class Title
12 - 17	Class I	Upper, upper
18 - 29	Class II	Lower, upper
30 - 41	Class III	Upper, middle
42 - 53	Class IV	Middle, middle
54 - 65	Class V	Lower, middle
66 - 77	Class VI	Upper, lower
78 - 84	Class VII	Lower, lower

THE TENNESSEE SELF CONCEPT SCALE

The general description of the Tennessee Self Concept Scale for this Appendix is taken from Monograph IV, The Self Concept and Psychopathology, written by William H. Fitts. The TSCS consists of 100 self-descriptive statements to which the subject gives one of five responses ranging from "Completely true" to "Completely false." Ten items from the L Scale of the Minnesota Multiphasic Personality Inventory constitute the Self Criticism Score. The other 90 items contribute to the self concept scores. There are equal numbers of positively and negatively worded items. This 90-item pool is organized in the form of a rectangular matrix divided into rows and columns. There are three horizontal rows, labeled Row 1, Row 2 and Row 3, which contain items descriptive of the individual's Identity, Self-Satisfaction, and Behavior. There are five vertical columns, labeled A through E, which describe Physical Self, Moral-Ethical Self, Personal Self, Family Self, and Social Self. Thus, with three rows and five columns, the total matrix contains 15 cells.

This conceptual scheme not only provides the original classification system for TSCS items, it is also the basis for much of the scoring procedure. Some understanding of this system is essential to an understanding of the meanings of the scores. A facsimile of the score sheet for the TSCS is shown in Figure 1 on the next page.

Each of the 15 cells shown in Figure 1 contains six items--three positive and three negative. When the response to each item is recorded

SCORE SHEET

Counting Form
Tennessee Self-Concept Scale

HOW THE INDIVIDUAL PERCEIVES HIMSELF

IN TERMS OF:	COLUMN A PHYSICAL SELF	COLUMN B MORAL-ETHICAL SELF	COLUMN C PERSONAL SELF	COLUMN D FAMILY SELF	COLUMN E SOCIAL SELF	SELF CRITICISM	ROW TOTALS	
ROW 1.	P-1 P-2 P-3 N-4 N-5 N-6 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	P-19P-20P-21 N-22N-23N-24 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	P-37P-38P-39 N-40N-41N-42 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	P-55P-56P-57 N-58N-59N-60 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	P-73P-74P-75 N-76N-77N-78 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	91 92 93 94 5 5 5 5 4 4 4 4 3 3 3 3 2 2 2 2 1 1 1 1	POSITIVE P VARIABLE of Self Score	
ROW 2.	P-7 P-8 P-9 N-10 N-11 N-12 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	P-25P-26P-27 N-28N-29N-30 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	P-43P-44P-45 N-46N-47N-48 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	P-61P-62P-63 N-64N-65N-66 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	P-79P-80P-81 N-82N-83N-84 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	95 96 97 98 5 5 5 5 4 4 4 4 3 3 3 3 2 2 2 2 1 1 1 1		
ROW 3.	P-13 P-14 P-15 N-16 N-17 N-18 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	P-31P-32P-33 N-34N-35N-36 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	P-49P-50P-51 N-52N-53N-54 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	P-67P-68P-69 N-70N-71N-72 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	P-85P-86P-87 N-88N-89N-90 5 5 5 1 1 1 4 4 4 2 2 2 3 3 3 3 3 3 2 2 2 4 4 4 1 1 1 5 5 5	99 100 5 5 4 4 3 3 2 2 1 1		SC =
COLUMN TOTALS	TOTAL POSITIVE (ΣP) _____	_____	_____	_____	_____	Total Positive or P →		
	V. (Average of Score) _____	_____	_____	_____	_____	Col. Tot. V. →		

DISTRIBUTION OF RESPONSES

NUMBER OF 1's 2's 3's 4's 5's

TOTALS $\frac{x_1}{x_2} \frac{x_1}{x_2} \frac{x_1}{x_2} \frac{x_1}{x_2} = 100$

$$D = \frac{x_1}{x_2} + \frac{x_1}{x_2} + \frac{x_1}{x_2} = \boxed{}$$

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on the Score Sheet, there is a basis for computing four types of scores. The P, or Positive Scores measure self-esteem or the positiveness of self description for each of the subelves which, when totaled, constitute the Total P Score. The V, or Variability, Scores measure the range or variability of self-esteem within each Row and Column. The Net and Total Conflict Scores indicate consistency of responses between positive and negative items within content areas. The D, Distribution, Scores are indices of how certain or uncertain the person is about himself.

The Major Scores

The TSCS is available in two forms that utilize the same 100 items. The only difference is in the number of scores derived. The simpler Counseling Form used for this dissertation involves only 14 scores while the Clinical and Research Form (C and R) yields a multiplicity of scores which some users have extended even further by interpreting the individual cell scores. The outline of the nature and meaning of scores which follows was taken from the Manual For Tennessee Scale.

