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**FORECASTING HIGH SCHOOL DROPOUT: A
SOCIAL-PSYCHOLOGICAL APPROACH**

by

Clifford E.^{li} Bryan

**A Dissertation
Submitted to the
Faculty of the School of Graduate
Studies in partial fulfillment
of the
Degree of Doctor of Philosophy**

**Western Michigan University
Kalamazoo, Michigan
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CHAPTER I

THEORY AND OBJECTIVES

Introduction

The theoretical constructs of Aspirations and Plans have been objects of extensive investigation in sociology, psychology and education. Studies dealing with the determinants, correlates and predictive value of students' educational and occupational aspirations and plans are and have been based on the assumption that these concepts are useful predictors and indicators of behavior.

Given a knowledge of other contingencies, however, what are the empirical values of aspirations and plans in forecasting behavior? Does the knowledge of an individual's aspirations and plans provide greater accuracy in forecasting his behavior than does the assessment of other relevant variables? If aspirations and plans are useful predictors, do they add to or overlap with the predictive utility of other theoretical constructs included in the same theoretical framework? For example, do aspirations and plans increase forecasting ability when coupled with self-concept measures, parental expectations, etc. ? Do the predictive values of aspirations and plans vary depending upon other

variables with which they may be interacting? These questions are the guiding research questions of this study, the answers to which provide the substance for achieving the following theoretical objectives.

Theoretical Objectives

The theoretical orientation of this study, set within the "symbolic interaction" tradition,¹ includes the proposition that voluntary decision-making behavior is a function of "perceived probable outcomes of social acts," which is referred to as the "cognitive completion of an act." The first major objective of this study is to develop an empirical basis for accepting or rejecting this proposition by determining if a person's cognitive completion of an act (e. g. , whether a student thinks he will drop out of school) is functionally related to his completion of that act (e. g. , whether, in fact, he actually does drop out). In prior research² which provides the foundation for this study, this objective has been

¹ The theoretical framework for this study is derived from interpretations of the theoretical generalizations of George Herbert Mead as elaborated by Wilbur B. Brookover, Edsel L. Erickson and Lee M. Joiner. These interpretations are presented and discussed in the Related Literature and Theoretical Background sections of this study.

² Bryan, Clifford E. , "The Prediction of High School Dropout. " Unpublished Master's Thesis, Western Michigan University, Kalamazoo, Michigan, 1969, Pp. iii + 118.

partially achieved. This previous work, however, was tailored to the old rule of keeping ". . . all variables constant but one."¹ This investigation, however, heeds Mood's² statement that "One well-designed experiment, taking account of all relevant factors, is worth dozens or even hundreds of experiments that study one factor at a time keeping the others constant."

Assuming an affirmative answer to the first objective, the second and most important theoretical objective of this study is to determine how and to what extent the cognitive completion of an act, in interaction with other social-psychological and sociological variables, affects the completion of that act. Prior theoretical and empirical social-psychological work leads to the conclusion that various categories of self-concepts and perceptions of others are related to behavior. Thus, in this study an attempt will be made to assess whether and to what extent the cognitive completion of an act may have behavioral effects when in interaction with various conditions of self-concept and perceptions of others. In question form, is there a variation in the effects of a cognitive completion of an act which is dependent on certain other

¹ Bottenberg, Robert A., and Ward, Joe H. J., Applied Multiple Linear Regression. Lackland Air Force Base: Air Force Systems Command, 1963, P. viii.

² ibid.

cognitions of the self and of the world?

The third and final theoretical objective of this dissertation is to determine to what extent cognitive completions of acts are modified in their impact by sociological and psychological contexts. For example, do socioeconomic factors and measured intelligence scores affect the influences of an individual's cognitive completions of acts? In this manner, then, it is hoped that the theoretical importance of aspirations and plans, as related to other sociological, psychological, and social-psychological variables, shall be empirically established.

In the section dealing with Related Literature and Research, the effects of many different sociological, psychological and social-psychological variables upon aspirations and plans and high school dropout behavior are examined in greater detail; but for the purpose of constructing a comprehensive model for the study of complex behavior, these different factors are enumerated in this part of the discussion. It is proposed that these different factors may be subsumed under three major categories: person variables, social-psychological variables, and social context contingencies.

The comprehensive model is presented in Figure 1. 1. This

FIGURE 1.1 --Comprehensive theoretical model: variables relevant to forecasting high school dropout with the multiple linear regression approach

$$Y_a = (P, S_p, S_c)$$

Where:

P = Within Person Variables

1. Educational Values for Self
 - a. Educational Plans (Ed Pl)
 - b. Educational Aspirations (Ed Asp)
2. General Values for Self
 - a. Occupational Plans (Occ Pl)
 - b. Occupational Aspirations (Occ Asp)
3. Academic Characteristics
 - a. Measured Intelligence Scores (IQ)
 - b. Academic Achievement (GPA)
 - c. General self-concept of academic ability (SCA)

S_p = Social-psychological Variables

1. Family norms
 - a. Perceived parental expectations - educational attainment (PPE_x)
 - b. Perceived parental evaluations - student's ability (PPE_v)
 - c. Parental reactions to good report cards
 - d. Parental reactions to poor report cards
2. Teacher norms
 - a. Perceived teacher expectations (PTE_x)
 - b. Perceived teacher evaluations (PTE_v)
3. Peer norms
 - a. Perceived Friend's expectations (PFE_x)
 - b. Perceived Friend's evaluations (PFE_v)
 - c. Popularity with same sex
 - d. Popularity with opposite sex

S_c = Social Context Contingencies

1. Familial
 - a. Socioeconomic status
 - b. Intact or incomplete family marital status
 - c. Number of siblings in home
2. School
 - a. Socioeconomic climate
 - b. Academic climate

figure is a modification of extensions of work by McGuire¹ and Whiteside² as presented by Kelly and associates.³ The quasi-mathematical equation should read: The predicted behavior of individual "a" (Y_a) is a function of his personal characteristics (P), social-psychological characteristics (S_p), and characteristics of the context (S_c).

Since this is one of the first studies to use a multiple variable, interaction design in forecasting dropout with aspirations and plans, one of the limitations of this project is that the variables selected for analytical purposes may not be the most relevant variables that belong within each category. These are universal questions, the resolution of which cannot be brought about by this study. The relationships will be specified in greater detail in those chapters concerned with methodology and findings; but the following model is provided for illustrative purposes.

¹McQuire, C., "The Textown Study of Adolescence." Texas Journal of Science, I (April 1956), 264-274.

²Whiteside, R., "Dimensions of Teacher Evaluation of Academic Achievement." Unpublished doctoral dissertation, The University of Texas, Austin, Texas, 1964. Pp. v-139.

³Kelly, Francis J.; Boggs, Donald L.; McNeil, Keith A.; Eichelberger, Tony; and Lyon, Judy, Multiple Regression Approach, Carbondale and Edwardsville: Southern Illinois University Press, 1969, Pp. 6-7.

In the task of predicting complex behavior such as voluntary high school dropout, a number of aspects of the situation should be investigated. The first characteristics that might be examined are those related to the criterion of dropout. Many investigators have focused on notions regarding relevant human characteristics (P) needed for academic success, e. g., are low scores on intelligence measures, reading tests and academic ability as indicated by grade point averages contributive to dropout? What are the conditions (S_c) surrounding decisions to voluntarily withdraw from school? Are some schools characterized by certain kinds of social and academic climates that influence greater dropout rates? Are differences in social class backgrounds associated with variations in dropout behavior? Are there certain social-psychological variables (S_p) that are of greater utility in forecasting high school dropout? How do the expectations of others for a student's academic attainment and the evaluations of the student's ability as perceived by the student of his parents, friends, and teachers account for variations in dropout behavior? Greater familiarity with the univariate research as well as with multivariate studies should provide additional suggestions regarding the relevant variables that may account for such complex behavior as that of voluntary high school withdrawal.

It might then be concluded that high school dropout behavior

is related to (1) Educational Plans (Ed Pl); (2) Educational Aspirations (Ed Asps); (3) Self-Concept of Academic Ability (SCA); (4) Measured Intelligence Scores (IQ); (5) Socioeconomic Status (SES); and (6) Academic Achievement (GPA). This can be cast as:

$$Y_t = (\text{Ed Pl}, \text{Ed Asps}, \text{SCA}, \text{IQ}, \text{SES}, \text{GPA})$$

Where: Y_t = predicted behavior of high school dropout

In the predictive equation, however, the functions of the different variables have not been specified. As an empirical question, it might be assumed that the act of voluntarily withdrawing from school is due to a cumulative quality of the six weighted variables (an additive function). This would be stated as:

$$Y_t = a_1 \text{Ed Pl} + a_2 \text{Ed Asps} + a_3 \text{SCA} + \dots + a_6 \text{GPA}$$

The weights $a_1 \dots a_6$ might be rationally chosen or empirically derived using a least squares solution or some other solution. Knowledge of past research, however, may suggest that the additive function is not completely adequate. For example, it may be concluded that academic ability is geometrically inversely related to dropout, e. g., grade point averages in the very high and the middle ranges may not be predictive while those which range from the middle to the very low are predictive. Furthermore, it might be expected that Educational Plans and levels of Self-Concept of Academic Ability interact such that if one feels that he has a low level of academic ability, he may anticipate a low level of attain-

ment in the educational system. These circumstances can be reflected by including a squared function of GPA and a multiplicative function of Educational Plans and Self-Concept of Academic Ability (Ed Pl * SCA). The expanded equation would be:

$$Y_t = a_1 \text{Ed Pl} + a_2 \text{Ed Asp} + a_3 \text{SCA} + a_4 \text{IQ} + a_5 \text{GPA} + a_6 \text{SES} + a_7 (\text{GPA})^2 + a_8 (\text{Ed Pl} * \text{SCA})$$

Theoretically, if the two new variables represented the functional relationship more adequately, then the predicted behavior of dropout (Y_t) should be very close to the actual behavior (Y_t), thus producing only a small amount of error in the prediction.

One of the major problems, however, is to determine which of the two major concepts, i. e., Educational Aspirations or Educational Plans, has empirical support for being included in the final theoretical and methodological model. This could only be determined by employing intercorrelational and factor analyses after the data have been collected. The chapter dealing with findings as well as the final chapter will more fully depict the theoretical model which emerges from these analyses. In the findings chapter, those variables which are not included in the final model, i. e., those found to be either redundant or of doubtful utility, will also be presented.

Research Objectives

In order to achieve the theoretical objectives, the cognitive completions of acts as stated by high school students shall be employed to forecast the actual completions of these acts. In this case, the cognitive completions of an act refers to both anticipations of and wishes for withdrawing from or graduating from high school.

As will be presented in the section on related literature, the construct of "plans" approximates what is meant by the "cognitive completion of an act." As will be discussed, however, there are many problems regarding whether the anticipation of an act refers to the same phenomena as does the desire for an act. In many studies, a person's aspirations (desires) for the completion of an act are not clearly differentiated from his actual anticipations that the given event will, in fact, occur. The theoretical perspective of this study provides the basis for the proposition that perceived probable outcomes are factors that are separate from desired outcomes. Although aspirations and plans may sometimes be dependent on one another and consequently similar in objectives and functions for an individual, these constructs are by definition different in content and can be different in their functions as related to behavior.

A related proposition states that if voluntary decision-making behavior is a function of aspirations, these aspirations function within one's anticipation of the future. Although many sociologists, psychologists and educators have contended that student plans and aspirations are important determinants of educational and vocational choices, only recently has work been done to empirically test these assertions. Even though student aspirations, plans and high school dropout have been the topics for many studies and of much speculation, few studies have examined all three variables.

A number of reasons may be attributed to the dearth of research relating plans and aspirations to dropout. The sheer difficulty of obtaining sequential data on students may explain why most studies on aspirations and plans have been cross-sectional approaches. A major criticism of much past research on aspirations and plans is that these concepts have usually been associated with other self-report measures concerning attitudes, perceptions of parental influence, subject's responses to socioeconomic status questions, etc. Since such hypothesized criterion variables are collected at the same time that the levels of aspirations and plans are assessed, the data may have such methodological limitations as response set, independence of data, etc. Very few studies have used an independently observed behavioral event which occurs after the collection of data on aspirations and plans.

Another problem investigators may encounter is that of collecting data on student dropouts, e.g., distinguishing voluntary dropouts from those who have been administratively excluded from school, students who left because of illness, etc. Another difficulty concerns differences between those who drop out at higher and lower levels of high school: those who quit at the ninth grade level may tend to be over-aged in comparison to grade level peers while eleventh and twelfth grade dropouts may not. Are there other relevant differences? Unfortunately, past research has not tended to deal with variations in dropout either by grade level or within grade levels.

In this study, several of these major methodological problems have been circumvented. The first problem discussed was that of data collection: in this study the data used to forecast the dependent variable of dropout were acquired prior to the occurrence of the act. Since the relevant variables are to be used to predict behavior in the sense of actually forecasting social events, this study is not of the post-hoc variety.

An additional major advantage of this project concerns the reliability and validity of the major theoretical constructs. Traditionally, the theoretical constructs of aspirations and plans have been used synonymously and as representative of the same kinds

of personality attributes. Several of the more recent studies¹, however, have indicated that the concepts of aspirations and plans may be separate factors, i. e., items which ask individuals to indicate their desires and wishes may measure different phenomena than do items which ask persons to state what they really expect to do in the future. In a recent investigation², it was demonstrated that (1) the concepts of Educational Plans and Educational Aspirations are mutually exclusive; (2) Educational Plans are better predictors of dropout behavior; and (3) when both concepts are simultaneously employed, there appears to be an interactive effect that enhances the prediction of dropout. Therefore, it was

¹Brookover, Wilbur B., Erickson, Edsel L., and Joiner, Lee M., "Educational Aspirations and Educational Plans in Relation to Academic Achievement and Socioeconomic Status." The School Review, LXXV (Winter 1967), 392-400. Bennett, William S. Jr., and Gist, Noel P., "Class and Family Influences on Student Aspirations." Social Forces, XLIII (December 1964), 167-173. Stephenson, Richard M., "Mobility Orientation and Stratification of 1000 Ninth Graders." American Sociological Review, XXXVI (April 1957), 204-212. Weiner, Max and Murray, Walter, "Another Look at the Culturally Deprived and Their Level of Aspiration." Journal of Educational Sociology, XXXVI (1963), 319-321. Haller, Archibald O., and Sewell, William H., "Occupational Choices of Wisconsin Farm Boys." Rural Sociology, XXXII (March 1967), 37-55. Bryan, op. cit. Porter, J. Richard, "Predicting Vocational Plans of High School Senior Boys." The Personnel and Guidance Journal, XXXI (December 1954), 215-218. Youmans, E. Grant, "Occupational Expectations of Twelfth Grade Michigan Boys." Journal of Experimental Education, XXIV (June 1956), 295-271.

²Bryan, op. cit.

concluded that aspirations and plans are separate constructs which have additive theoretical utility in the explanation of career behavior. From these findings, a question has been formulated in the current study which asks whether knowledge of these two constructs would have additive theoretical and empirical values when used with other variables that have been drawn from the same theoretical framework.

In this project, conceptual clarifications which deal with two separate phenomena are employed to test hypotheses about the relationships between the cognitive and the actual completions of a social act. The first construct, which deals with cognitive anticipations for the completion of an act, is designated as an Educational Plan. The second construct, termed an Educational Aspiration, concerns cognitive fantasies or desired outcomes of behavior. As used in this study, both cognitively desired and anticipated completions of an act refer to grade levels in the school system which the individual students both plan and aspire to achieve. The actual observed completion of the act will be that of dropping out of or graduating from high school.

Many of the shortcomings of predictive studies that have been identified by Travers¹ have been taken into account in designing

¹Travers, Robert M. W., An Introduction to Educational Research. New York: The MacMillan Co., 1965, Pp. 356-368.

this project. Since all of the determinants of any behavioral event are largely obscure, it is said that predictive studies should focus on the use of individual characteristics as variables. In order for a phenomenon to be predictable, the determinants must exist in some well-identified and measurable form at the time when the prediction is made. If all determinants cannot be identified to make perfect predictions, the partial determinants need exist in an identifiable form to make partial predictions. Since this is one of the first multiple regression approaches in the forecasting of high school student dropout behavior, one limitation of this study is that the variables that are taken into account may be seen as being merely suggestive of those which might be appropriate to the three major categories of person, social-psychological and social context variables. The factors which have been selected, however, are representative of those which have received the most extensive treatment in the social science literature pertinent to the topic of this study.

Another important consideration for prediction is that the condition to be predicted must represent a well-defined phenomenon and, if possible, that it represent a measurable variable.¹ Often, the discovery of a significant and well-defined variable to

¹loc. cit., p. 361.

forecast is the major difficulty in the development of a predictive study. Yet another condition that must be established before a predictive study can be undertaken is that the phenomenon to be predicted must be homogeneous in its causes, i. e., it always has the same causes. Many studies, as will be discussed, present rather exhaustive lists of characteristics and attributes common to high school dropouts. The amount of attention given to this issue by both scholars and laymen would indicate that this is a variable that is both significant and fairly well-defined. In this project, those other variables which have been previously demonstrated to be relevant to academic behavior will be tested along with the major variables in forecasting voluntary high school dropout behavior. In an earlier study¹, the variables of Educational Aspirations and Educational Plans were demonstrated to have a separate and an additive value in the prediction of dropout even when measured intelligence scores, socioeconomic status, and levels of self-concept of academic ability were controlled; this may be viewed as an indication of at least a degree of causal homogeneity. It is one purpose of this study to subject this question to more rigorous testing procedures.

¹Bryan, op. cit.

Related Literature

High school dropout

The subject of high school dropout has received a great deal of attention. According to Dentler¹, there seems to be three main approaches to this problem. The first general approach is exhortative and has little concern for research. The second consists of descriptive statistical reports about rates, origins, states, school districts and communities. These would be of some value if there were uniform and valid methods that would permit confidence in the statements about the given parameters. A third group or classification of literature, i. e., surveys of social and educational characteristics of alleged dropouts, often consists of lists of characteristics that re-appear with such regularity that one is invited to generalize. The literature seems to be replete with this kind of presentation. As Tannenbaum² states, in the social and behavioral sciences, a correlate often masquerades as a consequence. Dentler³ asserts that the recurrent lists of

¹Dentler, Robert A., and Warshauer, Mary Ellen, Big City Dropouts and Illiterates. New York: Frederick A. Praeger, Publishers, 1968, p. 5.

²Tannenbaum, Abraham J., "The School Dropout Today." IRCD Bulletin, Publication of the ERIC Information Retrieval Center on the Disadvantaged, New York: Columbia Teachers College (September 1968), 1.

³Dentler, et. al., op. cit., p. 5.

attributes common to high school dropouts are easy to catalog.

In what is called the model dropout, the general characteristics are usually those of being (1) a low school achiever, usually below grade level; (2) a member of a low income family in which the parents have a low educational attainment level; (3) an infrequent participant in extra-curricular activities. Stebbens¹ states that the following characteristics (all or in part) describe the junior and senior high school potential dropout:

1. Negative or hostile attitude toward teacher and school;
2. Severe retardation in reading;
3. Irregular attendance patterns;
4. Poor work habits and study skills;
5. Indifference and lack of ambition;
6. Disruptive classroom behavior;
7. Withdrawal tendencies;
8. Preoccupation with non-school activities;
9. Unacceptable personal habits;
10. Deficiency in basic citizenship skills.

Matthews and Bowman² offer another list of traits said to be

¹Stebbens, Marion, "Flint Offers the Potential Dropout a Personalized Curriculum." The Clearing House, XXXVIII (December 1963), 205-209.

²Matthews, C. V. and Bowman, Peter, The Motivations of Youth for School. Quincy Youth Development Project, Washington, D. C.: U. S. Office of Education, 1960, p. 23.

based on several studies: dropouts are more often boys from (a) lower social classes; (b) minority groups; and (c) broken homes. Furthermore, they usually possess lower than average intellectual potential, retarded reading ability, and are often over-aged. They have often moved from one school to another, regress markedly in attendance from junior through senior high, and have failed several courses in the year prior to leaving school. Money is not usually a factor in leaving; but parents often have displayed little support for the school or for the child's educational interests. The affective states of dropouts are generally portrayed as (a) feelings of insecurity and lacking feelings of belonging in the school; (b) feelings of poor treatment by teachers and fears of going to them for help; (c) dissatisfactions with associations in school and a lack of supportive friends. Further, dropouts are said to place little value in education as a help to themselves, often feel that their education should have been more practical, and experience difficulties in getting a job.

Nearly every polemic, hortative essay, and carefully designed study in scientific and popular literature agrees that dropout is a problem. Dentler¹ and Tannenbaum², however, both indicate that

¹Dentler, et. al., op. cit., p. 3.

²Tannenbaum, op cit., p. 1.

the actual scope of the dropout problem has considerably diminished. Dentler asserts that historical statistics suggest a rather constant number of dropouts between 1920 and 1960; the high school population has, on the other hand, expanded by more than 500% during the same period. Dentler cites historical evidence to indicate a dramatic shift from an 80% likelihood of withdrawal in 1920 to an 80% probability of graduation by 1975. Dentler and Tannenbaum seem to agree that one of the major causes of the greater retention rates may be that of the changing policies of the schools. Tannenbaum claims that schools have diluted learning demands in order to improve retention rates. Cervantes¹ agrees with Tannenbaum that while a high school diploma does not open doors to privileges, such doors will not open at all to those who have no diploma. Consequently, for the dwindling few who are unable or unwilling to earn a diploma, dropout is a greater stigma than ever for two reasons. First, since learning practices have been diluted, the dropout is viewed as having failed a rather easy task. Second, because the high school diploma has credential value in a society that prizes school attendance per se, dropouts are classified as extreme non-conformists. Clark² states that the young, to some

¹Cervantes, Lucius F., The Dropout: Causes and Cures, Ann Arbor: University of Michigan Press, 1965.

²Clark, Burton R., "Sociology of Education." Robert E. L.

degree, estimate and orient to future adult status. Their anticipation of what lies ahead in the world of work conditions their approach to schooling and their interaction with teachers. Suspicion of a dismal job future seems to play a part in apathy and rebellion. Thus, anticipated status as well as social origins set the stage for the classroom drama. It is often the impact of differential orientations to the future among the youth of a given social strata that produces the correlation of social background and classroom attitudes. Teachers, in turn, are also oriented to the futures of the young, particularly in the secondary schools, for they often attempt to define the young person in terms of his future to make him aware of where he stands in the light of universalistic standards. The classroom is an arena in which the forces of the past, present and future converge to shape the educational process.

Dentler¹ states that if a student becomes uncertain about the merits of staying in high school and graduating, his "background" and the response of educators to their own internalized assumptions about that background may reduce his ability to remove that uncertainty. In this event, the disadvantaged student is one who is vulnerable to determination from without. Finally, if he defines himself as a

Faris (Ed.), Handbook of Modern Sociology, Chicago: Rand McNally and Co., 1964, p. 764.

¹Dentler, et. al., op. cit., p. 5.

dropout in advance of the legal age for withdrawal, his self-definition can be selectively reinforced by home, peers, and the school itself. The dropout, then, is in this sense educationally disadvantaged, for his behavioral setting - which includes the self, family, peers, and school - may contain forces that impel him to leave school. Therefore, the definition of oneself as a dropout prior to leaving school is the cognitive completion of the act. It is at this point that the forecasting of dropout behavior through the investigation of cognitive completions of the act becomes relevant.

