THE REFERENCE GROUPS FOR EDUCATIONAL ACHIEVEMENT AMONG CULTURALLY DEPRIVED JUNIOR HIGH SCHOOL STUDENTS: A THEORETICAL DISCUSSION AND PRELIMINARY DATA REVIEW

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PREFACE

Action research severely tests the theoretical developments of any scientific discipline. As with research directed toward more lofty ends, it requires that the theoretical formulation be stated in such a way as to permit verification or rejection of the relationships postulated therein. Macro-sociological studies of mobility and of education have served as the basis for action in the past, and many of their insights have been incorporated into everyday practice. Once again, however, sociologists are called upon to apply their knowledge to a social problem—definition of the optimum setting for educational achievement among the culturally deprived. Although we have theory and research explaining the general conditions for mobility, educational achievement, and socialization, beyond this frontier, knowledge turns to speculation. Very few studies have explored the factors in the social network surrounding the "culturally disadvantaged" student which encourage his upward mobility within our educational institutions. The need to explain the particular social phenomenon, high educational achievement among culturally disadvantaged junior high school students, raises exciting theoretical and methodological issues for an academic discipline accused of irrelevance by practitioners.

Much of what ensues derives directly from this confrontation with new social problems and the particular sociological problems of explanation to which they point. The bulk of the thesis is devoted to the
development of a unified theoretical scheme by which we can utilize past research in study of a recurrent phenomenon little studied by sociologists. The several chapters on the data represent but a preliminary survey of the population characteristics and of the most generalized relationships between the variables. They do, however, demonstrate the potential utility of the theoretical scheme for study of the problem of social influences which affect educational achievement.

As introduction we have chosen to focus primarily on two issues encountered in the definition of the scope of the study. In chapter one the contributions and limitations of theory and research in the field of social stratification are reviewed. The synthesis of this chapter leads to a more general discussion of assumptions in the second part of the introduction. The postulates which are reviewed define both the philosophical biases and the level of generalization at which conclusions may be accepted.

In the second and major part of the thesis we dissect the theory behind each of the major variables and discuss the particular modifications which are incorporated into the research instrument. The chapter on reference groups is particularly long and detailed for several reasons. From the outset, it was apparent that the phenomenon we desired to measure was not that commonly considered under the rubric "reference group." Two other concepts, role model and identification are also explored. Their utility for the particular sociological problem was considered, and their limitations are carefully noted. The outcome of this
literature search is the series of operational measures of reference group employed in the study. Hopefully, it is more carefully delineated than it has been in past usage. Chapter four, on design and major hypotheses, summarizes the methodological strategy developed through review of similar studies. The three major hypotheses provide a focal point for preliminary analyses of the results.

The third part of the thesis is an initial description of the data. They present the simple relationships between academic achievement and the salient characteristics of reference groups (taken ad seriatum) in graphic form. Several interesting configurations in the data are revealed by this particular form of presentation. Each of them is briefly explored for its potential in explaining the pattern of achievement.

The summary and conclusion of the study are contained in the fourth section. Theoretical developments, preliminary conclusions from the data analysis, and some projections for further possibilities for research are included in the summary chapter. The conclusion contains a more personal postscript on the procedure and formulations included within the main body of the thesis. Hopefully lessons can be drawn from examination at this level as well as from review of the accumulated knowledge on the sociological problem itself.
CHAPTER I

THE PROBLEM AND ITS CONTEXT

A. THE PROBLEM

The aim of this thesis is to test several propositions about the effect of people inside and outside of the school on the classroom performance of "culturally disadvantaged" seventh grade students. That some people are more important than others is a truism; but which people are more important is problematic. That high achievement in the classroom is desirable is seldom questioned; what high achievement means is open to debate. That high achievement in school has some relationship to social and economic mobility is well established; its exact relationship remains unspecified. These questions all focus on one small aspect of social mobility. As such they represent a small part of the much larger problems of explanation of mobility in modern mass society.