I. Counseling Form

A. The Self Criticism Score (SC). This scale is composed of the ten items as previously discussed. The items are all mildly derogatory statements that most people admit as being true for them. Individuals who deny most of these statements most often are being defensive and making a deliberate effort to present a favorable picture of themselves.

High scores generally indicate a normal, healthy openness and capacity for self-criticism. Extremely high scores (above the 99th percentile) indicate that the individual may be lacking in defenses and may in fact be pathologically undefended. Low scores indicate defensiveness, and suggest that the Positive Scores are probably artificially elevated by this defensiveness.

B. The Positive Scores (P). These scores derive directly from the phenomenological classification scheme. In the original analysis of the item pool the statements seemed to be conveying three primary messages: (1) This is what I am, (2) This is how I feel about myself, and (3) This is what I do. On the basis of these three types of statements the three horizontal categories were formed. They appear on the Score Sheet as Row 1, Row 2, and Row 3 (see figure 1) and are, hereafter, referred to by those labels. The Row Scores thus comprise three sub-scores which, when added, constitute the Total Positive or Total P Score. These scores represent an internal frame of reference within which the individual is describing himself.

Further study of the original items indicated that they also varied considerably in terms of a more external frame of reference. Even within the same row category the statements might vary widely in content. For example, with Row 1 (the What I am category) the statements refer to what I am physically, morally, socially, etc. Therefore, the pool of items was sorted again according to these new vertical categories, which are the five Column Scores of the Score Sheet in Figure 1. Thus

the whole set of items is divided two ways, vertically into columns (external frame of reference) and horizontally into rows (internal frame of reference) with each item and each cell contributing to two different scores.

1. Total P Score. This is the most important single score on the Counseling Form. It reflects the overall level of self esteem. Persons with high scores tend to like themselves, feel that they are persons of value and worth, have confidence in themselves, and act accordingly. People with low scores are doubtful about their own worth; see themselves as undesirable; often feel anxious, depressed, and unhappy; and have little faith or confidence in themselves.

If the Self Criticism (SC) Score is low, high P Scores become suspect and are probably the result of defensive distortion. Extremely high scores (generally above the 99th percentile) are deviant and are usually found only in such disturbed people as paranoid schizophrenics who as a group show many extreme scores, both high and low.

On the Counseling Form the Positive Scores are simply designated as P Scores, while on the Score Sheet of the C and R Form they are referred to as P + N Scores in order to clarify the computations involved.

2. Row 1 P Score - Identity. These are the "what I am" items. Here the individual is describing his basic identity--what he is as he sees himself.

3. Row 2 P Score - Self Satisfaction. This score comes from those items where the individual describes how he feels about the self he

perceives. In general this score reflects the level of self satisfaction or self acceptance. An individual may have very high scores on Row 1 and Row 3 yet still score low on Row 2 because of very high standards and expectations for himself. Or vice versa, he may have a low opinion of himself as indicated by the Row 1 and Row 3 Scores yet still have a high Self Satisfaction Score on Row 2. The sub-scores are therefore best interpreted in comparison with each other and with the Total P Score.

4. Row 3 P Score - Behavior. This score comes from those items that say "this is what I do, or this is the way I act." Thus this score measures the individual's perception of his own behavior or the way he functions.

5. Column A - Physical Self. Here the individual is presenting his view of his body, his state of health, his physical appearance, skills, and sexuality.

6. Column B - Moral-Ethical Self. This score describes the self from a moral-ethical frame of reference--moral worth, relationship to God, feelings of being a "good" or "bad" person, and satisfaction with one's religion or lack of it.

7. Column C - Personal Self. This score reflects the individual's sense of personal worth, his feeling of adequacy as a person and his evaluation of his personality apart from his body or his relationships to others.

8. Column D - Family Self. This score reflects one's feelings of adequacy, worth and value as a family member. It refers to the individual's perception of self in reference to his closest and most

immediate circle of associates.

9. Column E - Social Self. This is another "self as perceived in relation to others" category but pertains to "others" in a more general way. It reflects the person's sense of adequacy and worth in his social interaction with other people in general.

C. The Variability Scores (V). The V scores provide a simple measure of the amount of variability, or inconsistency, from one area of self perception to another. High scores mean that the subject is quite variable in this respect while low scores indicate low variability which may even approach rigidity if extremely low (below the first percentile).

1. Total V. This represents the total amount of variability for the entire record. High scores mean that the person's self concept is so variable from one area to another as to reflect little unity or integration. High scoring persons tend to compartmentalize certain areas of self and view these areas quite apart from the remainder of self. Well integrated people generally score below the mean on these scores but above the first percentile.