Theoretical constructs

As is true of all behavioral science research, the definitions specified for theoretical constructs influence the approach to a problem, the nature of the research findings, and the inferences and conclusions derived from the analysis of the data. Merton¹ has described one pervasive problem in the social sciences - a single term may frequently be employed to symbolize divergent concepts while, on the other hand, the same concept may be referred to by different terms. In research, the governing concepts which do lag behind the behavioral requirements of the issue under study may cause damage. There does, however, seem to be a

¹Merton, Robert K., Social Theory and Social Structure, Glencoe: The Free Press, 1957, p. 20.

kind of self-correcting tendency that occurs when more appropriate formulations of inept conceptualizations are empirically applied to situations.

The two major independent variables of this study, i. e., aspirations and plans, have been defined and employed in a vast number of ways. There have been a variety of definitions which have frequently led to contradictory and anomalous conclusions and generalizations. There is, however, a current trend towards a consensus of definitions. It is the purpose of this section of the review of the literature to indicate the divergent conceptualizations, the convergence of consensus, and to finally present a conceptual clarification between the constructs of aspirations and plans to be employed in the theoretical framework and research procedures of this project.

In much of the current literature, the concepts of aspirations and plans are used interchangeably. In other cases, an author may use a single concept to symbolize two separate kinds of entities. As a case in point, Blair, et. al.¹ attribute the quality of perceived probable outcomes of behavior to youthful aspirations or desires:

The overridealization of goals and of the self in relation

¹Blair, Glenn M., Jones, Steward, and Simpson, Ray H., Educational Psychology. New York: The MacMillan Co., 1963, Pp. 189-191.

to these goals is a disease of our culture . . . influences such as motion pictures . . . etc., have given a romantic aura to many goals and ideals sometimes to such an extent that the pupil's aspirations are far from realistic . . . therefore, if a youth's goals are so idealized as to be nonexistent in reality - and therefore impossible of achievement - and if he envisions success on an all or nothing basis, he is doomed to be disappointed . . . because a child is unable to meet unrealistic ideals, he meets frustration, which in turn leads to demoralization.

In this illustration, the possibility that a pupil may hold two different kinds of goals is ignored. There may be two types of cognitive completions of an act - one, which may be viewed as an anticipatory completion of an act, concerns the probable outcomes of one's behavior. The second may be cognitive fantasies or desired outcomes of acts. Even though at times wishes and expectations may be the same, these two constructs indicate separate factors. Blair has attributed a kind of Walter Mitty career-planning behavior to students and has disregarded the fact that even Walter periodically interrupted his dreams to pursue more attainable goals. Based upon this definition, Blair recommended, as has been the traditional practice, that teachers attack their students' aspirations as a means of stimulating school learning motivation.

Employing a similar definition of aspirations, Sears¹ con-

¹Sears, R. E., "Success and Failure: A Study of Motility." Studies in Personality, Q. McNemar and R. Merrill (Eds.), New York: McGraw-Hill Book Co., 1943, pp. 235-258.

cluded that one important factor in the level of achievement that a child may propose for himself is his experience in like situations. The conclusion of another study¹ on the effects of failure upon future goal-setting behavior was that the child who fails is more likely than the successful child to develop unrealistic aspirations for succeeding performances. The failure was said to estimate his future performance so high as to be impossible of attainment or so low that achievement was ensured.

In their attempt to determine levels of aspirations, Child and Whiting² asked students to describe separate incidents in which they had been frustrated and did not achieve a goal, frustrated but reached a goal, and when a goal had been met without frustration. While these authors defined level of aspiration as being a level of desirability, they operationally employed the concept as the ability to reach a goal. Therefore, they contended that when a subject is unable to achieve a certain goal, he changes his preferences to a goal that can be obtained. It is asserted that when a man aspires to date gorgeous girls is continually rejected by them, he will change his aspirations to that he desires the less comely types.

¹Sears, P. S., "Levels of Aspiration in Academically Successful and Unsuccessful Children." Journal of Abnormal and Social Psychology, XXXV (Spring 1940), 498-536.

²Child, I. L., and Whiting, J., "Determinants of Levels of Aspiration: Evidence From Everyday Life." Journal of Abnormal and Social Psychology, LVIV (Fall 1949), 303-314.

From the theoretical standpoint of this project, however, it is acknowledged that while a man may only expect to escort the uncomely, he may still entertain a life-long dream to date pulchritudinous platinum blondes.

Similarly, in discussing the importance of primary groups, Faris¹ has proposed that an "aspiration boundary" may be operative in placing a top limit on performance and achievement. From the theoretical perspective of this study, the term "expectation boundary" may be more appropriate. This particular kind of phenomenon, however, does appear to have some association with differing kinds of familial influences as related to social class² or caste³ situations.

Stefflre⁴ contends that high levels of interest are related to high aspirations. While his study raises several other questions,

¹Faris, Robert E. L. "Reflections on the Ability Dimension in Human Society." Edgar A. Schuler, Thomas F. Hoult, Duane L. Gibson, and Wilbur B. Brookover (Eds.), Readings in Sociology, New York: Thomas F. Crowell Co., 1967, pp. 466-67.

²Bennett and Gist, op. cit.

³Gist, Noel P., and Bennett, William S. Jr., "Aspirations of Negro and White Students." Social Forces, XLII (October 1963), 40-48.

⁴Stefflre, Buford, "Vocational Aspiration and Level of Interest Scores on the Lee Thorpe Occupational Interest Inventory." The Personnel and Guidance Journal, XXXI (March 1955), 385-388.

it may also be that the relationships he found are those of fantasy items. The author's own uncertainty may be noted in his discussion of the fact that, while there was a difference in levels of interest as related to social class, both upper and lower social class students had high aspirations. Stefflre dismissed this phenomenon by claiming that lower class pupils overstate their objectives to impress others and themselves. Had Stefflre formulated a conceptual clarification in order to distinguish wishful and anticipated cognitive completions of the act, there may have been greater differences between social classes as related to perceived probable outcomes of occupational choice. On the other hand, Bennett and Gist¹ and Gist and Bennett² indicate that, in the area of occupational choice, both aspirations and expectations may be laden with fantasy for some students.

In an experiment designed to assess the reinforcement effects of adult responses toward children, it was Crandall's³ conclusion that boys react in different directions depending upon past histories of positive or negative parental reinforcement. However, when

¹Bennett and Gist, op. cit.

²Gist and Bennett, op. cit.

³Crandall, Virginia, "Reinforcement Effects of Adult Reactions and Non-Reactions on Children's Achievement Expectations." Child Development, XXXIV (Winter 1963), 335-354.

the boys were asked to circle figures to indicate their abilities, wishful thinking rather than realistic definitions of abilities may have been involved. Due to the imprecise nature of the instruments employed in distinguishing between these factors, no conclusions can be made.

Rosenfeld and Zander¹, who defined level of aspiration as being the level of achievement that a child can realistically expect to attain, draw from early studies the proposition that children set mild levels of aspirations for themselves that are a mild challenge. In finding that aspired grades and actual grades were related and that aspired grades were set higher than the grades they had recently received, the authors stated that most children had realistic aspirations. The questionnaire item for assessing this variable asked, "What final grade do you think you should get?" Greater reliability may have been obtained if the word "expect" or "plan" had been used rather than "should." A conceptual clarification and more adequate information may have resulted in different conclusions.

Rotter², who claimed to find that handicapped people had

¹Rosenfeld, Howard, and Zander, Alvin, "The Influences of Teachers on Aspirations of Students." Journal of Educational Psychology, XLII (February 1959), 1-11.

²Rotter, Julian R., Unpublished information as reported in Lewin, et. al., op. cit., p. 334.

lower levels of aspirations than did normal people, also made no distinction in his measurement techniques, i. e., whether he assessed perceived probable goals and plans or aspirations and desires.

Clark¹, in a review of the literature, states that research on social class and education has shown a strong relationship between parents' social class position and educational attitudes, aspirations, opportunities and achievements. He contends that the social status of the family is inversely related to dropout and is correlated with aspirations of college attendance. Furthermore, educational aspirations are said to be conditioned not alone by family of origin and student ability, but also by the larger social context of state, community and neighborhood within which the student is located and the schools through which he passes. Pavalko² claims that a large number of studies conducted in a variety of geographic areas have consistently demonstrated the importance of such factors as sex, social class background, rural-urban residence, ability and peer group influences as major determinants of the educational aspirations of high school youth. Pavalko further asserts that aspirations for higher education are clearly patterned since the chances of a college education are clearly unequally distributed in society

¹Clark, op. cit., p. 741.

²Pavalko, Ronald M., Sociology of Education. Itasca, Illinois: F. E. Peacock Publishers, Inc., 1968, p. 46.

due to the accidents of birth. Cicourel and Kitsuse¹, who deal with the ascription of aspirations by social class, are actually, as are Pavalko and Clark, referring to cognitively anticipated completions of the act, i. e., Educational Plans rather than Educational Aspirations.

Haller and Sewell², in conjunction with other authors, have probably done more work in this area than have any other investigators. Their numerous findings are at times supportive of other investigations. At other times, their conclusions are contradictory, sometimes even with their own previous endeavors.

In studying a highly educated sample, Haller and Sewell found that differences in residence was not related to differences in educational and occupational aspirations for girls. For boys, although occupational aspirations were not found to be related to residence, educational aspirations were. They drew upon Lipset's observation in postulating that since rural people have less access to college, generally go to poorer high schools, and have fewer occupational alternatives, there is a causal effect which produces lower

¹ Cicourel, Aaron V., and Kitsuse, John I., The Educational Decision-Makers, New York: The Bobbs-Merrill Co., Inc., 1963, pp. 23-48.

² Haller, Archie O., and Sewell, William H., "Farm Residence and Levels of Educational and Occupational Aspiration." American Journal of Sociology, XXXI (April 1966), 159-168

occupational aspirations along with a lack of ambition for higher levels of formal schooling. Lipset's argument, however, does not support their findings concerning occupational aspirations; perhaps this is due to the fact that a conceptual clarification was not made between occupational plans and occupational aspirations; or it may be that fantasy is inherent in both "real" and "ideal" occupational choices.

In another study, Sewell and Shah¹ use the concepts of plans and aspirations loosely and interchangeably. What seems to have been measured were college plans, for this variable was based on statements that students definitely planned to enroll in a degree-granting college. In their proposal of a causal sequence of antecedents to educational and occupational achievement, Sewell, et. al.² concluded that aspirations perform mediational functions in transmitting anterior factors into subsequent behaviors. Although their study indicates the importance of cognitive completions of acts, they use the concepts of aspirations rather loosely - occupational aspirations refer to jobs that the students expressed a desire to

¹Sewell, William H., and Shah, Vimal P., "Parents Education and Children's Educational Aspirations and Achievements." American Sociological Review, XXXIII (April 1968), 191-208.

²Sewell, William H., Haller, Archibald O., and Portes, Alejandro, "The Educational and Early Occupational Attainment Process." American Sociological Review, XXXIV (February 1969), 82-89.

hold while educational aspirations were measured by statements that the students planned to attend college. Perhaps as a result of definitions, then, Sewell, Haller and Straus¹ found socioeconomic status to be independently related to both educational and occupational aspirations while Haller and Sewell² found little association between aspirations and background variables. In most of these studies, the authors vacillate between what might be termed aspirations and what might be categorized as plans. Hence, some studies support the evidence provided by them; but other studies of expected educational outcomes seem to lead to different conclusions.

As may be evidenced in the literature discussed up to this point, a common factor in most of the sociological literature has been that of the relationship of socioeconomic status to aspirations and plans. As indicated above, this variable has been found to be significantly related to aspirations or plans in some studies - at other times, there has been no association. Perhaps the conceptual clarifications to be proffered at the conclusion of this section

¹Sewell, William H., Haller, Archie O., and Straus, Murray, "Social Status and Educational and Occupational Aspiration." American Sociological Review, XXII (February 1957), 67-73.

²Haller, A. O., and Sewell, William H., "Occupational Choices of Wisconsin Farm Boys." op. cit.

may be of some utility in resolving this issue. At this point, however, a short examination of the current controversy concerning the role of socioeconomic status in the formulation of students' aspirations and plans may be appropriate.

Brembeck¹ claims that through personal observation and research procedures, positive correlations between a student's educational aspirations and his familial social class background have been demonstrated; this is said to be true because one's level of aspiration is influenced by the values derived from one's socioeconomic status. Drawing from that portion of Sewell's work that does indicate this kind of relationship, Brembeck advances a sociological claim that values of different social positions are important influences on levels of educational and occupational aspirations.

Parsons², on the other hand, emphasized that expectations are anchored in the class status of the family of orientation of the pupil. For middle and upper class children, these kinds of expectations may be of an ascribed nature; for lower class children, however, the case may be somewhat different. The implication of

¹Brembeck, Cole S., Social Foundations of Education. New York: John Wiley and Sons, Inc., 1966, pp. 140-144.

²Parsons, Talcott, "General Theory in Sociology." Robert K. Merton, Leonard Broom, and Leonard S. Cottrell (Eds.), Sociology Today, New York: Harper and Row, 1959, pp. 27-28.

Parson's statement is that social class is related to anticipated attainable goals, i. e. , plans rather than aspirations.

Joseph Kahl has authored two topical works that have had heuristic value in this area. In The American Class Structure, Kahl¹ drew upon three studies for his description of the vicious circle to be found in working class occupations, the low educational aspirations of children, and their consequent destination in lower class occupations. Although Kahl seemed to be referring to educational plans, he concluded that aspirations are reorganized to fit the facts of the child's environment. Aspirations, as defined in Kahl's book, have been found by other researchers to be less related to social class than plans. Kahl's methodology does not provide a basis for inference concerning the relevance for aspirations or plans.

In a well-known article, Kahl² found a relationship between socioeconomic class and levels of educational aspirations. In this study, he dealt with the influence of parental pressure on aspirations, but this could be interpreted as parental perceptions of the availability of educational alternatives, i. e. , real goals to be

¹Kahl, Joseph, The American Class Structure. New York: The Rinehart Co. , 1957, pp. 205-208.

²Kahl, Joseph, "Educational and Occupational Aspirations of 'Common Man' Boys. " Harvard Educational Review, XXIII (Spring 1953), 186-203.

planned for and not merely to be desired. Kahl made no distinction in this study between aspirations and plans, but there may be other factors related to the family situation that could create differential parental pressures and inequitable expectations, e. g., birth order, number of siblings, etc. Thus, all of the children in a single family could have equally high levels of aspirations while their actual plans, as differentially influenced by parental expectations and pressures, could be quite different.

Sewell and Shah¹, in studying educational level or status discrepancies between parents as influencing college plans, found support for Kahl's work with regard to the importance of a 'common man' father's role in motivating sons for high-level plans; but they could find no direct evidence supporting the Ellis-Lane² findings that a father's dissatisfaction of his own achievement may be due to the fact that the mother, with a higher level of education, may constantly remind him of the status discrepancy. Krauss³ also concluded that a major source of high educational plans for

¹Sewell and Shah, op. cit.

²Ellis, Robert A., and Lane, W. Clayton, "Structural Supports for Upward Mobility." American Sociological Review, XXVIII (October 1963), 743-756.

³Krauss, Irving, "Sources of Educational Aspirations Among Working Class Youth." American Sociological Review, XIX (December 1964), 867-879.

working class youth was due to the status discrepancy between the parents, especially when that of the mother was the higher in terms of educational attainment. Sewell and Shah¹ concluded that when parents have discrepant levels of educational achievements, the answer to the question of which parent's education is more likely to induce high-level aspirations for offspring depends on the sex and intelligence of the child as well as on the parent's level of educational achievement. Kandel and Lesser² offer further support for Kahl's argument that parental aspiration is a more potent determinant for children's educational plans than is social class membership per se, for it is said that the impact of social class may be absorbed in the nature of maternal influence. In this study, however, the measures of Educational Plans may not have been valid - while the students and their best friends were asked to indicate the highest level of education that they expected to complete, mothers were asked, "What is the highest level of education you would like your child to complete?" As compared to the Sewell and Shah study, Kandel and Lesser measured only the mother's influence, thereby assuming that Kahl was correct in his conclusions.

¹Sewell and Shah, op. cit.

²Kandel, Denise B., and Lesser, Gerald S., "Parental and Peer Influence of Educational Plans of Adolescents." American Sociological Review, XXXIV (April 1969), 212-221.

Elesh¹ found that, while mothers' expectations accounted for a significant amount of the variance in college plans, this variable seems to be of differential significance in different types of communities.

In one of the earlier investigations to raise the question of whether students respond in terms of realistic appraisals of life chances as opposed to stating the more generally held aspirations for life goals, Stephenson² assessed occupational and educational plans as well as occupational and educational aspirations. He found that students can and do distinguish between aspirations and plans, that socioeconomic status affects both variables, and that the disparity between the two items becomes greater with lower social class backgrounds. Furthermore, curriculum choice and occupational choice were in conformity with educational plans. Stephenson decided that social class may or may not affect the mobility orientations of students in many studies, depending upon whether the investigators measured aspirations or plans.

Drawing upon Ginsberg's³ theory that occupational choice is

¹Elesh, David, "Contexts and College Plans: Two Alternative Models." Columbia University, Paper presented at the annual meeting of the American Sociological Association, San Francisco, August, 1967. Pp. 1-23.

²Stephenson, op. cit.

³Ginsberg, Eli, "Towards a Theory of Occupational Choice." Occupations. XXX (Spring 1952), 491-494.

a continuing process containing the three distinct phases of fantasy choices, tentative choices and realistic choices, the operative factors in each phase of the transition were examined by Youmans.¹ Youmans' approach implies that a person's decisions regarding future goals traverses a continuum from imaginary acts to concrete acts - he hypothesized that socioeconomic status is the most important variable in this process.

Employing a conceptual clarification between the concepts of aspirations and plans, Youmans discovered that, in each social stratum, boys do aspire to jobs that they do not anticipate ever having. Also, from the upper end to the lower end of the social class scale, there is a downward trend in both desire-type and anticipation-type items. Lower class youths, who were said to have a realistic understanding of the ideology, also held the traditional "upward mobility" values of our nation. Youmans also found that sibling position in the family is not significant in the decision-making process. The size of the family, however, and the father's education were related to occupational plans. Occupational plans, as well as socioeconomic status, were also related to the kinds of curricula chosen by students.

¹Youmans, E. Grant, "Occupational Expectations of Twelfth grade Michigan Boys." op. cit.

Porter¹ asked high school senior boys to indicate the kinds of jobs that they preferred to hold, their actual plans for the age of 25, for the coming autumn, and the manner in which they planned to achieve their disclosed objectives.

Porter found that there was a high consistency between what twelfth graders prefer, what they plan, and what they actually do six months after stating their intentions. Plans were found to be more stable than preferences and to have more utility in the prediction of actual behavior.

Bordua², in studying the relationships of fathers' occupations, sex and religion to college plans, found that when college plans were rank-ordered, a perfect representation of socioeconomic status was also described. He concluded that social class is a major variable in the formulation of educational plans.

Brodie and Suchman³ examined the relationship of socioeconomic status to educational aspirations (defined to include only the elements of desires), and asserted that social class is basically

¹Porter, op. cit.

²Bordua, David J., "Educational Aspirations and Parental Stress on College." Social Forces, XXXVIII (March 1960), 262-69.

³Brodie, Donald O., and Suchman, Edward, "Socioeconomic Status and Students' Educational Desires." University of Pittsburgh, Paper presented to the annual meeting of the American Sociological Association, August 1967, pp. 1-25.

a demographic variable that has little explanatory value in the development of aspirations. Certain intervening variables such as educational evaluations, self-evaluations and societal evaluations were said to condition the relationship of socioeconomic status to educational desires.

In predicting college dropout, Bayer¹ found that socioeconomic variables contributed surprisingly little weight in his predictive equation, but the degree of college commitment (e. g. , college plans, encouragement by mother, father and peers) held by students did bear a relatively marked relation to attrition and the rate of progress through college.

Charters² contends that social class position predicts grades, achievement, intelligence test scores, retentions at grade level, course failure, truancy, suspensions from school, high school dropout, plans for college attendance, and total amount of schooling. He notes that these kinds of predictions are far from perfect: since social class position rarely accounts for more than half the variance of school "success," the law is said to apply only to

¹Bayer, Alan E. , "The College Drop-Out: Factors Affecting Senior College Completion. " Sociology of Education, XLI (Summer 1968), 305-316.

²Charters, W. W. Jr. , "The Social Background of Teaching." N. L. Gage (Ed.), Handbook of Research on Teaching, Chicago: Rand McNally and Co. , 1963, p. 740.

differences in group averages and to differences in individual success. Elesh¹ advances the argument that there is a time-order sequence that should be considered in ascertaining the influence of the contexts of the family and its socioeconomic status in relating these other variables to educational plans. Sewell, et. al,² have proposed a causal sequence that begins with the parents' stratification position and the student's mental ability - the order of the remaining factors are: school achievement, influence of significant others, levels of educational and occupational aspirations, and educational and occupational attainment. In this study, though, occupational aspirations refer to desired outcomes while educational aspirations refer to expectations.

Social class characteristics as indices of the occupational level of neighborhoods, community contexts and school climate have also been rather extensively examined as determinants of plans and aspirations.

Sewell and Armer³ found large differences in the relationship of students' college plans and the occupational composition of

¹Elesh, op. cit.

²Sewell, Haller and Portes, op. cit.

³Sewell, William H., and Armer, J. Michael, "Neighborhood Context and College Plans." American Sociological Review, XXXI (April 1966), 159-168.

their neighborhoods; but these differences were considerably reduced and even eliminated when the variables of intelligence, family socioeconomic status and sex were simultaneously controlled. These variables, however, did not reduce the differences in plans for girls of all intelligence levels from the upper social class backgrounds.

Turner¹ and Himmelweit² support Sewell and Armer's contention that intelligence has more residual influence than does either social class or neighborhood socioeconomic levels; and Turner contends that neighborhood socioeconomic level has the smallest influence of the three variables. Michael³ claims that social class and social setting are roughly equal in influencing children's ability; the causal effect of the neighborhood upon educational plans is due to the fact that ability affects college intentions. His conclusions are that socioeconomic status is more important for girls and that ability is more important for boys except those living in large

¹Turner, Ralph H., "Communications: On Neighborhood Context and College Plans." American Sociological Review, XXXI (October 1968), 698-702.

²Himmelweit, Hilde T., "The Role of Intelligence in Modifying Social Class Differences in Outlook." Acta Psychologica, XIX (1961), 273-281 as reported in Society and Education, Robert J. Havighurst and Bernice L. Neugarten, Boston: Allyn and Bacon, Inc., 1967, p. 55.

³Michael, John A., "Communications." American Sociological Review, XXXI (October 1966), 702-706.

cities; that sex is less influential than is either social class background or ability; and that sex is even less important for rural children. Finally, Michael states that sex, intelligence and social class predict attendance in college differentially according to the social context. Boyle¹ maintains that neighborhood context influences aspirations through a normative climate.

In their rejoinder to the series of critiques and comments by Turner², Michael³, and Boyle⁴, Sewell and Armer⁵ observed that the neighborhood in which the student lives at the time that his level of aspiration is ascertained is not necessarily the same neighborhood into which he was born or was living at the time that his aspirations were developed. Of importance to this study, however, is the fact that, throughout the entire argument of these various authors, the theoretical concept of aspirations was vaguely and ambiguously employed and was often used interchangeably with other such constructs as college intentions, expectations and plans.