B. THE ADVANTAGES OF THE SOCIAL STRATIFICATION FRAMEWORK

The diverse problems centering around patterns of social influence, the measurement of academic achievement, and social mobility cohere in the context of theory on social stratification and its dynamic processes. Social interaction is largely confined to persons of the same socio-economic class. Because these people, by definition, have common styles of life, norms, and values, stratification theory is able to explain the actual and probable behavior of class members in general terms. Social
mobility is also measured from this baseline. To determine the social influences which prompt a change from one class to another, stratification theory prescribes that we study interaction with persons of other classes who may represent new and different status attributes. Another source of norms spurring mobility behavior may be the social institutions which have historically been avenues for mobility. In the United States educational and economic institutions have served this function. Academic achievement is one formally recognized and rewarded form of accomplishment in the educational system. It may be considered one very specific form of mobility behavior.

The assertion that social interaction is limited primarily to class equals is one of the major propositions in stratification theory. Physical limitations of mass society on interaction are not sufficient to account for the maintenance of this phenomenon. Ecological structure alone accounts for little in the choice of an interpersonal environment. One of the major determinants of interaction networks, according to stratification theory, is the openness or closedness of the society. The validity of generalizations based upon social class would be incomprehensible in an "open" society. Social mobility would ipso facto be impossible in a "closed" social structure. In contrast to the closed structure of the medieval estate system or of the contemporary vestiges of caste in India, the American situation comes closer to the ideal type "open society." In this latter system, social mobility is a personal phenomenon, not hereditary or firmly fixed.
Not only does the open or closed character of a society underlie the assertion about interaction with class equals, it also determines the applicability of the reference group perspective used in presentation of the data. Only if personal mobility is possible, as in the United States, can a person exhibit behavior different from his class lifestyle. It was incomprehensible that Thomas and Znaniecki would have talked about the reference groups of the Polish peasant. The immigrant ghetto was his world. Once barriers begin to dissolve, as one sees in The Urban Villagers, then mobility is present and reference group theory becomes a useful analytic tool.

Also implicit in the presentation of American society as a relatively open system is the underlying assumption that whenever stratification exists a pattern of interaction with fellow class members is "normal." The debate which evolves in the following several pages is between two schools of thought on what is "normal" behavior for members of the lower class. The disagreement has inspired the development of a significant literature describing both lower class culture and the upwardly mobile. These writings provide the foundation on which the highly specific concerns of this thesis have taken shape.

One view of the social structure found in the writings of Herbert Hyman, Leonard Reissman, and Allison Davis, points to a significant division between the values and behaviors of the middle and the
lower or "working" classes.¹ Those who view American society from this perspective are often reacting to the Horatio Alger myth which dominates middle class thinking on the possibilities of social mobility. Hyman attributes the fact that individuals from lower strata are not likely to climb far up the economic ladder in part to the peculiar components of the lower class value structure.² To the middle class observer, lower class values involve less emphasis upon the achievement of goals which would in turn be instrumental for success. Allison Davis draws similar conclusions in his "Motivation of the Underprivileged Worker." He says workers of different classes are "reacting to different realistic situations.... Therefore their values and social goals are different."³ Leonard Reissman and S. M. Miller point out a number of values and behaviors peculiar to the working class subculture, among them the desire for security rather than mobility.⁴ They feel it is "not intrinsic in the stable pattern that middle class orientation emerge, but the stable


stage [of the working class] would seem to be a necessary step in most cases for the development of a middle class orientation."

Of course, many others in sociology, anthropology, and modern literature have propounded a similar view of the working class. Perhaps the best known are Oscar Lewis's "culture of poverty" theory which is expounded in his several ethnologies of lower class culture in Mexico, and Davis and Dollard's case studies of Negro children in Children of Bondage.