2. Column Total V. This score measures and summarizes the variations within the columns.

3. Row Total V. This score is the sum of the variations across the rows.

D. The Distribution Score (D). This score is a summary score of the way one distributes his answers across the five available choices in responding to the items of the Scale. It is also interpreted as a measure of still another aspect of self perception: certainty about the

way one sees himself. High scores indicate that the subject is very definite and certain in what he says about himself while low scores mean just the opposite. Low scores are found also at times with people who are being defensive and guarded. They hedge and avoid really committing themselves by employing "3" responses on the Answer Sheet.

Extreme scores on this variable are undesirable in either direction and are most often obtained from disturbed people. For example, schizophrenic patients often use "5" and "1" answers almost exclusively, thus creating very high D Scores. Other disturbed patients are extremely uncertain and noncommittal in their self descriptions with a predominance of "2", "3" and "4" responses and very low D Scores.

Administration

The Scale is self administering and requires no instructions beyond those on the inside cover of the test booklet. It is well, however, to note one point which may need special attention by the examiner. The answer sheet is arranged so that the subject responds to every other item on the answer sheet. Some subjects may be momentarily confused on this point, and it will help the examiner to be aware of this possibility.

APPENDIX C

No.	Description	Amount of Material		Quantity of Material		Unit Price		Total Price		Total Price	
		Quantity	Unit	Quantity	Unit	Price	Unit	Price	Unit	Price	Unit
1	Excavation	10	cu yd	10	cu yd	1.00	cu yd	10.00	10	cu yd	10.00
2	Backfill	10	cu yd	10	cu yd	1.00	cu yd	10.00	10	cu yd	10.00
3	Gravel	10	cu yd	10	cu yd	1.00	cu yd	10.00	10	cu yd	10.00
4	Concrete	10	cu yd	10	cu yd	1.00	cu yd	10.00	10	cu yd	10.00
5	Reinforcement	10	cu yd	10	cu yd	1.00	cu yd	10.00	10	cu yd	10.00
6	Formwork	10	sq ft	10	sq ft	1.00	sq ft	10.00	10	sq ft	10.00
7	Paint	10	gal	10	gal	1.00	gal	10.00	10	gal	10.00
8	Lighting	10	hr	10	hr	1.00	hr	10.00	10	hr	10.00
9	Material	10	lb	10	lb	1.00	lb	10.00	10	lb	10.00
10	Transportation	10	mi	10	mi	1.00	mi	10.00	10	mi	10.00
11	Overhead	10	hr	10	hr	1.00	hr	10.00	10	hr	10.00
12	Profit	10	hr	10	hr	1.00	hr	10.00	10	hr	10.00
13	Subtotal	10	hr	10	hr	1.00	hr	10.00	10	hr	10.00
14	Tax	10	hr	10	hr	1.00	hr	10.00	10	hr	10.00
15	Total	10	hr	10	hr	1.00	hr	10.00	10	hr	10.00

Notes: 1. All quantities are in units of 100. 2. All prices are in dollars per unit. 3. All quantities are in units of 100. 4. All prices are in dollars per unit.

TABLE 23
CHARACTERISTICS OF STUDENTS WHO CHANGED MAJORS WITHIN A COLLEGE AT SOUTH DAKOTA STATE UNIVERSITY
DURING THE FALL TERMS OF 1970-71 AND 1971-72

College	Number of Students Who Changed Majors		Average ACT Composite Score of Students				Average ACT Composite Score of Entering Frosh		College GPA of Students Who Changed Majors			
	Fall '70	Fall '71	Fall '70 N	Ave.	Fall '71 N	Ave.	Fall '70	Fall '71	Fall '70 N	Ave.	Fall '71 N	Ave.
Agriculture	79	87	77	22.7	84	22.5	22.1	22.1	77	2.31	87	2.31
Engineering	50	11	48	25.2	11	23.6	24.6	24.8	49	2.46	11	2.31
Arts and Science	95	124	90	22.4	119	25.2	22.1	22.5	95	2.40	124	2.31
Home Economics	26	61	26	22.4	59	21.0	21.1	21.1	26	2.59	61	2.31
Pharmacy*	N/A	N/A	N/A		N/A		24.6	24.1	N/A		N/A	
Gen. Registration	7	6	6	20.2	6	20.8	21.4	22.0	7	2.01	6	2.31
Nursing**	N/A	5	N/A		5	22.2	22.4	21.9	N/A		5	2.31
Total/Average	257	294	247	23.0	284	22.6	22.4	22.6	254	2.39	294	2.31

* Only one major in this college.