¹Boyle, Richard P., "Communications." American Sociological Review, XXXI (October 1966), 706-709.

²Turner, op. cit.

³Michael, op. cit.

⁴Boyle, op. cit.

⁵Sewell, William H. and Armer, J. Michael, "Communications." American Sociological Review, XXXI (October 1966), 709-12.

Perhaps this kind of controversy may be at least partially resolved with greater definitional precision and operational specifications of the theoretical concepts.

Weiner and Murray¹, in differentiating between real and ideal goals, contended that all families do have high aspirations for their children. It is with the perceptions of actually attainable goals that there is a difference between high and low socioeconomic status families - there is a feeling of reachableness inherent in educational plans that does not apply to educational aspirations. Therefore, all children, regardless of social class background, wish to become professionals. In their study, however, the measurement of educational plans did not differentiate between students on the basis of social class. The only way that these investigators could discern a difference in social class groupings was through checking the curriculum enrollment, which was considered to be a more valid measure of actual educational intentions. Thus, even with a theoretical distinction between aspirations and plans, the Weiner-Murray questionnaire items apparently were not valid measures.

Bennett and Gist² and Gist and Bennett³, in measuring racial

¹Weiner and Murray, op. cit.

²Bennett and Gist, op. cit.

³Gist and Bennett, op. cit.

differences in educational and occupational aspirations and plans have made similar conceptual distinctions between realistic and idealistic goals. In both studies, however, the social class differences between these two different kinds of cognitive completions of the act were not as great as were social class differences in parental influence.

In Elder's¹ study of female mobility through marriage, aspirations - which seemed to be presented in terms of wishes or desires - appeared to be class-specific, i. e., the realization of such goals appeared to be related to middle-class perceptions of reality. It seems likely that aspirations were measured in this study in that Elder found lower and middle class female adolescents held similar status aspirations.

Han², who distinguished between aspirations and plans, viewed each concept as being representative of contrasting theoretical perspectives. The first approach, more generally known as cultural deprivation theory, is based on the premise that Americans generally share common values. Therefore, aspirations, i. e., wishes, may be the subject for study in that all Americans are thought to

¹Elder, Glenn H. Jr., "Appearance and Education in Marriage Mobility." American Sociological Review, XXXIV (August 1969), 519-533.

²Han, Wan Sang, "Two Conflicting Themes: Common Values Versus Class Differential Values." American Sociological Review, XXXIV (October 1969), 677-689.

subscribe to the same kinds of educational and occupational desires. The second approach, based upon social stratification, would lead to the perspective that values are class-specific; recognition of differing perceptions of social reality and opportunity would lead to the elaboration of concepts referring to cognitive anticipations of social acts, i. e., plans and expectations. Han has well established the point that the definitions of concepts may govern the approaches to and the inferences made from an investigation; if an assertion is made in terms of expectations, the view of those who maintain that values are class-specific is supported. On the other hand, the position of common values is upheld with the evidence provided by those studies which assess aspirations or wishes.

Another area of controversy revolving around the question of socioeconomic status has been that of the social context of the school. Wilson¹ concluded that schools have different climates of aspirations for educational, occupational and political preferences. Herriott and St. John² found that the socioeconomic status of the school is related to college plans and dropout behavior. Krauss³

¹Wilson, Alan B., "Residential Segregation of Social Classes and Aspirations of High School Boys." American Sociological Review, XXIV (December 1959), 836-845.

²Herriott, Robert E., and St. John, Nancy Hoyt, Social Class and The Urban School, New York: John Wiley and Sons, Inc., 1966, pp. 53-54.

³Krauss, op. cit.

found educational aspirations, i. e. , "potential mobility", to be associated with whether children attended middle-class or working-class schools. McDill and Coleman¹ state that students who have a high status position in their school tend to have both higher college plans and lower orientations to achievement than do lower-status pupils. Those students who do have high educational plans are also more likely to acquire higher status in the school. Since it is unlikely that aspirations would be related to student popularity, McDill and Coleman apparently did explore educational plans.

McDill, et. al.² found that the effect of the socioeconomic status of the school has little association with achievement when other dimensions of the school environment are examined. Thus, they were led to question the utility of socioeconomic context for determining normative climates of schools. Lavin³ has described the concept of social class as being a summarization variable which seems to have little utility when such component factors as achieve-

¹McDill, Edward L. , and Coleman, James, "High School Social Status, College Plans, and Interest in Academic Achievement: A Panel Analysis." American Sociological Review, XXXVIII (December 1963), 905-918.

²McDill, Edward D. , Meyers, Edmond D. Jr. , and Rigsby, Leo C. , "Institutional Effects on the Academic Behavior of High School Students." Sociology of Education, XL (Summer 1967), 181-199.

³Lavin, David E. , The Prediction of Academic Performance. Hartford: Russell Sage Foundation, 1965, pp. 181-199.

ment values and achievement motivation are separately examined. Both McDill and associates¹ and Coleman² have concluded that the individual's academic achievement is related to the educational aspirations of other students in the same school.

Two general explanatory processes often employed in contextual studies have been described by Elesh.³ The first deals with the selection or self-selection of particular individuals to particular contexts whereby attributes of collectivities derive their status from those of the constituents. It is said that this explanatory approach may be more applicable to those contexts characterized by high growth rates or high turnover. The second explanatory process is termed socialization: this process is more appropriate in stable communities where social relationships and value climates have had time to develop. These processes seem to operate in sequential order as is evidenced by the discussion by Brookover and Erickson⁴ concerning the changing of expectations and academic achievement.

¹McDill, Meyers and Rigsby, op. cit.

²Coleman, James S., et. al., Equality of Educational Opportunity, Washington: U.S. Government Printing Office, 1966, p. 29.

³Elesh, op. cit., pp. 5-6.

⁴Brookover, Wilbur B., and Erickson, Edsel L., Society, Schools, and Learning. Boston: Allyn and Bacon, Inc., 1969, pp. 80-93.

This suggests that children who have been selected into a particular school may bring with them all of the various component attitudinal and behavioral factors subsumed under the summarization variable of socioeconomic status. With the predominance of a particular socioeconomic status category within a school, then, the school is likely to acquire a social status that approximates that of the majority classification of students. To the extent that the school population or the characteristics of the population become stabilized, it is likely that the prerequisite social relationships will develop to form a type of value climate. At this point, the second process may come into operation, i. e., socialization with reference to the existing value climate and the expectations for achievement and future accomplishments that are viewed as being viable under this value climate.

The social composition of the school, due to the initial process of selection, may then become associated with the norms of performance. Past research seems to indicate that the dominant norms of a system tend to govern the behavior of those who are included in the system. In turn, the normative behavior patterns may operate in such a manner as to modify the expectancies of those who are a part of the system, i. e., those people whose membership is integral, intermediary, or peripheral. These expectancies may serve to reinforce and perpetuate the dominant behavioral norms.

Within the school system, expectancies of teachers and of students may be a function of normative codes of behavior which seem likely to be influenced by the process of selection or assignment to a system. These generalized expectancies may serve to regulate levels of aspirations and expectations regarding career selection. The notion that there may be a dominant normative system in schools has led to the contention that there may be a relationship between an individual's educational plans and those of his peer group.

In summing up various studies, Herriott¹ came to the conclusion that through a number of investigations "we know that boys have higher educational aspirations than girls." In his own research, he found that the strongest "independent relationship with level of aspiration . . . was with the expectation perceived from a friend of the same age." Aspirations also varied with the level of self-assessment and the level of expectation of significant friends. Although Herriott employed the concepts of aspirations and expectations interchangeably, actual plans for the future seems to have been the factor that was assessed. Alexander and Campbell² supported the contention that the perceived characteristics of friends

¹Herriott, Robert E., "Some Determinants of Educational Aspiration." Harvard Educational Review, XXXIII (Spring 1963), 157-77.

²Alexander, C. Norman Jr., and Campbell, Ernest Q., "Peer Influences on Adolescent Educational Aspirations and Attainments." American Sociological Review, XXIX (August 1964), 568-575.

are associated with one's educational aspirations and expectations. Haller and Butterworth¹, in distinguishing between "realistic and idealistic levels of aspirations, " tried to assess the former by asking pupils to indicate jobs "I'm sure I can get. " The validity of this item may be questionable: responses may be indicative of perceptions of ability and availability rather than of planned-for goals. For example, a student may reply that he is certain that he can get a job in a service station any time that he applies for the position, but his cognitively-held vocational goals may be considerably different. While few conclusions may be derived from the Haller and Butterworth study on the results of peer group influence, they did find a stronger relationship with educational aspirations than with occupational aspirations. Haller and Butterworth did not discuss the differential impact that peer group influence might have upon aspirations versus plans, but they did make the observation that a possible discrepancy might exist.

In another study on peer group influence, Erickson² found that friends' expectations had little influence upon tenth graders; the importance of parental expectations seemed to be considerably

¹Haller, A. O., and Butterworth, C. E., "Peer Influences on Levels of Occupational and Educational Aspiration." Social Forces, XXXVIII (May 1960), 289-295.

²Erickson, Edsel L., "A Study of the Normative Influence of Parents and Friends." Cooperative Research Project #2831, op. cit., pp. 191-204.

greater.

In the area of associating aspirations and plans with other factors, one variable has received considerable attention; and there is a general consensus with respect to its utility. Glenn and Hyland¹, Greeley², Mack et. al.³ and Rhodes and Nam⁴ have all failed to find any significant association between religious identity within the school student body composition and levels of aspirations or plans. The variable of religion has not been included for analysis in the present project since this item was not one of the factors assessed in the original longitudinal projects from which this study is derived. As indicated above, however, this does not appear to be a serious shortcoming in the collection of the data.

There are certain other variables and methodological proce-

¹Glenn, Norval D., and Hyland, Ruth, "Religious Preference and Worldly Success: Some Evidence from National Surveys." American Sociological Review, XXXII (February 1967), 73-85.

²Greeley, Andrew M., "Influence of the 'Religious Factor' on Career Plans and Occupational Values of College Graduates." American Journal of Sociology, LXVIII (May 1963), 658-671.

³Mack, Raymond W., Murphy Raymond J., and Yellin, Seymour, "The Protestant Ethic, Level of Aspiration and Social Mobility: An Empirical Test." American Sociological Review, XXI (1956), 295-300.

⁴Rhodes, A. Lewis, and Nam, Charles B., "The Religious Context of Educational Expectations." Florida State University, Paper presented at the annual meeting of the American Sociological Association, San Francisco, California, August 1967.

dures enumerated by various authors that, while being applicable to the school situation, do not appear to be relevant to this particular project. Lavin¹ has questioned the current utility of such variables as age differentials in the school, high school size, and the academic loads assumed by students. Griggs and Middleton² have presented a criticism of the samples often used in research which has been taken into account in this project - many studies deal only with high school seniors, a select group that automatically excludes a great many students from the lower socioeconomic status categories. The population to be investigated in this study will be that of the entire ninth grade population enrolled in four different high schools.

One of the major objectives of this review of the literature is to emphasize that there are certain variables that have received an extensive amount of investigation by other authors. Therefore, one of the methodological problems is that of selecting those variables that have been demonstrated to be relevant to (1) the development of aspirations, (2) the development of plans, and (3) high school dropout behavior. In the chapter which deals with findings, results

¹Lavin, op. cit., pp. 134-135.

²Griggs, Charles M., and Middleton, Russell, "Community of Orientation and Occupational Aspirations of Ninth Grade Students." Social Forces, XXXVIII (May 1960), 202-208.

of intercorrelational and factor analyses shall be presented which shall constitute the bases for the inclusion of the most relevant variables and the exclusion of those factors which appear to be either redundant or of doubtful utility. Those variables extracted from this analysis shall constitute the basis for the final theoretical and analytical model to be presented in the findings chapter and in the final chapter of this dissertation. The review of the literature, however, does indicate the necessity of examining the impact on behavior of socioeconomic status, measured intelligence scores and academic achievement - nearly every study surveyed has associated one or more of these factors with aspirations, plans or dropout. Since it has been demonstrated that the variables of sex (as has been discussed) and race¹ are likely to exhibit marked variation and, since - in this exploratory study - control is desired prior to expansion to a more generalized population, this study is designed to forecast the high school dropout behavior of white males only.

As has been emphasized in the review of the literature, caution should be exercised in interpreting findings concerning the

¹It has been found that racial groups in this student population do differ in self-concept and certain other variables. Morse, Richard, "Self-Concept of Ability and School Achievement: A Comparative Study of Negro and Caucasian Students." Cooperative Research Project #2831, op. cit. Pp. 205-210.

concepts of aspirations and plans. For example, it may often be that no differences appear between categories of students in the assessment of goals that are wished for (which is frequently not clarified), but a great deal of difference may be evidenced when anticipated outcomes are distinguished from aspirations.

Brookover and associates¹ have made a theoretical distinction between the constructs of educational plans and educational aspirations that has been demonstrated to be empirically fruitful. They have defined a plan as being a person's expectation of what he will attain or will have accomplished at some future date. Aspirations, on the other hand, are defined as what a person wishes for or desires. They found that when aspirations are controlled, students' educational plans were positively associated with academic achievement; but when educational plans were controlled, variations in educational aspirations accounted for no more than one one-hundredths of the variation in student achievement. Aspirations, i. e., desires, were found to have extremely limited utility in the prediction of academic achievement as compared to students' educational plans.

Harding² employed the construct of educational expectations

¹Brookover, et. al., "Educational Aspirations . . .", op. cit.

²Harding, Kenneth L., "A Comparative Study of Caucasian

(i. e. , the level in the educational system which the student expects to attain and not the level which he would like to attain) as a variable to account for high school dropout. Using a definition consistent with the present author's conceptualization of educational plans, Harding concluded that voluntary dropouts differ from non-dropouts on the basis of educational expectations even when intelligence scores, social class measures, and grade point averages were partialled out. Harding did not, however, examine the effects of educational aspirations as related to dropout.

In a previous study, the current author¹ reached the conclusions that (1) the constructs of Educational Plans and Educational Aspirations are mutually exclusive and (2) that each construct may make an independent contribution in forecasting high school dropout behavior. Educational Plans seemed to have the greater value in forecasting dropout; but, when knowledge of the levels of both Educational Plans and Education Aspirations was employed in forecasting dropout, the predictive efficiency was considerably enhanced. In this study, however, the analysis consisted of the more common technique of keeping all variables (i. e. , socioeconomic

Male High School Students Who Stay in School and Those Who Drop Out. " Unpublished Doctoral dissertation, Michigan State University, East Lansing, Michigan, 1966. Pp. iii + 120.

¹Bryan, op. cit.

status, intelligence scores and self-concept of academic ability) constant but one.

The present project will go beyond these findings by introducing other relevant variables and accounting for their interactive and additive effects via multiple regression analysis in the forecasting of a major role change and an important antecedent of career development - voluntary high school dropout behavior.

Related Theoretical Literature

As previously mentioned, Brookover and associates¹ have proffered a conceptual clarification between the concepts of aspirations and plans that is consistent with the position of this dissertation. Plans are defined as one's perceptions of what he will be doing at some future date; aspirations are defined as wishes or desires. In a summarization of Meadian theory by Meltzer², an act such as the attempt to achieve a successful career is described as one which encompasses the total process involved in human activity - this act may be defined by its imaginary completion of the act within the mind of the individual, i. e., the cognitive com-

¹ Brookover and Erickson, "Educational Aspirations..." op. cit.

² Meltzer, Bernard N., The Social Psychology of George Herbert Mead, Kalamazoo, Michigan: Western Michigan University, 1964. Pp. 22-26.

pletion of the act. From this theoretical perspective, it is contended that all human activity other than reflex action and habitual activity is built up as it goes along. The act - which is the unit of study - is said to originate as an impulse in the mind of the actor and is terminated when some objective is obtained that releases this impulse. Prior to the termination of the act, the individual cognitively constructs and organizes his behavior in accordance with possible lines of actions in order to facilitate directing his activity to its consummation. The postulate that it is the perceived possible and attainable goals or lines of action which directs activity to its completion is the basis for the theoretical proposition that voluntary decision-making behavior is a function of perceived probable outcomes of social acts.

In their reinterpretation of symbolic interaction theory, especially the work of George Herbert Mead, Brookover and associates¹ have specified their contention that a person's anticipation of the future is a more relevant variable in the determination of behavior than is his desire for the future. Thus, although it may be true that Americans share common mobility values (aspirations or desires), there are also values placed upon perceptions of

¹Brookover, Wilbur B., Erickson, Edsel L., and Joiner, Lee M., Self-Concept of Ability and School Achievement III. Final report on Cooperative Research Project #2831, Michigan State University, 1967.

social reality and socially provided opportunities which are likely to have an influential impact upon the formulation of cognitive anticipations of behavioral acts. This theoretical perspective, which has been empirically supported by the same authors¹ in predicting achievement in the academic setting, provides the basis for the general research hypothesis that a student's cognitive completion of the act that he will or will not finish high school is functionally related to whether he later completes high school. In the present project, two separate phenomena are to be used in testing hypotheses about the relationships between the cognitive completion of an act and the actual completion of that act. The first - cognitive anticipations for the completion of an act - is designated as a plan. The second, aspirations, concerns wishful thinking or cognitions of preferred activity completions. More specifically, student Educational Aspirations and Educational Plans regarding the termination of formal schooling are employed as the major independent variables. The actual completion of the act, which has been observed independently of the assessment of the independent variables, is that of voluntarily withdrawing from or graduating from high school.

High school dropout behavior is a major role change for any

¹Brookover and Erickson, "Educational Aspirations..." op. cit.

student. The decision to voluntarily withdraw from high school may be viewed as a career choice which occurs within the educational arena. It is not the intent of this project to infer that those individuals who may be classified under this behavioral category are homogeneous in character - as previously described, the only indications that this might be so are the numerous lists of traits published by various authors. Even these lists, however, do vary in content from author to author. It is asserted, however, that the act of voluntarily dropping out of high school is a major step in career development and is likely to be associated with Educational Plans. Although current formalized theories of human behavior other than that of cultural deprivation provide little basis for the inclusion of fantasy behavior, some research has indicated that Educational Aspirations may also be associated with high school dropout behavior.

As is likely to be true with any major predictive variables, many other impinging factors may effect the forecasting efficiency of Educational Plans and Educational Aspirations. It is the purpose of this dissertation to assess the impact of those variables which have been demonstrated to be associated with voluntary dropout behavior or with either Educational Plans or Educational Aspirations. Therefore, it is hypothesized that the functional relationship of the cognitive completion of the act to the actual execution of the

act will be modified by other relevant sociological and psychological variables. Through this kind of an approach, it is hoped that the theoretical importance and the forecasting utility of the two major variables will be firmly established within the theoretical framework from which they were derived.

Research Objectives

It is the objective of this dissertation to contribute to educational, psychological and sociological theory and practice by empirically testing the relative predictive utility of the constructs of Educational Aspirations and Educational Plans as derived from an interpretation of George Herbert Mead's theory of symbolic interactionism as has been advanced by Brookover, Erickson, and Joiner.¹ The following propositions and general research hypotheses have been derived from this theoretical orientation.

Theoretical propositions

1. Voluntary decision-making behavior is a function of cognitive completions of acts based upon perceived probable outcomes of behavior.
2. The perceived probable outcomes of social acts are factors that are separate from desired outcomes. Although

¹Brookover, et. al. Cooperative Research Project #2831, op. cit.

aspirations and plans may at times be similar for an individual, these constructs may be substantively different in content and in their functions as related to behavior.

3. If voluntary behavior is functionally related to aspirations, these aspirations function within the realm of one's anticipation of the future.

These theoretical propositions are based on the assumption that persons may carry two different kinds of cognitions regarding the completion of a single act - one concerns expected outcomes of behavior along with the consequent anticipated contingencies while the other deals with fantasy and preferred goals for the future. It is further assumed that these two different types of cognitions may be independently related to actual behavior (i. e., high school completion or dropout) and each construct will therefore forecast variations in behavior independently of the other as well as forecasting independently of other scientific constructs which have been employed to predict this kind of behavior.

Major hypotheses

With the appropriate questionnaire items to assess individual's Educational Aspirations and Educational Plans, and with the application of a longitudinal research design which permits independent observations of individual decision-making processes, each con-

struct may be tested as a forecaster of voluntary high school dropout behavior. The relative strength of each construct as a forecaster of behavior may be discerned by testing interactive and additive effects of the constructs when used with each other and with other pertinent variables. Thus, the preceding propositions lead to the following general hypotheses:

1. A student's cognitive completion of the act that he will or will not finish high school is functionally related to whether he later completes high school.
2. The functional relationship of the cognitive completion of an act to the execution of the act will be modified by other relevant sociological and psychological variables.
3. There shall be a statistically significant difference between the constructs of Educational Plans and Educational Aspirations in their relationship to high school dropout as modified by sociological and psychological contexts.

In other words, a major objective of this dissertation is to imbed these two constructs into the social-psychological theory from which they were drawn. Prior theoretical and empirical work leads to the conclusion that various categories of self-concepts and different kinds of influences from others are related to behavior. Thus, another objective will be to attempt to assess whether these kinds of variables have an additive or interactive effect with Educa-

tional Plans and Educational Aspirations in their influence on behavior. Illustratively, it might be asked whether the impact of the cognitive completion of an act is impeded or facilitated by certain other cognitions of the self and of the world.

CHAPTER II

THE RESEARCH METHODOLOGY

This chapter is presented in four parts. The first section describes the characteristics of the population, the samples, and the sites which were selected in the three major longitudinal research projects¹ from which the data for this dissertation were taken. In the second section, the operational definitions of the major variables are specified. The third section presents a discussion of the data collection procedures of Brookover and associates.² The statistical procedures employed in the present project are dealt with in the fourth and final section.

Population, Samples and Sites of Research

During the 1960-1961 academic school year, Brookover and

¹ Brookover, Wilbur B., Paterson, Ann, and Thomas, Shailer, Self-Concept of Ability and School Achievement, USOE Cooperative Research Project #845, East Lansing: Office of Research and Publications, Michigan State University, East Lansing Michigan, 1962. Brookover, Wilbur B., LaPere, Jean, Jamacheck, Donald, Thomas, Shailer and Erickson, Edsel L., Self-Concept of Ability and School Achievement II. Report of Cooperative Research Project #1636, East Lansing: Bureau of Educational Research Services, Michigan State University, 1965. Brookover, Wilbur B., Erickson, Edsel L., and Joiner, Lee M., Self-Concept of Ability and School Achievement III. Final report on Cooperative Research Project #2831, Michigan State University, 1967.

² Brookover, et. al., Projects #845, 1636 and 2831, op. cit.

associates¹ initiated three separate longitudinal projects in which data were collected from nearly 1500 eighth grade students who attended four junior high schools in a midwestern city having a population of 110,000 people. During each subsequent year, these pupils were retested throughout their high school career. For the present study, the following sample was selected for the purpose of forecasting dropouts on the basis of assessed levels of aspirations and plans:

1. Ninth grade students who stayed in the school system through the twelfth grade or voluntarily dropped out of school during the tenth, eleventh or twelfth grade (N = 309).
2. Complete questionnaire and school records data were available.
3. Only those students identified as white males were selected. Data for females who dropped out is not available², and certain racial differences in self-concept and other relevant variables have been previously discerned in this population.³
4. Only those students who were regularly promoted from one

¹ibid.