A second view of the social structure emphasizes the continuity in values, norms, and behavior which makes vertical mobility a natural pattern. The American myth of the classless society and the emphasis placed on extensive mobility assume a common American culture which is easily assimilated by newcomers and upwardly mobile alike. Although the contemporary bias in the discipline reflects an intellectual cynicism about the American dream, sociologists have also stressed the value integration which contributes to this "openness" of our society. Robin Williams, in his American Society, discredits earlier notions of "strain toward consistency" in societal values, but is, nevertheless, able to

5. Ibid., 96.

6. Also see Sinclair Lewis, The Jungle; Ignazio Zilore, Bread and Wine; Michael Harrington, The Other America; Herbert Gans, The Urban Villagers; James Baldwin, Nobody Knows My Name.

7. See F. Scott Fitzgerald's The Great Gatsby; Theodore Dreiser's The Financier.
identify several major value configurations in American culture which hold for all classes. Talcott Parsons, using his pattern variables schema, is able to recognize a single more or less integrated system of value orientations in American society. Robert K. Merton, another structural functionalist, has also emphasized the value unity of our culture.

It is only because behavior is typically oriented toward the basic values of society that we may speak of a human aggregate as comprising a society. Unless there is a deposit of values shared by interacting individuals, there exist social relations, if disorderly interactions may be so called, but no society.

Assertions about the continued open-class nature of the American social structure have been supported not only by studies of values, but also by citation of instances of social mobility. Natalie Rogoff has studied two time periods, centering in 1910 and 1940, to determine if there has been a change in the openness of American society in the intervening years. She asks, "Has more or less occupational


mobility taken place than can be accounted for by current changes in the occupational structure?" Because there was no change in the average amount of mobility between the two periods, the author concluded that her evidence (although showing some structural changes) belied the notion that the social structure has grown more rigid.

The preceding discussion has not sought to dichotomize social theories about the presence of social mobility into two warring camps. The differences do illustrate how different subjects of study and opposing theoretical and value perspectives have led to contrasting conclusions about the impact of American social structure on mobility. The existence of two possible pressures and two possible "normal" behaviors is more clearly demonstrated in a recent article by Hyman Rodman on "The lower class value stretch." Rodman observes what has become obvious from the materials cited above: both that there are common values shared throughout the population and that there also exist class-specific values. He concludes that

it is because the lower class person, to a degree, typically shares the middle class values and holds values unique to the lower class that he is able to adapt to his circumstances without certain more specific phenomena, such as deviance or revolution, being more evident as actual or attempted responses with the lower class.\[14\]

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12. Ibid., p. 444.


Once the lower class "stretch" has developed, the lower class person is in a better position to adapt to his circumstances because he has a wide range of values with which to operate. Concomitant with this, as Rodman perceptively notes, is a lesser degree of commitment to each of the values within the total range.

Rodman's observations about the lower class value-stretch are drawn from both schools described above. At the same time his research is significant because it heralds the beginning of more analytic studies on the mechanisms of social mobility. Unfortunately most studies of the particular structural components of mobility do not come from persons who see any reason to fit their observations into either the phenomena of social mobility or within the context of more general stratification theory. There are several reasons why the study of social stratification has not produced any sizable body of literature on the mechanics of mobility within our society. First, the visibility of social stratification as an important social phenomenon has occurred primarily since the rise of the industrial revolution and the breakup of the estate system. Like other social sciences, the youth of the study means that much effort is still concentrated in areas of general theory, description, and basic conceptual development. This short period for growth can also be traced to the primarily economic models of the early theorists who focused solely on economic stratification. The differential distribution of rights and duties, values, and social power was largely neglected. Not until Weber's classic division into components of class, status, and
power did stratification theorists turn their attention to social variables. Finally, it is worth noting that while stratification theorists have certainly not neglected empirical work, most of their research has been macroscopic and descriptive rather than microscopic and analytic. There are few intensive researches on the patterning of social and normative networks among the upwardly mobile.

Studies of the family, voluntary associations, and educational sociology have developed conceptual schemes which function well within the general framework of social stratification. At the same time, however, these institutional approaches lack the general theoretical perspective which can account for influences across institutional boundaries. School performance is profoundly affected by social class origins. Family planning and organization are essential for the lower class child to succeed in school. Family resources must be used efficiently and even residential mobility must be limited. One of the advantages of stratification theory, despite its deficiencies in the explanation of social mobility, is its general inter-institutional perspective.