**Two majors in this college beginning Fall 1971.

TABLE 24
COLLEGE AND CLASS OF STUDENTS WHO TRANSFERRED FROM ONE MAJOR TO
ANOTHER MAJOR ON CAMPUS AT SOUTH DAKOTA STATE UNIVERSITY
DURING THE FALL TERM 1971-72

College	Class Standing At Time of Major Change			
	Freshmen	Sophomores	Juniors	Seniors
Agriculture	28	34	16	9
Engineering	2	4	4	1
Arts and Science	47	39	29	9
Home Economics	29	17	10	5
Pharmacy*	N/A	N/A	N/A	N/A
General Registration	4	2	0	0
Nursing	3	1	1	0
Total	113	97	60	24

*Only one major in this college.

TABLE 25
CHARACTERISTICS OF STUDENTS WHO TRANSFERRED FROM ONE COLLEGE TO ANOTHER COLLEGE ON CAMPUS AT SOUTH DAKOTA STATE UNIVERSITY
DURING THE FALL TERMS OF 1970-71 AND 1971-72

College	Number of Students Who Transferred Out		Number of Students Who Transferred In		Net Gain or Net Loss		Average ACT Composite Score of Entering Freshmen		Average ACT Comp. Score of Students Transferring Out				College GPA of Students Who Transferred Out			
	Fall '70	Fall '71	Fall '70	Fall '71	Fall '70	Fall '71	Fall '70	Fall '71	Fall '70	Fall '71	N	Ave.	N	Ave.	N	Ave.
Agriculture	29	36	31	48	2	12	22.1	22.1	29	21.9	34	22.7	29	2.58	35	2.40
Engineering	64	43	9	7	-55	-36	24.6	24.8	64	24.0	43	24.9	64	2.08	42	1.99
Arts and Science	53	54	124	137	71	83	22.1	22.5	51	21.4	53	22.8	52	2.29	54	2.59
Home Economics	18	23	34	27	16	4	21.1	21.1	17	21.3	22	22.3	18	2.34	23	2.47
Pharmacy	20	17	11	13	-9	-4	24.6	24.1	20	25.0	17	23.0	20	2.30	17	2.33
Gen. Registration	65	83	38	35	-27	-48	21.4	22.0	62	21.5	81	22.7	64	2.34	83	2.46
Nursing	16	23	18	12	2	-11	22.4	21.9	14	21.6	22	21.4	15	2.25	23	2.14
Total/Average	265	279	265	279			22.4	22.6	257	22.4	272	22.9	262	2.25	277	2.38

TABLE 26
COLLEGE AND CLASS OF STUDENTS WHO TRANSFERRED FROM ONE COLLEGE TO
ANOTHER COLLEGE ON CAMPUS AT SOUTH DAKOTA STATE UNIVERSITY
DURING THE FALL TERM 1971-72

College	Class Standing At Time of College Change			
	Freshmen	Sophomores	Juniors	Seniors
Agriculture	19	4	8	5
Engineering	17	16	7	3
Arts and Science	20	21	8	5
Home Economics	7	10	6	0
Pharmacy	6	5	4	2
General Registration	23	44	14	2
Nursing	13	4	4	2
Total	105	104	51	19

TABLE 27
REASONS GIVEN FOR STUDENTS TRANSFERRING FROM ONE COLLEGE
TO ANOTHER DURING THE FALL SEMESTER 1971

Reason Given By Student	Frequency of Response
Interest Change	119
Decided on a Major	56
No Reason Given	53
Academic Reasons	11
Prepare for Future Job	10
Will be able to Graduate Sooner	9
Change to Undecided	6
More Freedom to Choose Courses Now	6
Administrative Error	6
Change Back to Original Major	3
Total	279

TABLE 28
COMPARISON OF THE NUMBER OF STUDENTS WHO CHANGED COLLEGE DURING THE
SPRING AND FALL TERMS OF 1970-71 AND 1971-72 AT
SOUTH DAKOTA STATE UNIVERSITY

College	Number Changing College 1970 - 1971 School Year		Number Changing College 1971 - 1972 School Year	
	Fall 1970	Spring 1971	Fall 1971	Spring 1972
Agriculture	29	8	36	14
Engineering	64	15	43	23
Arts and Science	53	16	54	19
Home Economics	18	6	23	14
Pharmacy	20	5	17	14
Gen. Registration	65	41	83	79
Nursing	16	3	23	10
Total	265	94	279	173

TABLE 29
COLLEGE AND CLASS OF STUDENTS WHO WITHDREW FROM
SOUTH DAKOTA STATE UNIVERSITY DURING THE
FALL TERMS OF 1970-71 AND 1971-72

College	Class Standing At Time of Withdrawal From College							
	Freshmen		Sophomores		Juniors		Seniors	
	Fall 1970-71	Fall 1971-72	Fall 1970-71	Fall 1971-72	Fall 1970-71	Fall 1971-72	Fall 1970-71	Fall 1971-72
Agriculture	9	15	4	11	3	5	0	0
Engineering	7	8	2	2	4	1	0	0
Arts and Science	7	11	5	9	8	8	2	0
Home Economics	0	6	0	0	1	2	1	1
Pharmacy	2	0	2	1	2	1	1	2
General Registration	5	10	2	5	0	2	0	0
Nursing	1	4	2	2	0	1	0	0
Totals	31	54	17	30	18	20	4	3