²Harding, op. cit.

³Morse, op. cit.

grade level to the next were selected.

5. Students who participated in experimental and special education programs were excluded from this sample.
6. Only the ninth grade longitudinal sub-population will be examined. The ninth grade cross-sectional population as defined in the Brookover¹ projects will not be used due to the fact that those students who transferred into and out of the school system may have had different educational backgrounds and educational outcomes that could not be ascertained.

The mean value on the Duncan Scale of Socioeconomic Status was 40. Although this scale generally has a mean value of 50, this score indicates that the subjects investigated did cover the general spectrum of socioeconomic levels.

The hypotheses are to be tested with student populations and samples for several reasons - (1) the relative ease with which such research may be replicated, (2) the availability of resources and data necessary in forecasting the completion of acts on the bases of previously indicated cognitive anticipations and desires for the completion of an act, and (3) while most research on the cognitive completions of acts have used Educational Plans and

¹Brookover, op. cit.

Educational Aspirations to predict academic behavior of the "soft data" variety (e. g. , grades, occupational aspirations, occupational plans, student reports of fathers' occupations), in this case the cognitive completion of the act will refer to Educational Plans and Educational Aspirations about graduating or not graduating from high school, i. e. , the dependent variable may be considered as "hard data. "

Major Variables and Instrumentation

I. Predicted variable (Y_t): high school dropout

Dr. Kenneth Harding¹ provided information on white males who voluntarily dropped out of school during the tenth, eleventh and twelfth years of high school. Harding selected these three grade levels on the assumption that it is in one of these three grade levels that most potential dropouts reach the age when they may legally withdraw from school. Therefore, it is more likely that over-aged students, i. e. , those who became sixteen years old before their sophomore year, have been eliminated from this study. The criteria used for the classification of voluntary high school dropouts were:

1. There were neither expelled nor suspended from school.

¹Harding, op. cit.

2. Neither transcripts nor records had been forwarded to another school.
3. The students had not left school for such reasons as illness or poor health.

The intent of these criteria was to exclude such students who may have left the school system in order to transfer to another. There may have been instances in which records were sent to another school while the pupil had actually chosen to not re-enter, but this possibility was difficult to determine. The total number of white male dropouts that were identified in the Harding study was 96. Since 21 of these transferred into the schools under study at the eleventh grade level, and since various information is missing for 17 others, the total number of white male voluntary high school dropouts included in this sample is 58. Thus, out of a total ninth grade longitudinal population of 309, 251 students graduated from high school while 58 dropped out.

II. Predictive variables related to the person (P)

The scales for the following constructs were developed for the three longitudinal Cooperative Research Projects Nos. 845, 1636 and 2831 from which this study has been derived.

A. Educational Aspirations (Ed Asps)

Educational Aspirations are statements indicating some point

in the formal education grade levels which a student may desire or wishes to attain but does not necessarily expect to reach.

This kind of cognitive completion of the act was assessed by asking the question: "If you were free to go as far as you wanted to go in school, how far would you like to go?" Student responses ranged from "I would like to quit school as soon as I can" to "I think I would do graduate school work beyond college." These were placed in seven categories which ranged from "Quit now" to "Go to graduate school." (See Appendix A)

B. Educational Plans (Ed Pl)

To determine students' Educational Plans for reaching different levels of schooling, the question was asked: "Sometimes what we would like to do isn't the same as what we expect to do. How far in school do you expect you will really go." Responses such as "I think I really will quit as soon as I can" and "I think I really will do graduate work beyond college," which are assumed to indicate the level in the educational system which a person actually expects to achieve or to which he has reason to foresee himself as reaching, were placed in seven categories ranging from "Quit now" to "Go to graduate school." (See Appendix A).

C. Occupational Aspirations (Occ Asp)

Preferences and desires for vocations were assessed by the question "If you were free to choose any job you wanted, what job

would you most like to have when you grow up?" Nine response categories were comprised from the students' responses indicating jobs that they desired. (See Appendix A)

D. Occupational Plans (Occ Pl)

Expectations for future jobs were measured by asking students, "What job do you expect you really will have when you grow up?" Again, student indications of vocational plans were used for the basis of constructing nine categories for analysis. (See Appendix A)

E. Measured Intelligence Scores (IQ)

The California Test of Mental Maturity was used for the purpose of obtaining group intelligence test scores. This test was administered at the ninth grade level.

F. Academic Achievement (GPA)

Academic achievement was defined as being student grade point averages (A = 4, B = 3, . . .) for four academic subjects. In the ninth grade, the subjects of English, mathematics, social studies and science were used.

G. Self-concept of Academic Ability (SCA)

The process by which a student refers to other pupils in his social system in comparing and evaluating his own academic ability is termed the subject's General Self-concept of Academic Ability.

This variable, stemming from a Meadian definition of self, is measured by summing responses to eight multiple choice items contained in the Michigan State General Self-Concept of Ability Scale which was developed under U. S. O. E. Cooperative Research Project No. 845. Each of these items, which ask the subject to compare himself with other pupils, has a score ranging from one to five, the higher scores indicating higher self-concepts of academic ability. (See Appendix A)

When Hoyt's analysis of variance was executed to determine the reliability of this scale, the reliability coefficients were found to be higher than those of more typical attitude measurements. The original developers of this scale, however, emphasize that this particular instrument is designed for group research only and is not appropriate for the comparison of individuals.

III. Predictive social-psychological variables (S_p)

Under this rubric, there are three separate normative reference groups which may be examined with respect to their impact upon dropout behavior or upon student aspirations and plans for academic attainment. These are the family, friends and teachers.

A. Family Norms

1. Perceived parental expectations (PPE_x)

To measure students' perceptions of parental expectations,

they were asked "How far do you think your PARENTS expect you to go in school?" Seven response categories, similar to those used in assessing Educational Plans and Educational Aspirations, were provided for the students to indicate their perceptions of their parents' expectations for them. (See Appendix A)

2. Perceived Parental Evaluations of Ability (PPEv)

This scale, which consists of five multiple choice items, was tested with Hoyt's analysis of variance. The reliability coefficient for this scale was .846 in the ninth grade - a reliability that is adequate for group comparisons and which is higher than those typically reported for attitude measures. (See Appendix A)

3. Reinforcement norms - reactions to report cards

The students were asked two separate questions regarding what they expected their parents to do if they received a good report card and if they received a poor report card. (See Appendix A)

B. Teacher Norms

1. Perceived teacher expectations (PTEx)

The students were asked to indicate how far in the educational system that they thought their favorite teacher expected them to go. Again, seven response categories ranging from "Quit now" to "Go to graduate school" were provided as had been with Educational Plans and Educational Aspirations. (See Appendix A)

2. Perceived Teacher Evaluations of Ability (PTEv)

The Hoyt's analysis of variance reliability coefficient for this five item multiple choice scale was .927 in the ninth grade. (See Appendix A)

C. Peer Norms

1. Perceived friend's expectations (PFEx)

Students were asked to indicate in one of the seven response categories provided how far they thought their closest friend expected them to go in the educational system. The responses ranged from "Quit now" to "Go to graduate school." (See Appendix A)

2. Perceived friend's evaluations of ability (PFEv)

In the ninth grade, a Hoyt's analysis of variance reliability coefficient of .880 was found. This five item scale is presented in Appendix A.

3. Perceptions of popularity with the same and opposite sex.

Two questions were presented in which the student rated his popularity on a five point scale ranging from much above average to much below average with his own sex and with the opposite sex. (See Appendix A)

D. Total perceived evaluations of others (Tot Ev)

This is a summary variable of those factors included in the different items of PPEv, PTEv, and PFEv, i. e., the average of

these three different variables. This kind of measure may be used in the final analysis in the event that it may be found that the use of three separate variables may be redundant, i. e. , to the extent that it may be concluded that the three different items actually assess a common factor.

IV. Social context contingencies (S_c)

As indicated by the review of the literature, the family and the school are generally viewed as being two integral components of the student's social context. Consequently, the factors to be examined are:

A. The family

1. Socioeconomic status

The Duncan Scale¹, a device which specifies values ranging from 100 (highest) to 01 (lowest) which are assigned to student responses to questions about the occupation of their father or the head of the household has been employed as an index of socioeconomic status.

2. Adults in the household

In order to determine whether the families of the students were intact or incomplete, the students were asked who they lived

¹Brookover, et. al., Project #2831, op. cit.

with, e. g., mother only, father only, both parents, foster parents, relatives and others unrelated, etc.

3. Number of siblings in the household

Both birth order of the respondent and the number of siblings of each sex were ascertained by first asking the students to indicate the number of older and younger brothers at home and then the number of older and younger sisters.

B. The school

1. Socioeconomic climate of the school

Indices of differing social climates of schools, as influenced by differing socioeconomic status origins of students, may be indicated by conducting intercorrelational analyses between schools attended and socioeconomic status.

2. Academic climate of the school

Intercorrelations between grade point averages, measured intelligence scores and school attended by student may be examined as a means of providing an empirical basis for concluding that the schools have differing academic climates.

Data Collection Procedures

During the fall semester of 1960, all of the seventh grade students enrolled in the four junior high schools of a mid-western city were given a questionnaire. The same type of questionnaire

was readministered to these students, along with others who transferred into the school system, every fall semester for the next five years. Dr. Wilbur B. Brookover and research assistants directed the administration of the mass testing technique during each session.

During the month of January of each year, academic data and information were collected, i. e., grade point averages, etc., were gathered from the school records.

To predict future dropout, the ninth grade longitudinal population was selected for this study ($N = 309$).

All tenth grade, eleventh grade and twelfth grade white male dropouts were initially identified by Dr. Kenneth Harding who recorded the names of those students who were absent when the questionnaires were administered. Dropouts were then differentiated from those who were merely absent by checking the student record files of the three high schools under study in the longitudinal research projects sponsored by Brookover and associates. At this time, Harding was also able to eliminate black students and females from the dropout population. Harding then undertook a survey of the records of the Central Child Accounting Office in order to distinguish voluntary dropouts from those who may have withdrawn from school for other reasons.

The original data were coded and punched on IBM cards at

Michigan State University. These card decks were furnished to the current author by Brookover and associates. For the purpose of this dissertation, data from these original decks were used to construct longitudinal summary decks.

For the purpose of providing various forms of data suited to a multiple regression approach, a number of different decks of IBM cards were constructed, all of which contained similar information on the same sample.

The first deck, which contained the raw data, was constructed from the original decks provided by Brookover and associates on the reproducing machine at the Western Michigan University Computer Center. The IBM 1620 Computer at this location was used to execute a multiple regression analysis on this deck in order to ascertain factor intercorrelations, mean values and standard deviations for each of the person (P), social-psychological (S_p) and social contingency (S_c) variables.

Mean values for the first deck were employed for the construction of other decks with binary variables, i. e., values for means were, for most variables, utilized for the purpose of assigning high and low scores on different items to every student. These decks were constructed on the IBM 1620 Computer at the Grand Rapids Junior College Computer Center. The binary decks differed in that the cut-off points for aspirations and expectations were

arbitrarily assigned at different places, i. e., mean value, or "to graduate from high school" (which was considerably below the mean), or "to continue in high school awhile. " Other binary decks contained various interaction terms of aspirations and plans, e. g., high levels of plans and aspirations, low levels of both, high Ed Asps and low Ed Pl, and high Ed Pl and low Ed Asps.

Data Analysis Procedures

The Western Michigan University Computer Center provided the use of an IBM 1620 Computer for the calculation of the means, variances, standard deviations, and correlations of the variables included in the deck containing the raw data. As has been indicated, mean values were then used to construct binary variables for additional decks which were punched on an IBM 1620 Computer at Grand Rapids Junior College. Correlations of the raw data were examined for the selection and deselection of those variables which appeared to be the most relevant for either aspirations, plans or high school dropout. The results of these correlations are presented in Chapter III which deals with analysis and findings; an intercorrelational matrix which contains all of the results is presented in Appendix B.

The IBM 1620 Computer at the Western Michigan Computer Center was used to conduct the multiple linear regression analysis of all data used in forecasting dropout.

Multiple linear regression analysis can be explained in a straightforward manner.¹ First a criterion measure is measured (Y or dropout) which might, for example, be thought to be a product of a number of forces. The concern, then, is to try to explain variations in dropout on the basis of other presumably relevant information concerning the student. Variables which are in actuality relevant to dropout should explain some of the variation in dropout; if a variable is irrelevant to dropout, it should explain none of the variance. Hence, if Educational Plans are relevant to voluntary high school withdrawal, variations in Educational Plans will be associated with variations in high school dropout.

These presumably relevant variables (labelled $X_1 \dots X_k$) can be thought of as predictors of dropout. Each student's score on dropout can be considered a linear combination of these relevant variables, appropriately weighted, and an error term or a residual reflecting the extent to which each variable does not explain dropout. With a perfect explanation, there will be no error or "residual." This kind of explanation, however, rarely occurs in behavioral science studies. The magnitude of this error can be consi-

¹This general discussion of analytic procedures has been taken from an explanation of the multiple linear regression approach employed by Israel, Benjamin L., Responsive Environment Program: The Talking Typewriter, New York: Board of Education, Community Action Program (Office of Economic Opportunity), 1968. Pp. 67-69.

dered as an index of the extent to which there has been a failure to account for variations in dropout behavior; larger errors represent poorer explanations. On the other hand, that percentage of variation of high school dropout that is explained can be taken as an index of successful prediction.

More specifically, if a person were asked to guess whether an individual might drop out of school, his best guess would be the average rate of dropout; if he knew that 25% of the students did drop out, the best estimate would be that there is a 25% likelihood that each student would leave school. If, however, the person had other information, for example, the sex of each student, he would probably alter his predictions. With this knowledge, his best guess would be the mean for the males if the student was a male and the mean for females if the student was a girl. If, however, these differential predictions based on sex failed to result in less error than did those forecasts based on the overall mean, it could be concluded that the variable of sex is of little additional value for explaining differences in dropout rates. This is essentially the manner in which a step-wise regression analysis is conducted.

In more formal terms, the analytic procedure would appear as follows:

Research Question: Do sexes differ in dropout rates?

Full Model: $Y = a_0u + a_1X_1$

where:

Y = predicted dropout rate

a_0 = a regression constant (a common weight)

u = a unit vector

a_1 = a least squares regression weight for sex

X_1 = sex: 1 if male, 0 if female

A full model's success in predicting dropout (Y) can be quantified as R^2 , i. e., the percent of variation in Y explained by the model.

The R^2 obtained from using the full model which contains information about student sexual differences can then be compared with the R^2 found with a restricted model which does not include information about sexual differences. Such a restricted model would appear as:

Restricted Model: $Y = a_0u$

where:

Y = predicted dropout rate

a_0 = a common weight (the grand mean)

u = a unit vector (every subject scored as 1)

(This is referred to as model 90 in the FORTRAN IV format)

Then an F - Ratio, which consists of the R^2 's from both the full and the restricted models can be calculated along with an alpha level. The formula for the F -Ratio is:

$$F = \frac{(R^2_{\text{full}} - R^2_{\text{restricted}} / (M_1 - M_2))}{(1 - R^2_{\text{full}}) / (N - M_1)}$$

where:

R^2_{full} = Percent of total variance accounted for with knowledge of sex

$R^2_{\text{restricted}}$ = Percent of total variance accounted for without knowledge of sex

M_1 = The number of linearly independent vectors used to calculate R^2_{full}

M_2 = The number of linearly independent vectors used to calculate $R^2_{\text{restricted}}$

N = Number of subjects

$1 - R^2$ = Percent of variance unaccounted for

This general procedure may be expanded to include several X variables; but it is generally stated that for every variable, there should be at least ten subjects.

CHAPTER III

ANALYSIS AND FINDINGS

As has been developed in the previous chapters, the primary objective of this dissertation is that of employing a multiple linear regression approach in order to empirically ascertain whether the theoretical constructs of Educational Aspirations and Educational Plans are efficient forecastors of high school dropout behavior. The criteria for Educational Aspirations and Educational Plans, as previously stipulated, are respectively: (1) a student's indicated desire for either staying in or dropping out of high school, and (2) his expressed intentions as to whether he will or will not graduate from high school.

Secondary objectives of this dissertation are: (1) to determine which concept, i. e., aspirations or plans, results in the greater forecasting efficiency, (2) to assess the extent of an additive and an interactive impact when both concepts are simultaneously employed in forecasting, and (3) to determine whether other social-psychological, sociological, and psychological variables modify the impact of the two major theoretical constructs, i. e., if there are additive or interactive values for certain variables that enhance the forecasting of high school dropout.

One of the first questions which must be asked prior to the

determination of the effects of aspirations and plans is: to what extent are the major theoretical constructs intercorrelated with other assessed variables? By examining such intercorrelational values, it is possible to estimate what might be the unique contributions of each variable. If each variable were found to be perfectly correlated with every other one, it would then be empirically redundant to use more than one variable in the regression equation. On the other hand, some variables have a negative or a very low correlation with major constructs derived from the theoretical framework - it can then be assumed that these items would be of little value in contributing to the forecasting efficiency of the final theoretical and methodological model.

As can be seen in Appendix B, the values in the Intercorrelation Matrix range from $-.17$ to $.90$. A visual inspection of the Intercorrelation Matrix indicates that there are some variables that are so highly intercorrelated with each other - and which also have generally similar correlation values with other variables - that it may be concluded that these measures have assessed essentially common factors. In such cases, it would be empirically redundant to use each item; approximately the same methodological rigor may be achieved by employing either a summarization variable which subsumes such related factors or by using only one of a series of variables which apparently tap the same phenomenon.

The first alternative may be utilized in the analytical model for those items which deal with students' perceptions of evaluations of themselves by their parents, their best friends, and their favorite teacher, for the mean value of the summation of these items has been calculated in order to comprise another variable which is termed Total Perceived Evaluations. The intercorrelations of Perceived Parental Evaluations, Perceived Friend's Evaluations, Perceived Teacher's Evaluations, and Total Evaluations and the correlations of these with other major variables are presented in Table 3. 1

TABLE 3. 1 --Intercorrelations of PPE_v, PFE_v, PTE_v, and Total Ev and Correlations with ED ASPS, ED PL, SES, IQ, and GPA

	PFE _v	PTE _v	Tot Ev	Ed Asp	Ed Pl	SES	IQ	GPA
PPE _v	. 75	. 74	. 88	. 58	. 67	. 20	. 47	. 61
PFE _v		. 70	. 90	. 50	. 60	. 21	. 41	. 52
PTE _v			. 90	. 49	. 56	. 28	. 36	. 53
Tot Ev				. 59	. 68	. 30	. 46	. 61

As Table 3. 1 illustrates, the variables of Perceived Parental Evaluations, Perceived Friend's Evaluations and Perceived Teacher's Evaluations are quite highly intercorrelated with each other; the intercorrelations range from . 70 to . 75. The intercorrelations of these variables with Total Evaluations, the summarization variable, ranges from . 88 to . 90. Table 3. 1 further illustrates that

the correlations of these variables with the major theoretical constructs of Educational Aspirations and Educational Plans are of relatively similar values. The same is true of the correlation values of socioeconomic status, measured intelligence scores, and academic achievement, i. e., variables, which, as discussed in the review of the literature, have been demonstrated to be relevant to dropout behavior.

The second alternative for avoiding redundancy, i. e., the use of only one of a series of items which appear to be related to the same kind of phenomenon, may be employed for those cases which deal with the expectations of others. As stated in Chapter II, students were asked to indicate the expectations that they thought their parents, best friends, and favorite teachers held for them with regard to their completion of formal education. The intercorrelations of Perceived Parental Expectations, Perceived Friend's Expectations and Perceived Teacher's Expectations and the correlations of these variables with Educational Plans, Educational Aspirations, Socioeconomic Status, Intelligence and Academic Ability are presented in Table 3. 2.

It may be concluded, on the basis of the evidence presented in Table 3. 2, that those variables which deal with the expectations of parents, friends, and teachers are rather highly related to one another and, perhaps, may actually assess a common factor.

TABLE 3.2 --Intercorrelations of PPE_x, PFE_x, PTE_x and Correlations with ED ASP, ED PL, SES, IQ, and GPA

	PFE _x	PTE _x	ED ASPS	ED PL	SES	IQ	GPA
PPE _x	.73	.68	.74	.83	.36	.46	.58
PFE _x		.72	.60	.73	.29	.40	.55
PTE _x			.53	.65	.28	.33	.47

Furthermore, the correlations of each of these variables with those of Educational Plans, Educational Aspirations, socioeconomic status, measured intelligence and academic achievement are, in each case, quite similar in value. Therefore, it may be redundant to include each factor that deals with expectations in the final model. Since the purpose of intercorrelation analysis is, in this instance, to select those variables that would make a significant contribution in forecasting dropout, those that appear redundant may be deselected from the final analysis. Therefore, it appears that the variable of Perceived Parental Expectations is the factor that would make the greatest single contribution. This variable has the highest correlation values both with the major theoretical variables of student Educational Plans and Educational Aspirations and with the other variables that are often associated with high school dropout. Therefore, only the variable of Perceived Parental Expectations will be included in the final regression equation; the assumption will be made that this factor also encompasses the values that the variables of

Perceived Friend's Evaluations and Perceived Teacher's Evaluations would have in forecasting dropout.

Although the review of the literature would lead one to expect otherwise, there are a number of variables which have been highly emphasized by other theorists and researchers that appear to be of little significance for this particular population of ninth grade students. For example, although a great deal has been written about qualitative differences in school climates, as indicated in the Intercorrelation Matrix in Appendix B, there seemed to be little variation in either social or academic climates between the three high schools included in this sample. The correlations of school attended with socioeconomic status, measured intelligence scores and academic achievement were .13, .06 and .17 respectively. Even for the strongest relationship, i. e., school and academic achievement, only two percent of the variation in grade point averages can be explained by having knowledge of which school that the students may have attended. The correlations of school attended with Educational Aspirations and Educational Plans are only .12 and .10. Thus, it may be concluded that there is little indication that the schools in this particular midwestern community do possess different and unique social or academic climates. Furthermore, this variable seems to have little relationship to the two major theoretical constructs. Consequently,

this variable will be excluded from the final theoretical model for forecasting dropout since it appears to be of little value for this particular population. Although other studies have demonstrated the empirical utility of the variable of school climate, there seems to be little justification for including this factor in the regression analysis for forecasting dropout in this sample.

The second variable presented in the Intercorrelation Matrix in Appendix B is Model for Self - this item asked students to state who they would like to be like. This particular variable exhibits correlation values ranging from $-.11$ to $.12$. Therefore, it may be concluded that this variable has little influence upon Educational Aspirations and Educational Plans, and it does not appear to be related to any other variable that is generally associated with dropout. Consequently, this item will be excluded from the final model for regression analysis.

Although it is the purpose of this dissertation to assess the utility of aspirations and plans for forecasting behavior, the specific variables of Occupational Aspirations and Occupational Plans do not correlate highly enough with any of the other relevant variables to merit being included in the final analytical model. As may be seen in Appendix B, the correlation values of Occupational Aspirations with the variables of Perceived Parental Expectations, Total Evaluations, socioeconomic status, measured intelligence,

and academic achievement are .29, .26, .09, .12 and .16 respectively. Occupational Aspirations correlate .28 and .32 with Educational Aspirations and Educational Plans. Occupational Aspirations and Occupational Plans have an intercorrelation of .43; thus it does seem as if questions concerning desires and expectations for career choice do measure separate factors. On the other hand, the construct of Occupational Plans does not correlate highly with any of the other variables; the values range from .18 to .41.

The mean values for Occupational Aspirations and Occupational Plans were 6.97 and 5.59; the standard deviations were 2.58 and 3.22. The responses provided for the questionnaire items are of dubious utility, however. The responses were placed in nine categories; but only the categories numbered from five to nine indicate occupational categories appropriate for males. (See Appendix A) The remaining classifications deal with responses such as "I want a good job," "Housewife" (for females in the sample which were excluded from this study), "I want a job that makes lots of money," and "Don't know." Consequently, the mean score of 5.59 for Occupational Plans would indicate that the average response was to category number five, which is also the lowest meaningful category that male respondents may be assigned to. Due to this limitation, there is little justification for including this variable in the final regression model. Another consideration is that there were low correlation values with other relevant variables. For

this population, it may be surmised that there is some support for the arguments by Bennett and Gist¹ that both aspirations and plans for occupational choice are laden with fantasy. Consequently it may be concluded that, for this particular ninth grade population, this measure would contribute little to the predictive efficacy of the final theoretical model.

In order of presentation in the Intercorrelation Matrix in Appendix B, the next set of variables are those of Educational Aspirations and Educational Plans. The correlation values of these two major theoretical constructs with others which appear relevant to the topic of this dissertation appear in Table 3. 3.

TABLE 3. 3 --Intercorrelations of ED ASP and ED PL with PPE_x, Tot Ev, SES, IQ, and GPA

	Ed Pl	PPE _x	Tot Ev	SES	IQ	GPA
Ed Asp	. 75	. 64	. 59	. 27	. 40	. 51
Ed Pl		. 83	. 68	. 31	. 50	. 60

Table 3. 3 illustrates the fact that Educational Aspirations and Educational Plans have a rather high correlation of . 75. However, knowledge of one variable would still lead to an error of prediction

¹Bennett and Gist, op. cit.

of 45% in an attempt to predict the other variable. This fact, coupled with the differential correlations with the other variables, presents further empirical support for the contention that these are two separate factors. Again, the fact that the construct of Educational Plans is consistently more highly correlated with all other variables would lead one to expect that this variable is the more efficient forecaster of behavior. Further, the high correlations with the other variables indicates the need to question the interactive impact of both variables in forecasting dropout.

As shown in Appendix B, all variables which deal with the number, age, and sex of siblings in the students' families have either negative or minimal positive intercorrelations with all other variables that seem appropriate for inclusion in the final multiple regression equation. For this population, it appears that the only use to be made of knowledge of one of these variables would be in predicting one of the other sibling variables, e. g., those who have older sisters are somewhat more likely to also have older brothers, etc. As is demonstrated in the Intercorrelation Matrix, however, these variables seem to have no association with the theoretical constructs or with any of the other factors generally associated with dropout. Hence, it may be concluded that the inclusion of these variables in the final regression equation would only result in the reduction of its predictive efficiency.

Another issue which does not seem applicable to this population is that of the composition of the family, i. e., whether it is intact or incomplete. The mean for this variable was 2.95 (3 = student lives with both mother and father). The intercorrelations of family composition with Educational Aspirations and Educational Plans are only .11 and .08, thus there seems to be little association. The intercorrelation values range from .11 to .16 for the variables of socioeconomic status, intelligence and academic achievement. The implication, then, is that the inclusion of this variable would not contribute to the forecasting efficiency of the final regression model.

Although certain psychological postulates might lead one to expect that negative and positive parental reinforcement would have some influence upon student academic behavior, the development of attitudinal configurations, and would be differentially related to social class position, the evidence from this student population presents little to support these contentions. The intercorrelations of these two variables - the measures of which requested students to indicate the expected parental response to a good or a poor report card - with other relevant factors are presented in Table 3.4.

The results of this analysis indicate that parental reactions to good and to poor report cards are separate factors, for the cor-

TABLE 3.4 --Intercorrelations of parental reactions to good and poor report cards with ED ASP, ED PL, PPE_x, Tot Ev, SES, IQ, and GPA

	Poor Card	Ed Asp	Ed Pl	PPE _x	Tot Ev	SES	IQ	GPA
Good Card	.19	.15	.16	.17	.24	.14	.09	.07
Poor Card		.22	.27	.27	.32	.19	.21	.19

relation is only .19. Furthermore, the correlations of each item with all other variables are dissimilar. The mean value of Parental Reactions to Good Report Cards is 2.15 (2 = Praise); the value for Poor Report Cards is 3.15 (3 = Take away privileges). Although these findings may have some descriptive value, the implications are that such reinforcement variables have little association with any of the major variables to be used in this study. These parental reinforcement norms, then, will not be included in the final theoretical model.

In the original projects from which this study has been derived, a series of four items were constructed as a means of determining students' priorities of interests. In each instance, the respondents were asked to indicate whether they would rather be a good student versus (1) a good sport, (2) well-liked, (3) popular with the opposite sex, and (4) a school leader. The intercorrelations of these items are illustrated in Table 3.5.

TABLE 3.5 --Intercorrelations of priority of interest items with
ED ASP, ED PL, PPE_x, Tot Ev, SES, IQ, and GPA

	Good Student vs			Ed	Ed	PP	Tot			
	Liked	Pop with opp sex	Leader	Asp	Pl	Ex	Ev	SES	IQ	GPA
Student-Sport	.38	.40	.29	-.06	.01	.07	.12	.02	.11	.03
Student-Liked		.50	.36	-.01	.09	.13	.20	.03	.17	.09
Student-Popular			.43	.03	.14	.12	.22	.05	.18	.07
Student-Leader				.06	.07	.10	.15	.04	.08	.06

Table 3.5 indicates that the Priority of Interest items bear little relationship to the two major theoretical constructs - in some cases the associations are negative. Furthermore, none of the items appear to be related to any of the other selected variables. These items, then, will not be used in the final analysis.

In an attempt to assess student self-ratings of popularity, students were asked to rate themselves on a five point scale which ranged from "Much above average" to "Much below average" for questions about their popularity with their own and the opposite sex. Intercorrelations for these measures are presented in Table 3.6.

These two items, i. e., Popularity with Own and with Opposite Sex, appear to be highly associated with each other. Knowledge of

TABLE 3. 6 --Intercorrelation of popularity with own and other sex with ED ASP, ED PL, PPEX, Tot Ev, SES, IQ, and GPA

Student Self Rating:	Pop with opp sex	Ed Asp	PP Ex	Tot Ev	SES	IQ	GPA
Popularity with own sex	.72	.30	.36	.52	.16	.26	.21
Popularity with opp sex		.20	.26	.47	.08	.18	.14

how a student rates his popularity with his own sex permits nearly 50% accuracy in predicting how he will rate his popularity with girls. However, self-ratings of popularity with own sex seem to be consistently more highly related to the other variables than does popularity with the opposite sex. Furthermore, popularity with one's own sex appears to be significantly associated with Total Perceived Evaluations of others: the correlation is .52. On the basis of this finding, it might be concluded that the variable of Student Self-Ratings of Popularity with Own Sex will make a contribution in the final regression equation to be used in forecasting high school dropout.

Another concern in the original longitudinal projects conducted by Brookover and associates was that of various kinds of student participation in extra-curricular and outside activities. Conse-

quently, students were asked to rate their involvement in such activities on a five point scale which ranged from "Much above average" to "Much below average. " A more objective measure was then employed by asking the subjects to state the actual number of extracurricular and outside clubs that they belonged to.

The intercorrelations for these latter measures are presented in Table 3. 7.

TABLE 3. 7 --Intercorrelations of participation in school activities, participation in sports, number of extracurricular clubs belonged to, number of outside clubs belonged to and correlations with ED ASP, Ed PL, PPE_x, Tot Ev, SES, IQ, and GPA

Partici- pation In:	Sports	Extrac. Clubs	Outside Clubs	Ed Asp	Ed Pl	PP Ex	Tot Ev.	SES	IQ	GPA
School Activ.	.55	.36	.23	.27	.32	.30	.43	.15	.13	.13
Sports		.49	.23	.25	.29	.30	.43	.14	.18	.18
Extrac Clubs			.23	.31	.34	.29	.35	.13	.18	.30
Outside Clubs				.22	.24	.23	.29	.20	.18	.21

Table 3. 7 illustrates that although participation in one kind of activity may have some value for predicting the amount of activity in other kinds of clubs and organizations, these kinds of variables appear to have little relationship to those social-psychological and sociological variables generally considered to be related to high

school dropout behavior or to the major theoretical constructs. Therefore, these variables will not be used in the final multiple linear regression equations.

One theoretical concept which has been the central thesis in much of the work by Brookover and associates is that of students' General Self-Concept of Academic Ability. In a number of studies, this concept has been demonstrated to be relevant to a number of other variables related to student behavior. The intercorrelations of this variable with the other major variables are presented in Table 3.8.

TABLE 3.8 -- Intercorrelations of general self-concept of academic ability with ED ASP, ED PL, PPE_x, Tot Ev, SES, IQ, and GPA

	Ed Asp	Ed Pl	PPE _x	Tot Ev	SES	IQ	GPA
SCA	.68	.74	.68	.75	.33	.49	.66

Student levels of General Self-Concept of Academic Ability appear to be quite highly correlated with nearly every variable considered central to this project. The high relationship between self-concept of ability and grade point average supports the theory advanced by Brookover and associates that self-conceptions influence academic achievement. In addition, the high correlation between perceived evaluations of others and self-concept supports

their theory that perceived evaluations are a necessary and sufficient condition for self-concept of ability but self-concept of ability is only a necessary but not sufficient condition for achievement.

This latter point is further supported by their analysis of the achievement of students with high and low levels of self-concept of ability.

They found that although a significant proportion of students with high self-concepts of ability achieved at a relatively lower level, practically none of the students with lower self-concepts of ability achieved at a high level. Since self-concept seems to have such a role for performance in school, it would seem likely that it would also have some utility in student decisions about whether or not to continue performing in school. Therefore, this variable will be included in the final multiple linear regression analytic model.

Although many educators are currently concerned about students' ability to read, the variable of Reading Scores assessed in the ninth grade does not seem to be significantly associated with any of the other variables relevant to this study. As may be seen in Appendix B, the intercorrelation values range from $-.07$ to $.23$. The latter score is between ninth grade Reading Scores and School Attended, which has been deselected from the final analysis for reasons discussed earlier in this chapter.

Consequently, those variables to be included in the final theoretical and methodological analysis, i. e., those which would

appear to produce unique and substantial contributions in forecasting decision-making behavior in the academic arena, are those of Educational Aspirations, Educational Plans, Perceived Parental Expectations, Student Self-Ratings of Popularity with Own Sex, General Self-Concept of Academic Ability, Total Perceived Evaluations of Others, Socioeconomic Status, Measured Intelligence Scores, and Academic Achievement. In a study by Brookover and Erickson¹, it was found that statistical control for variations in Educational Plans reduced to nearly zero both the correlations between Educational Aspirations and achievement and the correlations Aspirations and socioeconomic status. On the other hand, statistical control for variations in aspirations did not reduce to near zero either the correlations between Educational Plans and socioeconomic status or plans and grade point average. Intercorrelations for these and all other variables which have been selected for final analysis are presented in Table 3. 9.

The mean values and standard deviations for these variables are given in Table 3. 10.

These mean values can be and were, with the exception of aspirations and plans, used as a basis for assigning high and low scores to subjects for the purpose of constructing binary variable

¹Brookover and Erickson, "Educational Aspirations. . ." op. cit.

TABLE 3.9 --Intercorrelations between variables selected for multiple linear regression analysis for the forecasting of high school dropout

	Ed Plan	PPE _x	Pop w/ own sex	Tot Ev	SCA	SES	IQ	GPA
Ed Asp	.75	.74	.30	.59	.68	.27	.40	.51
Ed Pl		.83	.37	.68	.74	.31	.50	.60
PPE _x			.35	.67	.68	.36	.46	.58
Pop				.52	.38	.15	.26	.21
Tot Ev					.75	.30	.46	.61
SCA						.33	.48	.66
SES							.28	.36
IQ								.47

TABLE 3.10 --Mean values and standard deviations for variables selected for multiple regression analysis to forecast high school dropout behavior

<u>Variable</u>	<u>Mean</u>	<u>S. D.</u>
Educational Aspirations	5.71	1.53
Educational Plans	5.08	1.58
Perceived Parental Expectations	5.25	1.53
Popularity with own sex	3.33	3.33
Self-concept of ability	28.81	5.29
Total evaluations of others	56.18	12.42
Socioeconomic status	40.28	22.70
Intelligence	108.47	18.42
Grade Point average	2.28	.85

decks for statistical analysis. In the case of aspirations and plans, the cut-off point was made at the level of "To graduate from high

school" which is considerably below the mean score for both items.

Based upon the described correlation values of these variables, as compared to the lower values of other variables which are presented in their entirety in the Intercorrelation Matrix in Appendix B, a more final theoretical and methodological model may now be delineated. This full model, which will be used in the forecasting of voluntary high school dropout behavior on the basis of data gathered from white males in the ninth grade, is specified in Figure 3.1. As has been discussed, this model cannot be considered to be a comprehensive one. Many of the variables deemed important by other investigators have not been included in this model, for there seemed to be no empirical justification for doing so with this particular sample. It is maintained, however, that those variables which do seem appropriate for examining this population will be useful for determining how the major theoretical constructs of Educational Aspirations and Educational Plans may be modified in their impact upon behavior.

With the use of this model, it is now possible to construct basic research questions to be answered with the multiple linear regression approach.

Basic Question, One

In forecasting dropout rates, is there a difference in grouping

FIGURE 3.1 --Methodological model: variables selected as relevant to forecasting high school dropout with a multiple linear regression approach

$$Y_a = (P, S_p, S_c)$$

Where:

P = Person Variables

1. Educational Values for Self
 - a. Educational Aspirations (Ed Asp)
 - b. Educational Plans (Ed Pl)
2. Academic Characteristics
 - a. Measured Intelligence Scores (IQ)
 - b. Academic Achievement (GPA)
 - c. General Self-Concept of Academic Ability (SCA)

S_p = Social-Psychological Variables

1. Family Norms
 - a. Perceived Parental Expectations (PPEX)
2. Peer Norms
 - a. Self-Ratings of Popularity with own sex (pop)
3. Social Norms
 - a. Perceived total evaluations of others (Tot Ev)

S_c = Social Context Norms

1. Socioeconomic Status (SES)

Y_a = Predicted behavior of high school dropout

students on the basis of high and low Educational Aspirations over and above that which would be expected on the basis of differences in socioeconomic status, measured intelligence, and academic achievement?

Full Model:

$$\text{Dropout Rate (Y)} = a_0u + (a_1) (\text{Ed Asp}) + (a_2) (\text{SES}) + \\ (a_3) (\text{IQ}) + (a_4) (\text{GPA})$$

$$R^2 = .22$$

Restricted Model:

$$\text{Dropout Rate (Y)} = a_0u + (a_2) (\text{SES}) + (a_3) (\text{IQ}) + \\ (a_4) (\text{GPA})$$

$$R^2 = .17$$

(1) Answer, Question One¹

Yes. There is a difference in favor of the grouping of students on the basis of high and low Educational Aspirations.

$$F = 25, P < .001$$

(2) Interpretation

Additional information about whether students possess high or low levels of Educational Aspirations does result in greater accuracy in forecasting high school dropout rates than that which is obtained by using only the knowledge of levels of socioeconomic status, measured intelligence scores, and academic achievement.

Basic Question, Two

In forecasting dropout rates, is there a difference in grouping students on the basis of high and low Educational Plans which is

¹The full and restricted models, R and R² values, F and P values are presented more fully in Table 3. 11.

over and above that which would be expected on the basis of differences in socioeconomic status, measured intelligence scores and academic achievement?

Full Model:

$$\text{Dropout Rate (Y)} = a_0u + (a_1) (\text{Ed Pl}) + (a_2) (\text{SES}) + (a_3) (\text{IQ}) + (a_4) (\text{GPA})$$

$$R^2 = .24$$

Restricted Model:

$$\text{Dropout Rate (Y)} = a_0u + (a_2) (\text{SES}) + (a_3) (\text{IQ}) + (a_4) (\text{GPA})$$

$$R^2 = .17$$

(1) Answer, Question Two¹

Yes. There is a difference in favor of the grouping of students on the basis of high and low levels of Educational Plans.

$$F = 35, P < .100$$

(2) Interpretation

Information about whether students have either high or low levels of Educational Plans does result in significantly more accurate forecasting of high school dropout rates than that obtained with only the knowledge of socioeconomic status, measured intelligence scores, and academic achievement.

¹The full and restricted models, R and R² values, F and P values are presented more fully in Table 3. 11.

Thus, on the basis of a multiple linear regression approach, it may be concluded that the use of either construct, i. e., Educational Plans or Educational Aspirations, enhances the forecasting of high school dropout behavior beyond that which might be expected with the utilization of the more traditional variables of socioeconomic status, measured intelligence scores, and academic achievement. Furthermore, as hypothesized, the concept of Educational Plans does seem to have the greater utility for forecasting in that the use of this concept accounted for 24% of the variance in dropout behavior as compared to the R^2 of .22 found with Educational Aspirations. However, the question still remains of whether there may be an additive or interactive impact between the two major theoretical constructs that may contribute to the forecasting of this kind of event.

Basic Question, Three

In forecasting high school dropout rates, is there an additive impact between the concepts of Educational Plans and Educational Aspirations which accounts for variations in dropout rates over and above that which is found by using only student levels of Educational Plans, socioeconomic status, measured intelligence scores, and academic achievement?

Full Model:

$$\text{Dropout Rate (Y)} = a_0u + (a_1) (\text{Ed Asps}) + (a_2) (\text{Ed Plans}) \\ + (a_3) (\text{SES}) + (a_4) (\text{IQ}) + (a_5) (\text{GPA})$$

$$R^2 = .25$$

Restricted Model:

$$\text{Dropout Rate (Y)} = a_0u + (a_2) (\text{Ed Plans}) + (a_3) (\text{SES}) + \\ (a_4) (\text{IQ}) + (a_5) (\text{GPA})$$

$$R^2 = .24$$

(1) Answer, Question Three¹

No. The additional knowledge of student levels of Educational Aspirations does not account for variations in dropout rates over and above that which is explained by using only information about student levels of Educational Plans, socioeconomic status, measured intelligence scores, and academic achievement.

(2) Interpretation

In the forecasting of high school dropout behavior, there does not appear to be an additive effect between the concepts of Educational Aspirations and Educational Plans that can make any additional contribution to the forecasting of this kind of event. One can obtain essentially the same degree of accuracy in forecasting by using only the construct of Educational Plans along with the more traditional variables of socioeconomic status, intelligence scores, and grade point averages.

¹The full and restricted models, R and R² values, F and P values are presented more fully in Table 3.11.

Basic Question, Four

In forecasting high school dropout rates, is there an interactive impact between the concepts of Educational Plans and Educational Aspirations which accounts for variations in dropout rates over and above that which may be predicted by using only those variables of Educational Plans, socioeconomic status, measured intelligence scores, and academic achievement?

Full Model:

$$\begin{aligned} \text{Dropout Rate (Y)} = & a_0u + (a_1) (\text{Ed Asps}) + (a_2) (\text{Ed Plans}) \\ & + (a_3) (\text{SES}) + (a_4) (\text{IQ}) + (a_5) (\text{GPA}) \\ & + (a_6) (\text{Ed Asps} * \text{Ed Plans}) \end{aligned}$$

$$R^2 = .25$$

Restricted Model:

$$\begin{aligned} \text{Dropout Rate (Y)} = & a_0u + (a_2) (\text{Ed Plans}) + (a_3) (\text{SES}) + \\ & (a_4) (\text{IQ}) + (a_5) (\text{GPA}) \end{aligned}$$

$$R^2 = .24$$

(1) Answer, Question Four¹

No. There is not an interactive impact between the concepts of Educational Plans and Educational Aspirations which accounts for variations in dropout over and above that which may be forecasted with

¹The full and restricted models, R and R² values, F and P values are presented more fully in Table 3. 11.

the variables of Educational Plans, socioeconomic status, intelligence scores, and academic achievement.

(2) Interpretation

In the forecasting of high school dropout behavior, there does not appear to be an interactive effect between the concepts of Educational Aspirations and Educational Plans that is of any additional value in prediction. Essentially the same degree of accuracy in forecasting may be obtained by only the construct of Educational Plans along with the more traditional variables of socioeconomic status, intelligence scores, and grade point averages.

Summary and Conclusions: Educational Plans and Educational Aspirations as Forecasters of High School Dropout

Based upon the findings of a multiple linear regression analysis, it can be tentatively concluded that the construct of Educational Aspirations does enhance the efficiency of forecasting high school dropout that is obtained with the more traditional variables of socioeconomic status, measured intelligence scores, and academic achievement. When using only the latter three variables, 17% of the variation in dropout rates could be explained. With the additional knowledge of student levels of Educational Aspirations, 22% of the variance of future high school dropout was successfully forecasted. As was hypothesized, however, the theoretical construct of Educational Plans was demonstrated to be the more powerful forecaster; but the difference was slight. When the con-

TABLE 3.11 --Models, F-tests, R, R^2 , and P values for the forecasting of high school dropout on the basis of educational aspirations, educational plans, socioeconomic status, intelligence and academic achievement

Forecastors	Model	R	R^2	d/f	F	P
Ed Asps	Full	.47	.22	1/305	25	.001
	Restricted (SES, IQ, GPA)	.41	.17			
Ed Plans	Full	.49	.24	1/305	35	.001
	Restricted (SES, IQ, GPA)	.41	.17			
ADDITIVE EFFECTS:						
Ed Asps + Ed Plans	Full	.50	.25	1/302	.05	n. s.
	Restricted (Ed P1, SES, IQ, GPA)	.49	.24			
INTERACTIVE EFFECTS:						
Ed Asps + Ed Plans + (Ed Asps * Ed Plans)	Full	.50	.25	1/302	.05	n. s.
	Restricted (Ed P1, SES, IQ, GPA)	.49	.24			

struct of Educational Plans was added to the variables of SES, IQ, and GPA, 24% of the variation in dropout rates were successfully forecasted.

The questions were then asked if there might be an additive or interactive impact between the constructs of Educational Aspirations and Educational Plans that might even further enhance the efficiency of forecasting dropout. In both cases, i. e. , additive and interactive effects, an R^2 of .25 was found. Therefore, it can be tentatively concluded that such additive or interactive effects, as they may be present, contribute little beyond the forecasting efficiency to be found by using the construct of Educational Plans along with SES, IQ, and GPA.

On the bases of the findings that (1) the theoretical construct of Educational Plans is slightly more efficient for forecasting voluntary high school dropout behavior than is Educational Aspirations, and (2) that neither the additive nor interactive effects between Educational Aspirations and Educational Plans contribute to the success in forecasting beyond that which can be obtained with the single forecastor of Educational Plans, the question may be raised whether there are other social-psychological variables derived from the same theoretical framework which may even further enhance the success of forecasting voluntary high school dropout behavior.