TABLE 30
ACADEMIC CHARACTERISTICS OF STUDENTS WHO WITHDREW FROM SOUTH DAKOTA STATE UNIVERSITY
DURING THE SPRING TERMS OF 1971 AND 1972

College	Number of Students Withdrawing During Spring Terms		Average ACT Composite Score of Entering Freshmen		Average ACT Composite Score of Students Withdrawing		College GPA of Students Withdrawing	
	Spring 1971	Spring 1972	Spring 1971	Spring 1972	Spring* 1971	Spring 1972	Spring 1971	Spring 1972
Agriculture	19	18	22.1	22.1	21	21.7	2.13	1.94
Engineering	8	8	24.6	24.2	25	23.5	2.27	1.91
Arts and Science	14	29	22.1	22.5	21	21.0	1.88	1.95
Home Economics	3	8	21.1	21.9	16	19.3	2.50	2.16
Pharmacy	2	2	24.6	25.1	23	26.0	1.73	1.93
Gen. Registration	11	15	21.4	21.6	22	22.2	1.58	1.50
Nursing	2	2	22.4	22.0	21	26.0	1.96	3.29
Total/Average	59	82	22.4	22.4	21	21.6	1.98	1.91

* ACT Composite scores for Spring 1971 had been rounded to the nearest whole number in original reports from which the data was obtained.

TABLE 31
COLLEGE AND CLASS STANDING OF STUDENTS WHO WITHDREW FROM
SOUTH DAKOTA STATE UNIVERSITY DURING THE
SPRING 1971 AND SPRING 1972 TERMS

College	Class Standing at Time of Withdrawal From the University									
	Freshmen		Sophomores		Juniors		Seniors		Special Students*	
	Spring 1971	Spring 1972	Spring 1971	Spring 1972	Spring 1971	Spring 1972	Spring 1971	Spring 1972	Spring 1971	Spring 1972
Agriculture	6	8	5	6	2	2	4	2	2	0
Engineering	3	3	2	0	2	3	0	2	1	0
Arts and Science	8	15	3	4	1	4	1	3	1	3
Home Economics	1	2	1	1	0	4	1	1	0	0
Pharmacy	0	0	1	2	1	0	0	0	0	0
Gen. Registration	7	13	2	0	1	1	0	0	1	1
Nursing	0	1	0	1	2	0	0	0	0	0
Total	25	42	14	14	9	14	6	8	5	4

* Special students do not have a class designation. Transcripts may be pending and the student is not eligible to be a candidate for graduation until the special status has been changed.

TABLE 32
COMPARISON OF THE NUMBER OF STUDENTS THAT WITHDREW FROM
SOUTH DAKOTA STATE UNIVERSITY DURING THE FALL
1970-71 AND FALL 1971-72 TERMS WITH THE
SPRING 1971 AND SPRING 1972 TERMS

College	Number Withdrawing During 1970-1971 School Year		Number Withdrawing During 1971-1972 School Year	
	Fall 1970-1971	Spring 1971	Fall 1971-1972	Spring 1972
Agriculture	17	19	32	18
Engineering	13	8	12	8
Arts and Science	24	14	30	29
Home Economics	3	3	9	8
Pharmacy	9	2	4	2
Gen. Registration	7	11	18	15
Nursing	3	2	7	2
Total	76	59	112	82

CHANGES CONSIDERED AS CHANGES OF PROGRAM FOR THIS STUDY

I. All changes into Nursing except:

From General Registration Nursing (554) to Nursing

II. All changes into Pharmacy

III. All changes into Home Economics except:

From General Registration Home Ec. (532) to Home Economics

From Arts and Science Journalism (257) to Home Ec. Journalism

From Agriculture Journalism (013) to Home Ec. Journalism

IV. All changes in Engineering except:

From Arts and Science Physics (269) to Engineering Physics

From Agriculture Mechanized Ag. (054) to Agriculture Engineering

From General Registration Engineering General (514) to any
Engineering Major

V. All changes into Agriculture except:

From Agriculture Engineering (103) to Mechanized Agriculture

From Arts and Science Bacteriology (207) to Bacteriology in Ag.

From Arts and Science Biology (210) to Biology or Wildlife Biology
in Agriculture.

From Arts and Science Botany (213) to Botany in Agriculture

From Arts and Science Economics (230) to Agri-Business or to
Agri- Economics

From Arts and Science Entomology (236) to Entomology in Ag.

From Arts and Science Journalism (257) to Agriculture Journalism

From Arts and Science Plant Pathology (275) to Ag. Plant Pathology

From Arts and Science Sociology (291) to Rural Sociology

From Arts and Science Zoology (299) to Zoology in Agriculture

From Home Economics Journalism (340) to Agriculture Journalism

From General Registration General Agriculture (522) to General
Agriculture

VI. All changes into Arts and Science except:

From Agri-Business (003) or Agri-Economics (006) to Economics

From Agri-Journalism (013) to Journalism in Arts and Science

From Ag. Bacteriology (026) to Bacteriology in Arts and Science

From Ag. Biology (028) or Wildlife Biology (093) to Biology

From Ag. Botany (031) to Botany in Arts and Science

From Ag. Entomology (040) to Entomology in Arts and Science
 From Ag. Plant Pathology (062) to Arts and Science Plant Path.
 From Rural Sociology (085) to Sociology in Arts and Science
 From Ag. Zoology (097) to Arts and Science Zoology
 From Engineering Physics (140) to Arts and Science Physics
 From Home Economics Journalism (340) to Arts and Science Journ.
 From General Registration Economics (510) to Economics
 From General Registration English (518) to English in Arts and Science

VII. All changes into General Registration except:

From General Agriculture (043) to Ag. General Agriculture
 From Agri-Business (003) or Agri-Economics (006) to General
 Registration Economics
 From General Engineering (147) to General Engineering in
 General Registration
 From Arts and Science Economics (230) to General Registration
 Economics
 From Arts and Science English (233) to Gen. Registration English
 From Arts and Science Special Non-Degree (295) to Gen. Registration
 No-Preference
 From General Home Economics (318) to Gen. Registration Home Ec.
 From Nursing (725) to General Registration Nursing

TABLE 1. SUMMARY OF RESULTS OF SURVEY OF SURFACE WATER

Station	Temperature (°F)	Salinity (ppt)	Depth (ft)	Time (hr)
1	68	25	10	12
2	68	25	10	14
3	68	25	10	16
4	68	25	10	18
5	68	25	10	20
6	68	25	10	22
7	68	25	10	24
8	68	25	10	26
9	68	25	10	28
10	68	25	10	30
11	68	25	10	32
12	68	25	10	34
13	68	25	10	36
14	68	25	10	38
15	68	25	10	40
16	68	25	10	42
17	68	25	10	44
18	68	25	10	46
19	68	25	10	48
20	68	25	10	50
21	68	25	10	52
22	68	25	10	54
23	68	25	10	56
24	68	25	10	58
25	68	25	10	60
26	68	25	10	62
27	68	25	10	64
28	68	25	10	66
29	68	25	10	68
30	68	25	10	70
31	68	25	10	72
32	68	25	10	74
33	68	25	10	76
34	68	25	10	78
35	68	25	10	80
36	68	25	10	82
37	68	25	10	84
38	68	25	10	86
39	68	25	10	88
40	68	25	10	90
41	68	25	10	92
42	68	25	10	94
43	68	25	10	96
44	68	25	10	98
45	68	25	10	100
46	68	25	10	102
47	68	25	10	104
48	68	25	10	106
49	68	25	10	108
50	68	25	10	110
51	68	25	10	112
52	68	25	10	114
53	68	25	10	116
54	68	25	10	118
55	68	25	10	120
56	68	25	10	122
57	68	25	10	124
58	68	25	10	126
59	68	25	10	128
60	68	25	10	130
61	68	25	10	132
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232	68	25	10	474
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274	68	25	10	558
275	68	25	10	560
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278	68	25	10	566
279	68	25	10	568
280	68	25	10	570
281	68	25	10	572
282	68	25	10	574
283	68	25	10	576
284	68	25	10	578
285	68	25	10	580
286	68	25	10	582
287	68	25	10	584
288	68	25		

TABLE 33.--TABULATION OF RELIGION OF FAMILY OF SAMPLE GROUPS

Religion or Denomination	Changer Group	Withdrawer Group	Persister Group	Total
Baptist	3	3	5	11
Episcopalian	1	0	3	4
Jewish	0	0	0	0
Lutheran	55	31	99	185
Methodist	27	22	29	78
Presbyterian	9	6	13	28
Roman Catholic	43	21	69	133
United Church of Christ	5	3	9	17
Other Denominations	7	4	25	36
None or No Religion	1	1	4	6
Total	151	91	256	498

TABLE 34.--FATHER'S OCCUPATION OF STUDENTS IN SAMPLE GROUPS

Father's Occupational Area	Changer Group	Withdrawer Group	Persister Group
Farming, Ranching, Farm Related	56	30	106
U. S. Government (Includes Postal Service)	12	2	8
Business Owners	11	7	28
Business Managers, Supervisors	11	5	11
Foreman and Skilled Workers	11	8	18
Truck Drivers, Transportation	9	5	6
Semi-Skilled, Laborers	8	3	12
Salesman and Agents (Includes Real Estate Salesmen)	7	5	17
Education (Secondary, Elem.)	5	5	11
Professional Health Services	3	3	5
Education, Higher	3	0	5
Bankers	2	2	3
State Employment	1	3	5
Armed Service	1	1	0
Engineer	1	3	5
City and County Employment	0	2	6
Ministers	0	2	1
Miscellaneous Occupations	1	2	3