As has been discussed earlier in this chapter, there are certain variables which have been found to be rather highly correlated with other factors considered to be basic to both the theoretical framework which provides the basis for this study and to other variables which previous investigators have associated with dropout. These variables, then, have been selected to be tested and compared with the three more traditionally employed factors (i. e. , SES, IQ, GPA) used in the previous restricted models: Perceived Parental Expectations (PPEX), Self-Ratings of Popularity with Own Sex (Pop), Self-Concept of Academic Ability (SCA) and Total Perceived Evaluations of Others (Tot Ev.). It is the purpose of the following questions to determine whether information of these additional factors does result in even greater accuracy in the forecasting of high school dropout.

Basic Question, Five

Does the knowledge of other theoretically and empirically relevant social-psychological variables permit successful forecasting of high school dropout over and above that which can be obtained with the more traditional variables of socioeconomic status, measured intelligence scores and academic achievement?

Full Model:

$$\begin{aligned} \text{Dropout Rate (Y)} = & a_0u + (a_1) (\text{PPEX}) + (a_2) (\text{Pop}) + \\ & (a_3) (\text{SCA}) + (a_4) (\text{Tot Ev}) + (a_5) (\text{SES}) \\ & + (a_6) (\text{IQ}) + (a_7) (\text{GPA}) \end{aligned}$$

$$R^2 = .29$$

Restricted Model:

$$\begin{aligned} \text{Dropout Rate (Y)} = & a_0u + (a_5) (\text{SES}) + (a_6) (\text{IQ}) + \\ & (a_7) (\text{GPA}) \end{aligned}$$

$$R^2 = .17$$

(1) Answer, Basic Question Five¹

Yes. Knowledge of other relevant social-psychological variables does provide success in forecasting dropout over and above that which is obtained with socioeconomic status, intelligence scores, and academic achievement.

$$F = 15, P < .001$$

(2) Interpretation

Information concerning other social-psychological variables demonstrated to be relevant to the major theoretical constructs of Educational Aspirations and Educational Plans does result in significantly greater accuracy for forecasting high school dropout than that which would be obtained by using only the variables of socioeconomic status, intelligence, and grade point averages.

Since the addition of these other social-psychological variables

¹Values for R, R², F and P are presented more fully in Table 3.12.

to the predictive equation does considerably enhance the chances of successfully forecasting dropout, the question may be asked of how much greater predictive efficiency may be acquired with the concept of Educational Plans.

Basic Question, Six

Does the addition of knowledge of students' Educational Plans permit an efficiency in forecasting dropout that is over and above that which is obtained with other relevant social-psychological and sociological variables?

Full Model:

$$\begin{aligned} \text{Dropout Rate (Y)} = & a_0u + (a_1) (\text{Ed Plans}) + (a_2) (\text{PPEX}) + \\ & (a_3) (\text{Pop}) + (a_4) (\text{SCA}) + (a_5) (\text{Tot Ev}) \\ & + (a_6) (\text{SES}) + (a_7) (\text{IQ}) + (a_8) (\text{GPA}) \end{aligned}$$

$$R^2 = .30$$

Restricted Model:

$$\begin{aligned} \text{Dropout Rate (Y)} = & a_0u + (a_2) (\text{PPEX}) + (a_3) (\text{Pop}) + \\ & (a_4) (\text{SCA}) + (a_5) (\text{Tot Ev}) + (a_6) (\text{SES}) \\ & + (a_7) (\text{IQ}) + (a_8) (\text{GPA}) \end{aligned}$$

$$R^2 = .29$$

(1) Answer, Question Six¹

¹Values for R and R² are presented more fully in Table 3. 12.

No. The addition of knowledge of students' levels of Educational Plans does not provide an efficiency in forecasting dropout over and above that obtained with other relevant social-psychological and sociological variables.

(2) Interpretation

Although the concept of Educational Plans does enhance the predictive efficiency of the more traditional variables of socioeconomic status, intelligence and grade point averages, this theoretical construct does not add to the predictive efficiency of other theoretically and empirically relevant social-psychological constructs.

Basic Question, Seven

Does the addition of knowledge of students' Educational Aspirations provide an efficiency in forecasting dropout over and above that obtained with other relevant social-psychological and sociological variables?

Full Model:

$$\begin{aligned} \text{Dropout Rate (Y)} = & a_0u + (a_1) (\text{Ed Asps}) + (a_2) (\text{PPEX}) + \\ & (a_3) (\text{Pop}) + (a_4) (\text{SCA}) + (a_5) (\text{Tot Ev}) \\ & + (a_6) (\text{SES}) + (a_7) (\text{IQ}) + (a_8) (\text{GPA}) \end{aligned}$$

$$R^2 = .30$$

Restricted Model:

$$\text{Dropout Rate (Y)} = a_0u + (a_2) (\text{PPEX}) + (a_3) (\text{Pop}) +$$

$$\begin{aligned}
 & (a_4) (\text{SCA}) + (a_5) (\text{Tot Ev}) + (a_6) (\text{SES}) \\
 & + (a_7) (\text{IQ}) + (a_8) (\text{GPA}) \\
 R^2 &= .29
 \end{aligned}$$

(1) Answer, Question Seven¹

No. The addition of knowledge of students' levels of Educational Aspirations does not provide an accuracy of forecasting dropout greater than that obtained with other relevant social psychological and sociological variables.

(2) Interpretation

Even though the concept of Educational Aspirations enhances the predictive efficiency of SES, IQ and GPA, it does not add to the forecasting utility of other relevant social-psychological variables.

Basic Question, Eight

Does the addition of knowledge about the additive or the interactive effects between levels of Educational Aspirations and Educational Plans provide an accuracy in forecasting dropout over and above that obtained with other relevant social-psychological and sociological variables?

Full Model - Additive Effects:

$$\begin{aligned}
 \text{Dropout Rate (Y)} &= a_0u + (a_1) (\text{Ed Asps}) + (a_2) (\text{Ed Plans}) \\
 &+ (a_3) (\text{PPEX}) + (a_4) (\text{SCA}) + (a_5)
 \end{aligned}$$

¹Values for R and R² are presented more fully in Table 3. 12.

$$(Tot\ Ev) + (a_6) (Pop) + (a_7) (SES) + \\ (a_8) (IQ) + (a_9) (GPA)$$

$$R^2 = .30$$

Full Model - Interactive Effects:

$$\begin{aligned} \text{Dropout Rate (Y)} = & a_0u + (a_1) (\text{Ed Asps}) + (a_2) (\text{Ed Plans}) \\ & + (a_3) (\text{PPEX}) + (a_4) (\text{SCA}) + (a_5) \\ & (Tot\ Ev) + (a_6) (Pop) + (a_7) (SES) + \\ & (a_8) (IQ) + (a_9) (GPA) + (a_{10}) (\text{Ed Asps} \\ & * \text{Ed Plans}) \end{aligned}$$

$$R^2 = .31$$

Restricted Model:

$$\begin{aligned} \text{Dropout Rate (Y)} = & a_0u + (a_3) (\text{PPEX}) + (a_4) (\text{SCA}) + (a_5) \\ & (Tot\ Ev) + (a_6) (Pop) + (a_7) (SES) + \\ & (a_8) (IQ) + (a_9) (GPA) \end{aligned}$$

$$R^2 = .29$$

(1) Answer, Question Eight¹

No. The addition of knowledge about either additive or interactive effects between Educational Plans and Educational Aspirations does not provide an accuracy in forecasting above and beyond that which may be obtained with only the knowledge of other relevant social-psychological and sociological variables.

(2) Interpretation

¹The values for R and R² are presented more fully in Table 3.12.

In forecasting high school dropout, no greater predictive efficiency may be obtained by adding either the additive or interactive effects of Educational Aspirations and Educational Plans than that which is obtained with measures of self-concepts, popularity, parental expectations and evaluations, social class, intelligence, and grades.

Summary and Conclusions: Educational Plans, Educational Aspirations and Related Social-Psychological and Sociological Variables as Forecastors of Voluntary High School Dropout Behavior

Based upon the results of a series of multiple linear regression analyses, there are now empirical bases for the conclusion that some social-psychological and sociological variables may be fruitfully employed in forecasting high school dropout behavior. For this particular mid-western population of white male ninth graders, the variables of socioeconomic status, measured intelligence scores and academic achievement - variables which have been traditionally emphasized by most writers and investigators - accounted for 17% of the variance in dropout rates which occurred in the tenth, eleventh and twelfth grades. When the major theoretical constructs of Educational Plans and Educational Aspirations were individually added to these traditional variables in the forecasting of dropout, the predictive efficiency of each respective equation was increased to 24% and 22%. In further tests of the same three basic variables (i. e. , SES, IQ, GPA), it was found that neither the addition of additive nor interactive effects between Educational Plans and

TABLE 3.1 --Models, F-Tests, R, R^2 , and P values for the forecasting of high school dropout on the basis of educational aspirations, educational plans, socioeconomic status, intelligence and academic achievement

Forecastors	Model	R	R^2	d/f	F	P
S_p Variables	Full	.53	.29	4/302	15	.001
	Restricted (SES, IQ, GPA)	.41	.17			
Ed Plans	Full	.55	.30	1/301	.1	n. s.
	Restricted (S_p + SES, etc.)	.53	.29			
Ed Asps	Full	.55	.30	1/301	.1	n. s.
	Restricted (S_p + SES, etc.)	.53	.29			
ADDITIVE EFFECTS:						
Ed Asps + Ed Pl	Full	.55	.30	2/299	.2	n. s.
	Restricted	.53	.29			
INTERACTIVE EFFECTS:						
Ed Asps * Ed Pl	Full	.56	.31	3/299	.2	n. s.
	Restricted	.53	.29			

Educational Aspirations accounted for any additional variation in dropout behavior beyond that which was explained by adding the single concept of Educational Plans.

When the variables of Perceived Parental Expectations, Self-Ratings of Popularity with Own Sex, Total Perceived Evaluations of Others, and Self-Concept of Academic Ability were added to those of socioeconomic status, intelligence scores and academic achievement, 29% of the variance in dropout rates was accounted for. On the other hand, when student levels of Educational Plans or Educational Aspirations were individually added to the above social-psychological and sociological variables, there was only an insignificant additional increase in predictive efficiency; at best, only one percent additional variation in dropout rates could be forecasted. Therefore, it can be concluded that the theoretical concepts of Educational Plans and Educational Aspirations, as demonstrated by a series of multiple linear regression analyses, do have an empirical utility for the forecasting of high school dropout which is considerably over and above that of those variables which have been more traditionally employed by behavioral scientists. On the other hand, these constructs do not appear to contribute any unique value in the forecasting of this kind of behavior beyond that which is obtained with other constructs derived from the same "symbolic interaction" theoretical framework, at least with respect

to forecasting dropout in this particular population. This is true whether the constructs are employed individually or in terms of additive or interactive effects. This, then, leads to the deselection of these particular variables from the theoretical model. For this particular population, then, the final model is:

$$Y_a = (P, S_p, S_c)$$

Where:

P = Person Variables

1. Academic Characteristics
 - a. Measured Intelligence Scores (IQ)
 - b. Academic Achievement (GPA)
 - c. General Self-Concept of Academic Ability (SCA)

S_p = Social-Psychological Variables

1. Family norms - Perceived Parental Expectations (PPE_x)
2. Peer Norms - Self-Ratings of Popularity with Own Sex (Pop)
3. Social Milieu - Total perceived evaluations of others (Tot Ev)

S_c = Social Context Norms - Socioeconomic Status (SES)

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Objectives

The major purpose of this dissertation was that of employing a multiple linear regression approach in order to empirically ascertain whether the theoretical constructs of Educational Plans and Educational Aspirations are efficient forecastors of high school dropout behavior.

A review of the related research suggested that, although often used synonymously by many writers, these two constructs were being reconceptualized by more recent investigators and, as such, appeared to have functionally different relationships to the same kinds of behavior. From the review of the literature, it was concluded that the construct of Educational Aspirations referred to fantasies and desires - this kind of construct would be useful in measuring the degree to which all Americans subscribe to the more universally held values of our nation. Educational Plans, on the other hand, was said to refer to class-specific values; such a construct would be appropriate for assessing people's expectations as developed in terms of perceptions of social reality and socially provided opportunities.

On the basis of such a distinction, these two major theoretical constructs were employed in forecasting a behavioral event which occurs in the academic arena, i. e., the decision to voluntarily withdraw from high school. Three major objectives were formulated in order to empirically establish the utility of aspirations and plans for forecasting this kind of decision-making behavior. The first objective was that of providing an empirical basis for accepting or rejecting the proposition that voluntary decision-making behavior is a function of perceived probable outcomes of social acts. The second theoretical objective was to determine how and to what extent the cognitive completion of an act, in interaction with other relevant social-psychological and sociological variables, affects the completion of that act. Finally, the third objective was that of determining to what extent cognitive completions of acts are modified in their impact by sociological and social-psychological contexts.

Procedures

Population

The basic population selected for this study consisted of 309 Caucasian males who had been classified as ninth graders during the 1962-1963 academic school year. Excluded from the sample were females, black males, transfer students and absentees for

whom complete data were not available, and students who participated in special education and experimental programs.

There was a total of 251 students who remained in school from the ninth grade through the twelfth. A total of 58 students in the school system under study voluntarily withdrew from school during the tenth, eleventh, or twelfth grades. Although some of those who dropped out had transferred into the school system at the time that the original longitudinal projects were in progress, there were no significant differences found between these students and the non-transfer students who dropped out.

Variables examined

The two major theoretical variables examined in this study are Educational Plans and Educational Aspirations.

In a questionnaire designed and mass-administered by Brookover and associates, a student's Educational Plans were assessed by asking the question "Sometimes what we would like to do isn't the same as what we expect to do. How far in school do you expect you will really go?" Seven response categories ranging from "Quit now" to "Go to graduate school" were provided with the assumption that students would indicate the level in the educational system that they actually expected to reach.

Educational Aspirations, which indicate how far in the school system a person would like to go -even though not actually antici-

pating doing so - were measured by asking the question "If you were free to go as far as you wanted to go in school, how far would you like to go?" Student responses were placed in seven categories ranging from "Quit now" to "Go to graduate school. "

In the present study, a number of other social-psychological and sociological variables were included in a comprehensive theoretical model. These variables, which had been suggested by the review of the literature, were then examined by an intercorrelation analysis to determine their relevancy or redundancy as related to plans, aspirations and dropout. From the initial comprehensive theoretical model, the following variables were selected for inclusion in the multiple regression predictive equations:

1. Perceived Parental Expectations (PPE_x)

Student responses to the question "How far do you think your Parents expect you to go?" were placed in seven categories ranging from "Quit now" to "Do graduate work beyond college. "

2. Self-Rating of Popularity with own sex (Pop)

Responses to the question "How do you rate your popularity with those of your sex?" were placed in five categories ranging from "Much above average" to "Much below average. "

3. General Self-Concept of Academic Ability (SCA)

This variable is measured by summing a subject's responses to questions contained in the Michigan State General Self-Concept of Ability Scale. Higher scores from the eight multiple choice items, which request each pupil to compare himself with other pupils, are indicative of higher self-concepts.

4. Total Perceived Evaluations of Others (Tot Ev)

This variable is the mean value of three other questionnaire items: (A) the student's perceptions of how his parents evaluate his academic ability, (B) perceptions of evaluations by his favorite teacher, and (C) perceived evaluations by his best friend.

5. Socioeconomic Status (SES)

Student reports on the occupations of their fathers were categorized on the Duncan Scale.

6. Measured Intelligence Scores (IQ)

Data on IQ were acquired by using the students' scores on the California Test of Mental Maturity.

7. Academic Achievement (GPA)

This variable was assessed by gathering information on student grade point averages.

A number of variables initially included in the comprehensive

model - based upon the importance attributed to these factors in the review of related literature - were deselected from the multiple linear regression equations finally used for forecasting dropout. This was done on the basis of intercorrelational analysis results which led to the conclusion that these factors would have dubious predictive value for this particular population. Some of these items, as is indicated in the Intercorrelation Matrix in Appendix B, appeared to measure common factors and would, therefore, be redundant. The analysis of other items yielded such low correlation values that it was concluded that the efficiency of forecasting would only be impaired with the use of such variables. The variables which were finally deselected from the methodological models were: (1) Occupational Plans, (2) Occupational Aspirations, (3) Perceived Parental Evaluations, (4) Parental Reactions to Good Report Cards, (5) Parental Reactions to Poor Report Cards, (6) Perceived Teacher Evaluations, (7) Perceived Teacher Expectations, (8) Perceived Friend's Expectations, (9) Perceived Friend's Evaluations, (10) Popularity with opposite sex, (11) Adults the student lived with, (12) Number of siblings in the home, (13) School social climate, (14) School academic climate, and (15) Model for Self.

Other investigators have demonstrated the importance of many of these deselected variables for other populations. This may be

one of the greater limitations of this study; perhaps the reason that many of these variables (e. g. , social climate of the school) did not appear to possess any significant empirical utility may be attributed to the idiosyncratic characteristics of the community and of the school population selected for this study. The observation has been made that, in this particular setting, each school is an approximate microcosmic reflection of the outer community, i. e. , no single school is predominantly populated by students of any single socioeconomic status, racial identification, etc.¹ This, then, may account for the fact that none of those variables which are often associated with different schools, i. e. , social or academic climate, seemed to have any unique value for this population.

Data analysis procedures

The first step in analytic procedures that was undertaken was an attempt to determine which variables, i. e. , those enumerated in the initial comprehensive theoretical model, appeared to be of the greatest relevancy for Educational Plans, Educational Aspirations, or high school dropout behavior. To accomplish this, an intercorrelation analysis was conducted. The results of this analysis permitted decisions to be made as to which kinds of variables apparently assessed common factors - and were therefore redun-

¹Conversation with Dr. Edsel L. Erickson.

dant - and which kinds of variables had such low association with the two major theoretical constructs that their utility for forecasting would be questionable. Such variables, characterized as being either redundant or of dubious forecasting value, were deselected from the forecasting equations. For each case, tables were presented to justify those variables that were selected into the final methodological model.

In the related research, many authors devoted a considerable amount of attention to the three variables of socioeconomic status, intelligence and academic achievement as these factors might be related to plans, aspirations or dropout. For the basic research questions, then, it was asked, in each case, whether the additional knowledge of (1) levels of Educational Aspirations, (2) levels of Educational Plans, and (3) the interactive effects of these two concepts results in forecasting accuracy over and above that which would be obtained with only the knowledge of SES, IQ, and GPA. In order to test these questions, a restricted model which contained only the information on socioeconomic status, intelligence and grade point averages was constructed in the following manner:

$$\text{Dropout Rate (Y)} = a_0u + a_2(\text{SES}) + a_3(\text{IQ}) + a_4(\text{GPA})$$

For each basic question, this restricted model was compared against the multiple correlation results based on a full model. For

example, the question concerning whether additional information on levels of Educational Plans resulted in a greater success in prediction was based on the following equation:

$$\text{Dropout Rate (Y)} = a_0u + a_1(\text{Ed Pl}) + a_2(\text{SES}) + a_3(\text{IQ}) \\ + a_4(\text{GPA})$$

This same procedure was employed to assess the additional success in forecasting dropout that might be obtained with Educational Aspirations and with the interactive effects of (1) high aspirations and low plans, (2) high plans and low aspirations, (3) high levels of both plans and aspirations, and (4) low levels of aspirations and plans.

Another restricted model was then constructed which included other variables which, on the basis of intercorrelational analysis results, had been selected as appropriate forecastors. These were Parental Expectations, Self-Ratings of Popularity with Own Sex, Total Evaluations, Self-Concept of Ability, Socioeconomic Status, Intelligence, and Academic Achievement. The regression equation for this restricted model was:

$$\text{Dropout Rate (Y)} = a_0u + a_2(\text{PPEX}) + a_3(\text{Pop}) + a_4 \\ (\text{Tot Ev}) + a_5(\text{SES}) + a_6(\text{IQ}) + \\ a_7(\text{GPA})$$

Again, the full models used for comparison were similar with the exception that the interactive combinations of Educational Aspirations and Educational Plans were included. For each basic research question, the multiple correlation results of the full model were compared with the results of the restricted model to test the degree of success in forecasting high school dropout behavior with additional information about student characteristics.

Summary of Significant Findings

The findings of this study are listed according to the results which were obtained by utilizing a multiple linear regression approach for each of the basic research questions found in Chapter III.

Educational Aspirations as Forecastors of Dropout

For the restricted regression model - which included socioeconomic status, intelligence, and academic achievement - an R^2 of .17 was found in the forecasting of high school dropout. When the concept of Educational Aspirations was added to this equation, i. e., the full model, an R^2 of .22 was obtained. Therefore, it was tentatively concluded that information concerning whether students hold high or low levels of Educational Aspirations does result in an accuracy of forecasting which is significantly over and above that which can be obtained with only the knowledge of socio-

economic status, measured intelligence scores and academic achievement.

Educational Plans as Forecastors of Dropout

The multiple correlations for the full model (Ed Pl, SES, IQ, GPA) and for the restricted model (SES, IQ, GPA) with the dependent variable of dropout were .24 and .17 respectively. Consequently, it was concluded that the addition of knowledge about the levels of Educational Plans held by students does contribute to greater success in forecasting dropout than that which is obtained by using only the variables of socioeconomic status, intelligence scores, and academic achievement. Furthermore, it appears as if the concept of Educational Plans is a slightly more efficient forecaster of dropout than is Educational Plans ($R^2 = .24$ vx. $R^2 = .22$).

Additive Effects: Aspirations and Plans as Forecastors

In an attempt to determine whether there might be additive effectives between Educational Aspirations and Educational Plans that might provide even greater accuracy in forecasting than that which was obtained with the use of the single concept of Educational Plans, the results for each equation were $R^2 = .25$ and $R^2 = .24$. Therefore, it was concluded that the additional variation in dropout rates that might be explained by additive effects between the two major concepts is statistically insignificant.

Interactive Effects: Aspirations and Plans as Forecastors

An R^2 of .25 was found when the interactive effects of Educational Aspirations and Educational Plans were examined as forecastors of high school dropout. Since an R^2 of .24 was obtained with the use of the single concept of Educational Plans, it was concluded that any additional variation in dropout rates that might be explained by interactive effects is statistically insignificant.

Social-Psychological Factors as Forecastors of Dropout

With the aid of an intercorrelation analysis, the variables of Perceived Parental Expectations (PPE_x), Popularity with Own Sex (Pop), Self-Concept of Ability (SCA), and Total Perceived Evaluations of Others (Tot Ev) were selected as variables that appeared to be relevant to aspirations, plans and dropout. These were put together in the form of a full model (PPE_x, Pop, SCA, Tot Ev, SES, IQ, GPA) to be tested against a restricted model (SES, IQ, GPA). The results of the multiple correlations with dropout were .29 and .17 respectively. Therefore, it was concluded that knowledge of other relevant social-psychological variables does produce greater efficiency in forecasting dropout than that obtained by using only socioeconomic status, intelligence, and academic achievement.

Educational Plans and S_p Factors as Forecastors of Dropout

When the variable of Educational Plans was added to the above mentioned social-psychological factors in forecasting dropout, an R^2 of .30 was obtained. Since an R^2 of .29 was found without the use of this variable, it is concluded that the theoretical construct of Educational Plans has little unique value to contribute to the forecasting of dropout behavior beyond that which is accounted for by other relevant variables derived from the same "symbolic interaction" theoretical perspective.