TABLE 35.--STUDENT ESTIMATE OF FAMILY INCOME

Income Level	Changers		Withdrawers		Persisters		Total	
	No.	%	No.	%	No.	%	No.	%
\$25,000 and over	9	6.25	9	10.34	20	8.03	38	7.92
15,000 to 24,999	31	21.53	17	19.54	48	19.28	96	20.00
12,000 to 14,999	28	19.44	17	19.54	67	26.91	112	23.32
9,000 to 11,999	29	20.14	17	19.54	56	22.49	102	21.25
6,000 to 8,999	26	18.06	21	24.14	34	13.65	81	16.88
3,000 to 5,999	14	9.72	5	5.75	23	9.24	42	8.75
Under \$3,000	7	4.86	1	1.15	1	.40	9	1.88
Total	144	100.00	87	100.00	249	100.00	480	100.00

TABLE 36.--SIZE OF COMMUNITY OF PARENT RESIDENCE

Size of Community of Residence of Parents	Changers		Withdrawers		Persisters		Total	
	No.	%	No.	%	No.	%	No.	%
Farm or Open Country	54	35.76	31	34.08	97	37.89	182	36.55
Up to 1,000 Pop.	27	17.88	14	15.38	22	8.59	63	12.65
1,000 to 2,499	13	8.61	8	8.79	28	10.94	49	9.84
2,500 to 4,999	8	5.30	6	6.59	19	7.42	33	6.63
5,000 to 9,999	3	1.99	6	6.59	8	3.13	17	3.41
10,000 and Over	46	30.46	26	28.57	82	32.03	154	30.92
Total	151	100.00	91	100.00	256	100.00	498	100.00

TABLE 37.--STUDENT ESTIMATE OF CLASS STANDING OF PARENTS

Class Level	Changers		Withdrawers		Persisters		Total	
	No.	%	No.	%	No.	%	No.	%
Class I	1	.66	7	7.69	5	1.95	13	2.61
Class II	23	15.23	10	10.99	35	13.67	68	13.65
Class III	36	23.84	21	23.08	74	28.91	131	26.31
Class IV	87	57.63	49	53.84	138	53.91	274	55.02
Class V	1	.66	4	4.40	2	.78	7	1.41
Class VI	2	1.32	0	.00	1	.39	3	.60
Class VII	1	.66	0	.00	1	.39	2	.40
Total	151	100.00	91	100.00	256	100.00	498	100.00
Average Estimate	$\bar{X} = 3.47$		$\bar{X} = 3.36$		$\bar{X} = 3.40$		$\bar{X} = 3.42$	

TABLE 38.--COMPARISON OF INCOME OF PARENTS TO OTHERS IN COMMUNITY

Income Class Level	Changers		Withdrawers		Persisters		Total	
	No.	%	No.	%	No.	%	No.	%
Class I	7	4.64	4	4.44	11	4.30	22	4.43
Class II	22	14.57	17	18.89	47	18.36	86	17.30
Class III	30	19.87	17	18.89	80	31.25	127	25.55
Class IV	75	49.67	41	45.56	96	37.50	212	42.66
Class V	11	7.28	9	10.00	20	7.81	40	8.05
Class VI	6	3.97	2	2.22	1	.39	9	1.81
Class VII	0	.00	0	.00	1	.39	1	.20
Total	151	100.00	90	100.00	256	100.00	497	100.00
Average Income Level	$\bar{X} = 3.52$		$\bar{X} = 3.51$		$\bar{X} = 3.28$		$\bar{X} = 3.39$	

TABLE 39.--MARKET VALUE OF PARENT'S HOME COMPARED TO OTHERS IN
COMMUNITY

Class Level of Home	Changers		Withdrawers		Persisters		Total	
	No.	%	No.	%	No.	%	No.	%
Class I	6	4.00	3	3.33	12	4.71	21	4.24
Class II	20	13.33	13	14.44	40	15.69	73	14.75
Class III	39	26.00	17	18.89	79	30.98	135	27.27
Class IV	68	45.34	44	48.90	97	38.03	209	42.23
Class V	12	8.00	8	8.89	22	8.63	42	8.48
Class VI	5	3.33	4	4.44	5	1.96	14	2.83
Class VII	0	.00	1	1.11	0	.00	1	.20
Total	150	100.00	90	100.00	255	100.00	495	100.00
Average Class Level	$\bar{X} = 3.50$		$\bar{X} = 3.63$		$\bar{X} = 3.36$		$\bar{X} = 3.45$	

TABLE 40.--LEAST SQUARES ANALYSIS OF VARIANCE OF RELATIONSHIP BETWEEN SOCIAL CLASS (WISC) AND COMPARISON BY THE STUDENT OF FAMILY INCOME TO OTHER INCOMES IN THE COMMUNITY

Source	DF	Sum of Squares	Mean Squares	F Ratio
Total	467	538.057693		
Between	6	148.194645	24.699107	29.206
Within	461	389.863048	0.845690	P<.001

TABLE 41.--LEAST SQUARES ANALYSIS OF VARIANCE OF RELATIONSHIP BETWEEN SOCIAL CLASS (WISC) AND MARKET VALUE OF HOME AS ESTIMATED BY THE STUDENT

Source	DF	Sum of Squares	Mean Squares	F Ratio
Total	467	548.382479		
Between	6	132.443914	22.073986	24.465
Within	461	415.938565	0.902253	P<.001

TABLE 42.--LEAST SQUARES ANALYSIS OF VARIANCE OF RELATIONSHIP BETWEEN SOCIAL CLASS (WISC) AND FATHER'S SOCIAL CLASS AS ASCERTAINED FROM MINNESOTA SCALE FOR PATERNAL OCCUPATIONS

Source	DF	Sum of Squares	Mean Squares	F Ratio
Total	467	668.536325		
Between	6	154.676020	25.779337	23.127
Within	461	513.860305	1.114664	P<.001

TABLE 43.--LEAST SQUARES ANALYSIS OF VARIANCE OF RELATIONSHIP BETWEEN SOCIAL CLASS (WISC) AND FAMILY INCOME LEVEL AS ESTIMATED BY THE STUDENT

Source	DF	Sum of Squares	Mean Squares	F Ratio
Total	467	1020.991453		
Between	6	228.973757	38.162293	22.213
Within	461	792.017696	1.718043	P < .001

TABLE 44.--LEAST SQUARES ANALYSIS OF VARIANCE OF RELATIONSHIP BETWEEN SOCIAL CLASS (WISC) AND STUDENT ESTIMATE OF CLASS STANDING OF PARENTS

Source	DF	Sum of Squares	Mean Squares	F Ratio
Total	467	352.230769		
Between	6	72.780667	12.130111	20.011
Within	461	279.450102	0.606182	P < .001

TABLE 45.--LEAST SQUARES ANALYSIS OF VARIANCE OF RELATIONSHIP BETWEEN SOCIAL CLASS (WISC) AND EDUCATION OF FATHER

Source	DF	Sum of Squares	Mean Squares	F Ratio
Total	467	1508.382478		
Between	6	249.251972	41.541995	15.210
Within	461	1259.130506	2.731303	P < .001

TABLE 43.--LEAST SQUARES ANALYSIS OF VARIANCE OF RELATIONSHIP BETWEEN SOCIAL CLASS (WISC) AND FAMILY INCOME LEVEL AS ESTIMATED BY THE STUDENT

Source	DF	Sum of Squares	Mean Squares	F Ratio
Total	467	1020.991453		
Between	6	228.973757	38.162293	22.213
Within	461	792.017696	1.718043	P < .001

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Between	6	228.973757	38.162293	22.213
Within	461	792.017696	1.718043	P < .001

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Source	DF	Sum of Squares	Mean Squares	F Ratio
Total	467	352.230769		
Between	6	72.780667	12.130111	20.011
Within	461	279.450102	0.606182	P < .001

TABLE 45.--LEAST SQUARES ANALYSIS OF VARIANCE OF RELATIONSHIP BETWEEN SOCIAL CLASS (WISC) AND EDUCATION OF FATHER

Source	DF	Sum of Squares	Mean Squares	F Ratio
Total	467	1508.382478		
Between	6	249.251972	41.541995	15.210
Within	461	1259.130506	2.731303	P < .001

TABLE 46.--LEAST SQUARES ANALYSIS OF VARIANCE OF RELATIONSHIP BETWEEN
SOCIAL CLASS (WISC) AND CLASS STANDING OF FRIENDS OF THE FAMILY

Source	DF	Sum of Squares	Mean Squares	F Ratio
Total	467	385.750000		
Between	6	59.733496	9.955583	14.078
Within	461	326.016504	0.707194	P < .001

TABLE 47.--LEAST SQUARES ANALYSIS OF VARIANCE OF RELATIONSHIP BETWEEN
SOCIAL CLASS (WISC) AND EDUCATION OF MOTHER

Source	DF	Sum of Squares	Mean Squares	F Ratio
Total	467	1080.826923		
Between	6	49.129175	8.188196	3.659
Within	461	1031.697748	2.237956	P < .01

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