Educational Aspirations and S_p Factors as Forecastors of Dropout

When the variable of Educational Aspirations was added to other social-psychological variables selected for analysis, an R^2 of .30 was found. Since an R^2 of .29 was obtained without the inclusion of this variable, it is concluded that the concept of Educational Aspirations contributes little to the forecasting of dropout behavior beyond that which is accounted for by other relevant social-psychological variables.

Additive and Interactive Effects - Aspirations and Plans

In a final test to determine whether there might be additive or interactive effects between the concepts of Educational Aspirations and Educational Plans that might provide an efficiency of

forecasting above and beyond that of other relevant social-psychological variables, the following results were obtained: (1) for additive effects, $R^2 = .30$; (2) for interactive effects, $R^2 = .31$; and (3) for the restricted model which did not include any information on plans or aspirations, $R^2 = .29$. These differences were not statistically significant. Therefore, it was concluded that neither additive nor interactive effects enhance the forecasting of other social-psychological variables derived from the same theoretical perspective.

Thus, it may be concluded that, on the basis of a number of multiple regression analyses that both major theoretical constructs, i. e., Educational Aspirations and Educational Plans, do add considerably to the success of forecasting high school dropout that might be obtained with the use of the more traditional variables of socioeconomic status, measured intelligence scores, and academic achievement. Further, it appears that the concept of Educational Plans is a more efficient forecaster than is Educational Aspirations. When used with these three basic variables, the single concept of Educational Plans has approximately the same predictive efficiency as do the additive and interactive combinations of plans and aspirations. Therefore, in forecasting voluntary high school dropout on the basis of social class, grades, and intelligence, it may be said that the addition of knowledge of the single variable of Educational

Plans will considerably enhance the chances of successful prediction.

There are other variables derived from the same theoretical framework of symbolic interactionism which appear to have considerable empirical utility in forecasting dropout. As has been demonstrated, these social-psychological factors, when added to the more traditionally employed measures of social class, school achievement and intelligence increase the successful rates of prediction from 17% to 29%. On the other hand, the forecasting efficiency of these other social-psychological constructs is not enhanced by the addition of knowledge about student levels of Educational Plans, Educational Aspirations, or the additive or interactive effects between these two variables. Therefore, for this particular population, the inclusion of these two theoretical constructs in a final comprehensive theoretical model would be redundant.

Recommendations

Based on the findings of this study and the information acquired from reviewing the literature, the following recommendations for further research are made:

1. Replicative studies using other populations of students should be made. This project is limited by the fact that it excluded

females, black males, special education students and students enrolled in experimental programs. Another limitation concerns the setting in which it was conducted; perhaps the idiosyncrasies of this small midwestern city may have ensured against the development of various kinds of school climates that have been described by other investigators. Certainly, the related literature would lead one to expect that where there are different kinds of school social climates, there would be differences in dropout rates, levels of plans and aspirations and, perhaps, the functional relationships between these variables.

2. Many previous studies on high school dropout behavior have found significant differences between dropouts and non-dropouts on the bases of variables other than those examined in the present study. Very few of these studies, however, have placed these variables in a multiple linear regression equation in order to assess their impact on or modifications by other variables in forecasting dropout. It is recommended that replicative studies be made of these previous studies in order to assess the forecasting efficiency of these various kinds of factors.

3. Similar longitudinal studies should be made using conceptual clarifications and rigid specifications of other types of aspirations and plans, e. g., Occupational Aspirations and Occupational Plans. This would further test the forecasting utility of these kinds

of constructs and would establish the usefulness of such concepts within the theoretical frameworks from which they were derived.

4. Most importantly, it is recommended that further work be conducted in the construction of theoretical and methodological models for forecasting high school dropout behavior. On the basis of the findings in this study, it is recommended that the proposed model in Figure 4.1 might be fruitfully employed and should be subjected to further investigation.

The elaboration of such a predictive model may demonstrate the differential values of various theoretical concepts for forecasting voluntary high school dropout in various kinds of populations; the relative strengths and weaknesses of each concept; and more importantly, lead to the theoretical formulation and conceptual delineation of more powerful forecasters.

Implications for Educational Practice

Based upon the data and analytical techniques of this study, and based upon the information acquired from reviewing the literature, the following recommendations are made for educational practice.

1. Many suggestions and recommendations have been made in order to encourage every possible effort to identify as early as possible those individuals who are likely to drop out of school. The

FIGURE 4.1 --Recommended model: variables recommended as relevant to forecasting high school dropout with a multiple linear regression approach

$$Y_a = (P, S_p, S_c)$$

Where:

P = Person Variables

1. Academic Characteristics
 - a. Measured Intelligence Scores (IQ)
 - b. Academic Achievement (GPA)
 - c. General Self-Concept of Academic Ability (SCA)

S_p = Social-Psychological Variables

1. Family Norms
 - a. Perceived Parental Expectations (PPEX)
2. Peer Norms
 - a. Popularity with own sex (Pop)
3. Social Milieu Norms
 - a. Total Perceived Evaluations of others (Tot Ev)

S_c = Social Context Norms

1. Socioeconomic Status (SES)

Y_a = Predicted behavior of high school dropout

results of the present study seems to indicate that there is, at present, no single unique factor of over-riding saliency in the forecasting of dropouts. This is true in spite of the great deal of attention that has been given to student aspirations and plans in both scientific and popular literature. However, while these constructs do not appear to contribute much to the forecasting accuracy and efficiency of other more traditionally employed variables, it remains an open question whether the concepts of aspirations and plans may be useful for diagnostic purposes.

2. Since the relevance of the constructs of Educational Plans and Educational Aspirations to voluntary high school dropout behavior is limited, concern should be directed to the importance of other factors connected with student learning and motivation. It would appear that the same theoretical orientation which guided this study would provide guidelines for educators in this area, i. e., Meadian social-psychology, since it has been found that certain other constructs derived from this perspective do have some utility in forecasting dropout.

Closing Statement

In any major project, there are a number of limitations that should be acknowledged. With regard to the present study, the following considerations should be taken into account.

First, this dissertation should be considered as being only a first stage in the construction of theory that may be useful for other studies concerned with forecasting voluntary high school dropout. In such an endeavor, one generally recognized major principle is that of the law of parsimony: the issues to be contended with concern whether those variables included in the construction of theory are actually needed to forecast an event and if the consequent results do add to current knowledge. Every attempt has been made to account for these issues for this particular case, i. e., forecasting the event of dropout as it occurs within a population of mid-western white male ninth-graders. It is to be expected, however, that the utility of those variables included in the final proposed theoretical model will vary for other populations and for forecasting other kinds of behavioral events. It is quite possible that, for example, although ninth grade aspirations and plans added little towards the prediction of future dropout, tenth grade and eleventh grade aspirations and plans may have a considerably greater impact, even for the same population.

Second, this study has not been intended to be one of causality. It has not been the purpose of this project to suggest that any of the antecedent variables suggested in any of the proposed theoretical models have been demonstrated to have a causal effect on dropout. Before causality can be appropriately inferred other forms of data

collection and analysis should be employed. Perhaps analysis of the potential linkages between the independent variables and drop-out behavior would be useful. Since the design for this study has been concerned with prediction, such an undertaking is beyond the scope of the present project.

Another limitation is that all of the interaction terms in the analytical model have not been exhausted. It is readily apparent that many other combinations may be quite usefully employed, e. g. , low socioeconomic status, low self-concept, low grade point average, etc. There are several reasons that these nearly endless combinations were not further pursued: (1) there should be at least ten subjects for each added variable; a much larger sample would have been needed; (2) only two major theoretical constructs were selected as the central forecasting variables; these were justified by the review of related theoretical and research literature; and (3) the theoretical propositions and research hypotheses dealt mainly with plans and aspirations. It is suggested, however, that further investigation of these interactive effects be conducted.

As has been described, there are a number of inherent problems involved in attempting to forecast which students may voluntarily withdraw from school. Certainly, one of the first steps is that of defining the problem and its causes. It is believed that the present study may have made a contribution in this area. In light

of the great amount of emphasis that has been placed on the concepts of aspirations and plans by educators, psychologists and sociologists, it has been demonstrated in this project - with one particular sample - that the application of Educational Plans and Educational Aspirations in addition to other relevant variables does not significantly increase one's powers of prediction. Knowledge of student levels of Educational Plans or Educational Aspirations, or even knowledge of the interactive effects when the two concepts are used simultaneously, does not enhance the degree of successful prediction of dropout over and above that which can be obtained with other sociological and social-psychological variables found to be relevant in other studies.

Perhaps of greatest importance is the fact that nearly all of the social-psychological variables found to be useful in forecasting in this study were those which indicate the importance of the influence of others, i. e. , the predominance of social-psychological variables (S_p) over person variables (P). In other words, such factors as perceptions of expectations of parents for academic attainment, feelings of popularity with other students, the student's perceptions of how others evaluate his academic ability, the student's self-concept of academic ability as compared to other students in his social milieu, etc. , all appear to be significantly related to whether he chooses to stay in school or not. Further, it

may be said that the scores that a student may receive on an examination which purportedly assess his level of intelligence may also influence reactions toward him by others. Again, academic ability is also assessed by influential others (i. e., teachers) and is assigned to students in terms of grades. Finally, there is a spate of literature which describes differential reactions, invidious distinctions, and other patterns of interactions based on the premises of social class differences. All of these things, then, indicate the importance of social-psychological factors in determining whether a student may decide to stay in or drop out of school.

APPENDIX A

QUESTIONNAIRE ITEMS FOR MAJOR THEORETICAL CONSTRUCTS

EDUCATIONAL ASPIRATIONS
(Ed Asps)

Circle the letter in front of the statement which best answers the question.

If you were free to go as far as you wanted to go in school, how far would you like to go?

- a. I think I would quit school as soon as I can.
- b. I think I would continue in high school for a while.
- c. I think I would graduate from high school.
- d. I think I would go to secretarial or trade school.
- e. I think I would go to college for a while.
- f. I think I would graduate from college.
- g. I think I would do graduate work beyond college.

EDUCATIONAL PLANS
(Ed Pl)

Circle the letter in front of the statement which best answers the question.

Sometimes what we would like to do isn't the same as what we expect to do. How far in school do you expect you will really go?

- a. I think I really will quit school as soon as I can.
- b. I think I really will continue in high school for a while.
- c. I think I really will graduate from high school.
- d. I think I really will go to secretarial or trade school.
- e. I think I really will go to college for a while.
- f. I think I really will graduate from college.
- g. I think I really will do graduate work beyond college.

**GENERAL SELF-CONCEPT OF ACADEMIC ABILITY
(SCA)**

Circle the letter in front of the statement which best answers each question.

1. How do you rate yourself in school ability compared with your close friends?
 - a. I am the best.
 - b. I am above average.
 - c. I am average.
 - d. I am below average.
 - e. I am the poorest.

2. How do you rate yourself in school ability compared with those in your class at school?
 - a. I am among the best.
 - b. I am above average.
 - c. I am average.
 - d. I am below average.
 - e. I am among the poorest.

3. Where do you think you would rank in your class in high school?
 - a. among the best.
 - b. above average.
 - c. average
 - d. below average
 - e. among the poorest

4. Do you think you have the ability to complete college?
 - a. Yes, definitely
 - b. Yes, probably
 - c. Not sure either way
 - d. Probably not
 - e. No

5. Where do you think you would rank in your class in college?
 - a. among the best
 - b. above average
 - c. average
 - d. below average
 - e. among the poorest
6. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?
 - a. very likely
 - b. somewhat likely
 - c. not sure either way
 - d. unlikely
 - e. most unlikely
7. Forget for a moment how others grade your work. In your own opinion how good do you think your own work is?
 - a. my work is excellent
 - b. my work is good
 - c. my work is average
 - d. my work is below average
 - e. my work is much below average
8. What kind of grades do you think you are capable of getting?
 - a. mostly A's
 - b. mostly B's
 - c. mostly C's
 - d. mostly D's
 - e. mostly E's

**PERCEIVED PARENTAL EDUCATIONAL EXPECTATIONS
(PPE_x)**

How far do you think your PARENTS expect you to go in school?

1. They expect me to quit school as soon as I can.
2. They expect me to continue in high school for a while.
3. They expect me to graduate from high school.
4. They expect me to go to secretarial or trade school.
5. They expect me to go to college for awhile.
6. They expect me to graduate from college.
7. They expect me to do graduate work beyond college.

**PERCEIVED FRIEND'S EDUCATIONAL EXPECTATIONS
(PFE_x)**

Think about your closest friend at school. Now answer the following questions as you think this FRIEND would answer them.

How far do you think this FRIEND expects you to go in school?

1. My friend expects me to quit school as soon as I can.
2. My friend expects me to continue in high school for a while.
3. My friend expects me to graduate from high school.
4. My friend expects me to go to secretarial or trade school.
5. My friend expects me to go to college for a while.
6. My friend expects me to graduate from college.
7. My friend expects me to do graduate work beyond college.

**PERCEIVED TEACHER'S EDUCATIONAL EXPECTATIONS
(PTE_x)**

Who is your favorite TEACHER?

How far do you think this TEACHER expects you to go in school?

1. My teacher expects me to quit school as soon as I can.
2. My teacher expects me to continue in high school for a while.
3. My teacher expects me to graduate from high school.
4. My teacher expects me to go to secretarial or trade school.
5. My teacher expects me to go to college for a while.
6. My teacher expects me to graduate from college.
7. My teacher expects me to do graduate work beyond college.

PARENTAL REINFORCEMENT NORMS

If you came home with a good report card, what would your parents most likely do?

1. Nothing in particular
2. Praise me
3. Give me special privileges
4. Give me money or some other reward
5. Nonclassifiable

If you came home with a poor report card, what would your parents most likely do?

1. Nothing in particular
2. Scold me
3. Take away privileges
4. Punish me severely in some way
5. Nonclassifiable
6. Positive (help me)

PRIORITY OF STUDENT INTERESTS AND RATINGS

1. Would you rather be a good student or good in sports?
 1. Good student
 2. Good in sports
 3. Can't decide
2. Would you rather be a good student or well-liked by others of your sex?
 1. Good student
 2. Well-liked by others of my sex
 3. Can't decide
3. Would you rather be a good student or popular with those of the opposite sex?
 1. Good student
 2. Popular with those of the opposite sex
 3. Can't decide
4. Would you rather be a good student or a leader in school activities?
 1. Good student
 2. Leader in school activities
 3. Can't decide
5. How do you rate your popularity with those of your sex?
 5. Much above average
 4. Somewhat above average
 3. Average
 2. Somewhat below average
 1. Much below average
6. How would you rate your popularity with those of the opposite sex?
 5. Much above average
 4. Somewhat above average
 3. Average
 2. Somewhat below average
 1. Much below average
7. How would you rate your participation in school activities (other than sports)?
 5. Much above average
 4. Somewhat above average
 3. Average
 2. Somewhat below average
 1. Much below average

8. How would you rate your participation in sports?
5. Much above average
 4. Somewhat above average
 3. Average
 2. Somewhat below average
 1. Much below average

**PERCEPTIONS OF PARENTAL EVALUATIONS
(PPEv)**

Please answer the following questions as you think your PARENTS would answer them. If you are not living with your parents then ask the family with whom you are living.

Circle the letter in front of the statement that best answers each question.

1. How do you think your PARENTS would rate your school ability with other students your age?
 - a. Among the best
 - b. Above average
 - c. Average
 - d. Below average
 - e. Among the poorest

2. Where do you think your PARENTS would say you would rank in your high school graduating class?
 - a. Among the best
 - b. Above average
 - c. Average
 - d. Below average
 - e. Among the poorest

3. Do you think that your PARENTS would say you have the ability to complete college?
 - a. Yes, definitely
 - b. Yes, probably
 - c. Not sure either way
 - d. Probably not
 - e. Definitely not

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think your PARENTS would say it is that you could complete such advanced work?
 - a. Very likely
 - b. Somewhat likely
 - c. Not sure either way
 - d. Somewhat unlikely
 - e. Very unlikely

5. What kind of grades do you think your PARENTS would say you are capable of getting in general?
- a. Mostly A's
 - b. Mostly B's
 - c. Mostly C's
 - d. Mostly D's
 - e. Mostly E's

**PERCEPTIONS OF FRIEND'S EVALUATIONS
(PFEv)**

Think about your closest friend at school. Now answer the following questions as you think this FRIEND would answer them.

Circle the letter in front of the statement that best answers each question.

1. How do you think this FRIEND would rate your school ability compared with other students your age?
 - a. Among the best
 - b. Above average
 - c. Average
 - d. Below average
 - e. Among the poorest

2. Where do you think this FRIEND would say you would rank in your high school graduating class?
 - a. Among the best
 - b. Above average
 - c. Average
 - d. Below average
 - e. Among the poorest

3. Do you think that this FRIEND would say you have the ability to complete college?
 - a. Yes, definitely
 - b. Yes, probably
 - c. Not sure either way
 - d. Probably not
 - e. Definitely not

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think this FRIEND would say it is that you could complete such advanced work?
 - a. Very likely
 - b. Somewhat likely
 - c. Not sure either way
 - d. Somewhat unlikely
 - e. Very unlikely

5. What kind of grades do you think this FRIEND would say you are capable of getting in general?
- a. Mostly A's
 - b. Mostly B's
 - c. Mostly C's
 - d. Mostly D's
 - e. Mostly E's

PERCEPTIONS OF TEACHER'S EVALUATIONS
(PTE_v)

Think about your favorite teacher--the one you like best, the teacher who is most concerned about your school work. Now answer the following questions as you think this TEACHER would answer them.

Circle the letter in front of the statement which best answers each question.

1. How do you think this TEACHER would rate your school ability compared with other students your age?
 - a. Among the best
 - b. Above average
 - c. Average
 - d. Below average
 - e. Among the poorest

2. Where do you think this TEACHER would say you would rank in the high school graduating class?
 - a. Among the best
 - b. Above average
 - c. Average
 - d. Below average
 - e. Among the poorest

3. Do you think that this TEACHER would say you have the ability to complete college?
 - a. Yes, definitely
 - b. Yes, probably
 - c. Not sure either way
 - d. Probably not
 - e. Definitely not

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think this TEACHER would say it is that you could complete such advanced work?
 - a. Very likely
 - b. Somewhat likely
 - c. Not sure either way
 - d. Somewhat unlikely
 - e. Very unlikely

5. What kind of grades do you think this TEACHER would say you are capable of getting in general?
- a. Mostly A's
 - b. Mostly B's
 - c. Mostly C's
 - d. Mostly D's
 - e. Mostly E's

APPENDIX B

INTERCORRELATION MATRICES

Correlates with:	<u>Variables</u>					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
1. School	1.00	.03	.05	.06	.12	.10
2. Model for Self	.03	1.00	.06	.06	.06	.07
3. Occ. Asps	.05	.12	1.00	.43	.28	.32
4. Occ. Plans	.06	.06	.43	1.00	.31	.41
5. Ed Asps	.12	.06	.27	.31	1.00	.75
6. Ed Plans	.10	.07	.32	.41	.75	1.00
7. PPE _x	.14	.02	.29	.34	.74	.83
8. PFE _x	.11	.04	.27	.33	.60	.73
9. PTE _x	.05	.01	.27	.32	.53	.65
10. Young Brother	-.11	-.001	.03	-.01	-.06	-.12
11. Older Brother	-.05	.02	-.06	-.08	-.13	-.08
12. Young Sister	-.08	-.11	-.03	-.11	-.09	-.18
13. Older Sister	-.05	-.07	-.04	.12	-.14	-.17
14. Family	-.06	.07	.10	.13	.11	.08
15. Good Report	-.007	-.11	.09	.08	.15	.16
16. Poor Report	.06	-.03	.13	-.01	.22	.27
17. Student-Sports	.14	-.02	-.02	-.03	-.06	.01
18. Student-Liked	.05	.02	.01	.004	-.01	.09
19. Stud. - Pop/with Other Sex	.07	.06	.03	.04	.03	.14
20. Student-Leader	.14	.03	.07	.18	.06	.07
21. Pop/with Own Sex	.09	-.01	.11	.16	.30	.37
22. Pop/with Other Sex	.04	-.10	.07	.22	.19	.26
23. Part. in School Activities	.10	-.05	.15	.11	.27	.32
24. Part. in Sports	.13	-.06	.10	.11	.25	.29
25. Ext. Clubs	.04	-.04	.05	.20	.31	.34
26. Outside Club	.05	.01	.06	.37	.23	.24
27. SCA	.07	.06	.25	.35	.68	.74
28. PPE _v	.14	.02	.22	.34	.58	.67
29. PFE _v	.09	.06	.19	.31	.50	.60
30. PTE _v	.04	.02	.27	.31	.49	.56
31. Total Ev.	.10	.04	.26	.36	.59	.68
32. SES	.13	-.01	.09	.18	.27	.31
33. IQ	.06	.01	.12	.18	.40	.50
34. Rdg. Scores	.23	.07	.004	-.02	-.02	.05
35. GPA	.17	.03	.16	.29	.51	.60

Correlates with:	<u>Variables</u>					
	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>
1. School	.14	.11	.05	-.11	-.05	-.08
2. Model for Self	.02	.04	.01	-.001	.02	-.11
3. Occ. Asps	.29	.27	.27	.03	-.06	-.03
4. Occ. Plans	.34	.33	.32	-.005	-.05	-.08
5. Ed Asps	.74	.60	.53	-.07	-.13	-.09
6. Ed Plans	.83	.73	.65	-.12	-.08	-.18
7. PPE _x	1.00	.73	.68	-.10	-.09	-.16
8. PFE _x	.73	1.00	.72	-.05	-.13	-.09
9. PTE _x	.68	.72	1.00	-.01	-.12	-.16
10. Young Brother	-.09	-.05	-.01	1.00	-.16	-.19
11. Older Brother	-.09	-.13	-.11	-.16	1.00	-.04
12. Young Sister	-.16	-.09	-.16	.19	-.04	1.00
13. Older Sister	-.17	-.14	-.14	-.04	.31	-.07
14. Family	.16	.16	.26	.07	.13	.03
15. Good Report	.17	.16	.18	.007	-.10	.02
16. Poor Report	.27	.21	.21	-.02	-.04	-.04
17. Student-Sports	.07	.02	.01	-.02	.07	-.03
18. Student-Liked	.13	.06	.13	-.03	.02	.05
19. Stud. -Pop/with Other Sex	.12	.09	.12	-.07	.05	-.04
20. Student-Leader	.10	.08	.12	.05	.09	.05
21. Pop/with Own Sex	.35	.28	.33	-.07	.02	.12
22. Pop/with Other Sex	.29	.26	.25	-.09	.07	-.05
23. Part. in School Activities	.30	.23	.32	.008	.07	-.06
24. Part. in Sports	.30	.24	.27	-.05	.03	-.13
25. Ext. Club	.29	.32	.27	-.06	.02	-.10
26. Outside Club	.23	.23	.22	-.005	-.11	.06
27. SCA	.68	.62	.54	-.11	.01	-.11
28. PPE _v	.69	.57	.53	-.10	.02	-.15
29. PFE _v	.58	.68	.58	-.003	.04	-.07
30. PTE _v	.55	.52	.72	.005	.02	-.13
31. Total Ev.	.67	.66	.69	.03	.02	-.12
32. SES	.36	.29	.28	-.06	-.02	-.14
33. IQ	.46	.40	.33	.15	.03	.15
34. Rdg. Scores	-.004	.05	.03	.001	-.005	-.02
35. GPA	.58	.55	.47	-.10	-.02	-.15

Correlates with:	<u>Variables</u>					
	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>
1. School	-.05	.06	-.01	.06	.02	-.05
2. Model for Self	-.07	.06	-.11	-.03	-.02	.02
3. Occ. Asps	-.04	.10	.01	.13	-.02	.01
4. Occ. Plans	-.11	.12	.13	.08	-.01	-.03
5. Ed Asps	-.15	.11	.15	.22	-.06	-.01
6. Ed Plans	-.17	.08	.16	.27	.01	.09
7. PPE _x	-.17	.16	.17	.27	.07	.13
8. PFE _x	-.15	.16	.16	.21	.02	.06
9. PTE _x	-.14	.26	.18	.21	.01	.13
10. Young Brother	-.04	.07	.01	-.02	-.01	-.03
11. Older Brother	.31	.03	-.10	-.04	.07	.02
12. Young Sister	-.07	.01	.02	-.04	-.03	.05
13. Older Sister	1.00	.03	.002	-.004	.07	.01
14. Family	.03	1.00	.07	.11	.09	.14
15. Good Report	.002	.07	1.00	.19	-.01	.05
16. Poor Report	-.004	.11	.19	1.00	.14	.27
17. Student-Sports	.07	.09	-.01	.15	1.00	.38
18. Student-Liked	.01	.14	.05	.27	.28	1.00
19. Stud. -Pop/with Other Sex	.07	.16	.05	.13	.40	.50
20. Student-Leader	.10	.10	.08	.19	.29	.36
21. Pop/with Own Sex	.15	.16	.29	.22	.26	.31
22. Pop/with Other Sex	.17	.10	.22	.19	.23	.25
23. Part. in School Activities	.09	.11	.29	.28	.18	.19
24. Part. in Sports	.05	.12	.17	.24	.27	.23
25. Ext. Club	.03	.02	.10	.11	.06	.04
26. Outside Club	-.12	.01	.11	.10	.04	.04
27. SCA	-.13	.12	.13	.20	.06	.10
28. PPE _v	-.06	.25	.21	.31	.12	.17
29. PFE _v	-.002	.26	.23	.28	.12	.18
30. PTE _v	-.06	.28	.20	.25	.10	.19
31. Total Ev.	-.05	.20	.24	.32	.12	.20
32. SES	-.12	.04	.14	.19	.02	.03
33. IQ	.02	.10	.09	.21	.11	.17
34. Rdg. Scores	-.07	-.05	-.04	.12	.01	.10
35. GPA	-.11	.11	.07	.19	.03	.09

Correlates with:	<u>Variables</u>					
	<u>19</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>
1. School	-.02	-.01	.03	-.01	-.05	-.05
2. Model for Self	.06	.03	-.01	-.10	-.05	-.06
3. Occ. Asps	.03	.07	.11	.07	.15	.10
4. Occ. Plans	.004	.04	.18	.16	.22	.11
5. Ed Asps	.03	.06	.30	.20	.27	.25
6. Ed Plans	.14	.07	.36	.26	.32	.29
7. PPE _x	.12	.10	.35	.29	.30	.30
8. PFE _x	.09	.08	.28	.26	.23	.24
9. PTE _x	.12	.12	.33	.25	.32	.27
10. Young Brother	-.07	.05	-.09	-.06	.01	-.05
11. Older Brother	.05	.09	.02	.07	.07	.03
12. Young Sister	-.04	.05	-.12	-.05	.06	-.13
13. Older Sister	.07	.10	.15	.17	.09	.05
14. Family	.16	.10	.16	.09	.11	.13
15. Good Report	.05	.08	.29	.22	.29	.17
16. Poor Report	.13	.19	.22	.19	.28	.24
17. Student-Sports	.40	.29	.26	.23	.19	.27
18. Student-Liked	.59	.36	.31	.25	.19	.23
19. Stud. -Pop/with Other Sex	1.00	.43	.33	.30	.27	.26
20. Student-Leader	.43	1.00	.28	.22	.25	.17
21. Pop/with Own Sex	.33	.28	1.00	.72	.61	.60
22. Pop/with Other Sex	.20	.22	.72	1.00	.61	.65
23. Part. in School Activities	.27	.25	.61	.61	1.00	.55
24. Part. in Sports	.26	.17	.60	.55	.55	1.00
25. Ext. Club	.06	.002	.29	.29	.36	.49
26. Outside Club	.01	.05	.15	.18	.23	.23
27. SCA	.11	.07	.38	.35	.34	.34
28. PPE _v	.18	.07	.44	.37	.33	.37
29. PFE _v	.22	.17	.48	.46	.41	.38
30. PTE _v	.18	.13	.46	.41	.40	.42
31. Total Ev.	.22	.15	.52	.47	.43	.43
32. SES	.05	.04	.16	.08	.15	.14
33. IQ	.18	.08	.26	.18	.13	.18
34. Rdg. Scores	.13	.02	.05	.05	.04	.05
35. GPA	.07	.06	.21	.14	.13	.18

Correlates with:	<u>Variables</u>					
	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>	<u>30</u>
1. School	.04	.05	.07	.14	.09	.04
2. Model for Self	-.04	.10	.07	.02	.06	.02
3. Occ. Asps	.05	.06	.25	.23	.19	.27
4. Occ. Plans	.11	.20	.37	.35	.31	.31
5. Ed Asps	.31	.22	.68	.58	.50	.49
6. Ed Plans	.34	.24	.74	.67	.60	.56
7. PPE _x	.29	.23	.68	.69	.58	.55
8. PFE _x	.32	.23	.62	.57	.68	.52
9. PTE _x	.27	.22	.54	.53	.58	.72
10. Young Brother	-.06	-.006	-.11	-.10	-.003	-.005
11. Older Brother	.02	-.11	.01	.02	.04	.02
12. Young Sister	-.10	.06	-.11	-.15	-.07	-.13
13. Older Sister	.03	-.12	-.13	-.06	-.002	-.06
14. Family	.02	.01	.12	.25	.27	.28
15. Good Report	.10	.10	.13	.21	.23	.20
16. Poor Report	.11	.10	.20	.32	.28	.25
17. Student-Sports	.06	.04	.06	.13	.12	.10
18. Student-Liked	.04	.04	.09	.17	.18	.19
19. Stud. -Pop/with Other Sex	.06	.02	.11	.18	.22	.18
20. Student-Leader	.002	.05	.07	.07	.17	.13
21. Pop/with Own Sex	.29	.14	.38	.44	.49	.46
22. Pop/with Other Sex	.29	.18	.35	.37	.46	.41
23. Part. in School Activities	.36	.23	.34	.34	.41	.40
24. Part. in Sports	.49	.23	.34	.37	.38	.42
25. Ext. Club	1.00	.23	.37	.32	.33	.31
26. Outside Club	.23	1.00	.29	.26	.24	.28
27. SCA	.27	.29	1.00	.75	.68	.63
28. PPE _v	.32	.26	.75	1.00	.74	.68
29. PFE _v	.33	.24	.68	.74	1.00	.70
30. PTE _v	.31	.28	.63	.68	.70	1.00
31. Total Ev.	.35	.29	.75	.88	.90	.90
32. SES	.13	.20	.33	.34	.21	.28
33. IQ	.18	.18	.48	.47	.41	.36
34. Rdg. Scores	.02	.05	.10	.05	.08	.07
35. GPA	.30	.21	.66	.61	.52	.53

Correlates with:	<u>Variables</u>				
	<u>31</u>	<u>32</u>	<u>33</u>	<u>34</u>	<u>35</u>
1. School	.10	.13	.06	-.23	.17
2. Model for Self	.04	-.02	-.01	.07	.03
3. Occ. Asps	.26	.09	.12	.004	.16
4. Occ. Plans	.36	.19	.19	-.02	.29
5. Ed Asps	.59	.27	.40	-.02	.51
6. Ed Plans	.68	.32	.50	.05	.60
7. PPE _x	.67	.36	.46	-.004	.58
8. PFE _x	.66	.29	.40	.05	.55
9. PTE _x	.69	.28	.33	.03	.47
10. Young Brother	-.03	-.06	-.15	.001	-.10
11. Older Brother	.02	-.02	.03	-.01	-.02
12. Young Sister	-.12	-.14	-.15	-.02	-.15
13. Older Sister	-.05	-.12	.02	-.07	-.11
14. Family	.30	.04	.10	-.05	.11
15. Good Report	.24	.14	.09	-.04	.07
16. Poor Report	.32	.19	.21	.12	.19
17. Student-Sports	.13	.02	.11	.01	.03
18. Student-Liked	.20	.04	.17	.10	.09
19. Stud. -Pop/with Other Sex	.22	.05	.18	.13	.08
20. Student-Leader	.15	.04	.09	.02	.06
21. Pop/with Own Sex	.52	.15	.26	.05	.21
22. Pop/with Other Sex	.47	.08	.18	.05	.14
23. Part. in School Activities	.43	.15	.13	.04	.13
24. Part. in Sports	.44	.14	.18	.05	.18
25. Ext. Club	.35	.13	.18	.02	.30
26. Outside Club	.29	.20	.18	.05	.21
27. SCA	.75	.33	.48	.10	.66
28. PPE _v	.88	.34	.47	.05	.61
29. PFE _v	.90	.21	.41	.08	.52
30. PTE _v	.90	.28	.36	.07	.53
31. Total Ev.	1.00	.30	.46	.07	.61
32. SES	.30	1.00	.28	.004	.36
33. IQ	.46	.29	1.00	.01	.47
34. Rdg. Scores	.07	.004	.01	1.00	.02
35. GPA	.61	.36	.47	.02	1.00

BIBLIOGRAPHY.

Books

- Blair, Glenn M., Jones, Steward, and Simpson, Ray H., Educational Psychology. New York: MacMillan Co., 1963.
- Bottenberg, Robert A., and Ward, Joe H. J., Applied Multiple Linear Regression, Lackland Air Force Base, Air Force Systems Command, 1963.
- Brembeck, Cole S., Social Foundations of Education. New York: John Wiley and Sons, Inc., 1966.
- Brookover, Wilbur B., Paterson, Ann and Thomas, Shailer, Self-Concept of Ability and School Achievement, USOE Cooperative Research Project #845. East Lansing: Office of Research and Publications, Michigan State University, East Lansing, Michigan, 1962.
- Brookover, Wilbur B., LaPere, Jean, Hamabheck, Donald, Thomas, Shailer, and Erickson, Edsel, Self-Concept of Ability and School Achievement II. Report of Cooperative Research Project #1636, USOE, entitled "Improving Academic Achievement Through Self-Concept Enhancement." East Lansing: Bureau of Educational Research Services, Michigan State University, 1965.
- Brookover, Wilbur B., Erickson, Edsel L., and Joiner, Lee M., Self-Concept of Ability and School Achievement III. Final report on Cooperative Research Project #2831, Michigan State University, 1967.
- Brookover, Wilbur B., and Erickson, Edsel L., Society, Schools and Learning, Boston: Allyn and Bacon, Inc., 1969.
- Cervantes, Lucius F., The Dropout: Causes and Cures. Ann Arbor: University of Michigan Press, 1965.
- Charters, W. W., "The Social Background of Teaching," Handbook of Research on Teaching, N. L. Gage (Ed.), Chicago: Rand McNally and Co., 1963.

Cicourel, Aaron V., and Kitsuse, John I., The Educational Decision-Makers, New York: The Bobbs-Merrill Co., Inc.

Clark, Burton R., "Sociology of Education," Handbook of Modern Sociology. Robert F. L. Faris (Ed.), Chicago: Rand McNally and Co., 1964.

Coleman, James S., Campbell, Ernest Q., et. al., Equality of Educational Opportunity, Washington: U. S. Government Printing Office, 1966.

Dentler, Robert A., and Warshauer, Mary Ellen, Big City Drop-outs and Illiterates. New York: Frederick A. Praeger Publishers, 1968.

Erickson, Edsel, "A Study of the Normative Influence of Parents and Friends," Cooperative Research Project #2831, pp. 191-204.

Faris, Robert E. L., "Reflections on the Ability Dimension in Human Society," Readings in Sociology. Schuler, Edgar A., Hoult, Thomas F., Gibson, Duane L., and Brookover, Wilbur B. (Eds.), New York: Thomas F. Crowell Co., 1967.

Herriott, Robert E., and St. John, Nancy Hoyt, Social Class and the Urban School. New York: John Wiley and Sons, Inc., 1966.

Himmelweit, Hilde T., "The Role of Intelligence in Modifying Social Class Differences in Outlook," Acta Psychologica. 19 (1961), 273-281, as reported in Society and Education, Robert J. Havighurst and Bernice L. Neugarten, Boston: Allyn and Bacon, Inc., 1967.

Israel, Benjamin L., Responsive Environment Program. Board of Education: New York (for CAP OEO) 1968.

Kahl, Joseph, The American Class Structure. New York: The Rinehart Co., 1957.

Kelly, Francis J., Boggs, Donald L., McNeil, Keith A., Eichelberger, Tony, and Lyon, Judy, Multiple Regression Approach, Carbondale and Edwardsville: Southern Illinois University Press, 1969.

- Lavin, David E., The Prediction of Academic Performance. New York: Russel Sage Foundation, 1965.
- Matthews, C. V., and Bowman, Peter, The Motivations of Youth for Leaving School. Quincy Youth Development Project, Quincy Illinois (Washington: Office of Education, U.S. Department of Health, Education and Welfare), 1960.
- Meltzer, Bernard N., The Social Psychology of George Herbert Mead, Western Michigan University, Kalamazoo, Michigan, 1964.
- Merton, Robert K., Social Theory and Social Structure. Glencoe, Illinois: The Free Press, 1957.
- Morse, Richard, "Self-Concept of Ability and School Achievement: A Comparative Study of Negro and Caucasian Students," Brookover, et al., Cooperative Research Project #2831.
- Pavalko, Ronald M., Sociology of Education. Itasca, Illinois: F. E. Peacock Publishers, Inc., 1968.
- Parsons, Talcott, "General Theory in Sociology," Sociology Today. Robert K. Merton, Leonard Broom and Leonard S. Cottrell, Jr. (Eds.), New York: Harper and Row, 1959.
- Rotter, Julian B., Unpublished information as reported in K. Lewin, et al., "Level of Aspiration," Personality and the Behavior Disorders. J. McV. Hunt (Ed.), New York: Ronald Press, 1944.
- Sears, R. R., "Success and Failure: A Study of Motility," Studies in Personality. McNemar and Merrill (Eds.), New York: McGraw-Hill Co., 1945.
- Travers, Robert M. W., An Introduction to Educational Research. New York: The MacMillan Co., 1965.

Articles and Periodicals

- Alexander, C. Norman, Jr., and Campbell, Ernest Q., "Peer Influences on Adolescent Educational Aspirations and Attainments," American Sociological Review, 29:4 (August 1964), 568-575.

- Bayer, Alan E., "The College Drop-out: Factors Affecting Senior College Completion," Sociology of Education, 41:3 (Summer 1968), 305-316.
- Bennett, William S., Jr., and Gist, Noel P., "Class and Family Influences on Student Aspirations," Social Forces, 43 (December 1964), 167-173.
- Bordua, David J., "Educational Aspirations and Parental Stress on College," Social Forces, 28:3 (March 1960), 262-269.
- Boyle, Richard P., "The Effect of High School on Students' Aspirations," American Journal of Sociology, 71:4 (1966), 628-629.
- Boyle, Richard P., "Communications: On Neighborhood Context and College Plans," American Sociological Review, 31:5 (October 1966), 706-709.
- Brookover, Wilbur B., Erickson, Edsel, and Joiner, Lee M., "Educational Aspirations and Educational Plans in Relation to Academic Achievement and Socioeconomic Status," The School Review, 75:4 (Winter 1967), 392-400.
- Child, I. L., and Whiting, J., "Determinants of Levels of Aspirations: Evidence from Everyday Life," Journal of Abnormal and Social Psychology, 44 (1949), 303-315.
- Crandall, Virginia, "Reinforcement Effects of Adult Reactions and Non-Reactions on Children's Achievement Expectations," Child Development, 34:2, 1963, 335-354.
- Elder, Glenn H., Jr., "Appearance and Education in Marriage Mobility," American Sociological Review, 34:4 (August 1969), 519-533.
- Ellis, Robert A., and Lane, W. Clayton, "Structural Supports for Upward Mobility," American Sociological Review, 28 (October 1963), 743-756.
- Erickson, Edsel, "A Study of the Normative Influence of Parents and Friends," Cooperative Research Project #2831, pp. 191-204.

- Ginsberg, Eli, "Towards a Theory of Occupational Choice. " Occupations, 39:2, 1963, 335-354.
- Gist, Noel P., and Bennett, William S., Jr., "Aspirations of Negro and White Students. " Social Forces, 42:1 (October 1963), 40-48.
- Glenn, Norval J., and Hyland, Ruth, "Religious Preference and Worldly Success: Some Evidence from National Surveys, " American Sociological Review, 32:1 (February 1967), 73-85.
- Greeley, Andrew M., "Influence of the 'Religious Factor' on Career Plans and Occupational Values of College Graduates, " American Journal of Sociology, 68 (May 1963), 658-671.
- Griggs, Charles M., and Middleton, Russell, "Community of Orientation and Occupational Aspirations of Ninth Grade Students, " Social Forces, 38:4 (May 1960), 303-308.
- Haller, A. O., and Butterworth, C. E., "Peer Influences on Levels of Occupational and Educational Aspiration, " Social Forces, 38:4 (May 1960), 289-295.
- Haller, Archie O., and Sewell, William H., "Farm Residence and Levels of Educational and Occupational Aspiration, " American Journal of Sociology, 52:4 (January 1957), 407-411.
- Haller, Archibald O., and Sewell, William H., "Occupational Choices of Wisconsin Farm Boys, " Rural Sociology, 32:1 (March 1967), 37-55.
- Han, Wan Sang, "Two Conflicting Themes: Common Values Versus Class Differential Values, " American Sociological Review, 34:5 (October 1969), 679-689.
- Herriott, Robert E., "Some Social Determinants of Educational Aspiration. " Harvard Educational Review, 33:2 (Spring 1963), 157-177.
- Kahl, Joseph A., "Educational and Occupational Aspirations of 'Common Man' Boys, " Harvard Educational Review, 23 (Summer 1953), 186-203.
- Kandel, Denise B., and Lesser, Gerald S., "Parental and Peer

Influence on Educational Plans of Adolescents, " American Sociological Review, 34:2 (April 1969), 212-221.

Krauss, Irving, "Sources of Educational Aspirations Among Working Class Youth, " American Sociological Review, 29:6 (December 1964), 867-879.

Mack, Raymond W., Murphy, Raymond J., and Yellin, Seymour, "The Protestant Ethic, Level of Aspiration, and Social Mobility: An Empirical Test, " American Sociological Review, 21, 1956, 295-300.

McDill, Edward L., and Coleman, James, "Family and Peer Influences in College Plans of High School Students, " Sociology of Education, 38, 1965, 112-126.

McDill, Edward L., and Coleman, James, "High School Social Status, College Plans and Interest in Academic Achievement: A Panel Analysis. " American Sociological Review, 28:6, 1963, 905-918.

McDill, Edward L., Meyers, Edmund D., Jr., and Rigsby, Leo C., "Institutional Effects on the Academic Behavior of High School Students, " Sociology of Education, 40:3 (Summer 1967), 181-199.

McQuire, C., "The Textown Study of Adolescence, " Texas Journal of Science, 1 (April 1956), 264-274.

Michael, John A., "Communications: On Neighborhood Context and College Plans, " American Sociological Review, 31:5, 1966, 702-706.

Porter, J. Richard, "Predicting Vocational Plans of High School Senior Boys, " The Personnel and Guidance Journal, 33:4, 1954, 215-218.

Rosenfeld, H., and Zander, A., "The Influence of Teachers on Aspirations of Students, " Journal of Educational Psychology, 52, 1961, 1-11.

Sears, P. S., "Levels of Aspiration in Academically Successful and Unsuccessful Children, " Journal of Abnormal and Social Psychology, 35, 1940, 408-436.

- Sewell, William H., and Armer, J. Michael, "Neighborhood Context and College Plans," American Sociological Review, 32:2, 1966, 159-168.
- Sewell, William H., and Armer, J. Michael, "Communications: Reply to Turner, Michael and Boyle," American Sociological Review, 32:5, 1966, 709-712.
- Sewell, William H., Haller, Archibald O., and Portes, Alejandro, "The Educational and Early Occupational Attainment Process," American Sociological Review, 34:1 (February 1969), 82-92.
- Sewell, William H., Haller, Archie O., and Straus, Murray A., "Social Status and Educational and Occupational Aspirations," American Sociological Review, 22:1, 1957, 67-73.
- Sewell, William H., and Shah, Vimal P., "Socio-Economic Status, Intelligence, and the Attainment of Higher Education," Sociology of Education, 40:1, 1967, 1-23.
- Stebbens, Marion, "Flint Offers the Potential Dropout a Personalized Curriculum," The Clearing House, 38 (December 1963), 205-209.
- Stefflre, Buford, "Vocational Aspiration and Level of Interest Scores on the Lee Thorpe Occupational Interest Inventory," The Personnel and Guidance Journal, 33:7, 1955, 385-388.
- Stephenson, Richard M., "Mobility Orientations and Stratification of 1,000 Ninth Graders," American Sociological Review, 22:2, 1957, 204-212.
- Tannenbaum, Abraham J., "The School Dropout Today," IRCD Bulletin, Publication of the EPIC Information Retrieval Center on the Disadvantaged, New York: Columbia Teachers College, (September 1968), 1.
- Turner, Ralph H., "Communications: On Neighborhood Context and College Plans," American Sociological Review, 31:5, 1966, 698-702.
- Weiner, Max and Murray, Walter, "Another Look at the Culturally Deprived and Their Level of Aspiration," Journal of Educational Sociology, 36:7, 1963, 31-321.

Wilson, Alan B., "Residential Segregation of Social Classes and Aspirations of High School Boys," American Sociological Review, 24:6, 1959, 836-845.

Youmans, E. Grant, "Occupational Expectations of Twelfth Grade Michigan Boys," Journal of Experimental Education, 24:4, 259-271.

Unpublished Material

Brodie, Donald O., and Suchman, Edward A., "Socioeconomic Status and Students' Educational Desires," University of Pittsburgh. A paper presented to the annual meeting of the American Sociological Association, San Francisco, August, 1967.

Bryan, Clifford E., "The Prediction of High School Dropouts." Master's Thesis, Western Michigan University, Kalamazoo, Michigan, 1969.

Elesh, David, "Context and College Plans: Two Alternative Models," Columbia University. A paper presented at the annual meeting of the American Sociological Association, San Francisco, California, August, 1967.

Harding, Kenneth L., "A Comparative Study of Caucasian Male High School Students Who Stay in School and Those Who Drop Out," Doctoral Dissertation, Michigan State University, 1966.

Rhodes, A. Lewis, and Nam, Charles B., "The Religious Context of Expectations." Florida State University. A paper presented to the annual meeting of the American Sociological Association, San Francisco, August, 1967.

Whiteside, R., "Dimensions of Teacher Evaluation of Academic Achievement." Doctoral dissertation, the University of Texas, Austin, Texas, 1964.