My contention in the elaboration of a social stratification framework has been to demonstrate its plausibility in the study of academic achievement as a form of social mobility. The focus on mobility has one other advantage for the study of changing behavior patterns. Much social change in our society is already institutionalized. Unlike sweeping structural and cultural changes which upset social continuity, mobility is a common phenomenon. The study of mobility dynamics is
methodologically facilitated by clearly defined normative and structural constants. Their presence enables the sociologist to contribute significantly to the knowledge of social dynamics through the study of changes bounded by definable, if not set, social structure and culture.

C. THE CONTEXT OF SOCIAL STRATIFICATION: ITS WEAKNESSES

If the framework of social stratification provides a context for study of change and the inter-institutional nature of the research reported below, it cannot aid in answering many of the queries put to it. Most of the specific hypotheses tested are drawn from alternative theoretical perspectives which will be reviewed in the next several chapters. I shall attempt to integrate some of these diverse perspectives into the study of social differentiation in general and of hierarchical stratification in particular. As an overview of the additional theoretical perspectives which are included, let us ask a few specific questions which have emerged in past study and in the development of the research problem. They serve to illuminate further the theoretical problems raised by this particular form of social mobility.

(1) What, if any, is the relationship between mobility and academic achievement in the school setting?

Even to begin work on this problem one must establish some guidelines by which to identify the phenomenon of social mobility. Pitirim Sorokin, while not concerned with an operational definition of the concept, gives the major dimensions.
Social mobility [be it vertical or horizontal] is the movement of individuals or groups from one social position to another and the circulation of cultural objects, values, and traits among individuals and groups.¹⁵

Sorokin's extended discussion of vertical mobility in *Theories of Society* divides the concept into several different "ladders": economic, occupational, and socio-political.

Another important conceptual distinction arose from a need to develop measures for mobility in Natalie Rogoff's research on occupational mobility. Mobility may stem from change in the structure of the occupational market, or it may refer to the actual advancement or loss of occupational prestige. If one recognizes that implicit in the phenomenon of social mobility is the element of change over time, then it is clear that two kinds of change are involved. Given a constant occupational structure (thus correcting for various social and technological changes), mobility would be due solely to the influence of differentially evaluated personal and social characteristics, such as talent, ambition, or family background, which individuals in the labor force possess. The process of social mobility used as the paradigm in the research which follows is of this type. But instead of applying it solely to the occupational ladder (as does Rogoff), this same model must be fitted to the other bases of social stratification, economic and socio-political.

Using this second definition of mobility, one of the principal

channels for vertical movement in the social prestige structure is the school. Because our educational institutions are major avenues for personal mobility, one would expect a close relationship between educational measures of success and those employed in the larger society. As Orville Brim concludes in his *Sociology and the Field of Education*, however, there are little data on what educators and virtually nothing on what students and the public believe to be the ideal "classroom role." Nowhere does the inability to specify educational success become more apparent than in the attempt to establish the goals of a summer program of "special education" designed to encourage "mobility" among its participants. Despite the potential flexibility, the resort is to traditional methods or various philosophies of education. Because there is little concrete knowledge of the relative contributions of different educational practices to social mobility or even more limited educational achievement, planners fall back upon tradition and speculation. A recent evaluation and follow-up study of a "Summer Science and Mathematics Program for Talented Secondary School Students" also illustrates our present inability to measure the results of a program designed to "encourage the scientific interests of high quality ... students." 16 Cooley and Bassett were finally forced to evaluate the program on the basis of standardized

achievement tests in mathematics and science, and career plans questionnaires. Who knows what high or low scores on these measures may indicate for either short or long term "scientific interests" of the participants?

Quite obviously the relationship between various measures of academic achievement and social mobility has been established at only a very generalized level. Rather than extensive examination of the exact relationship at this point, the researches have concentrated on the measurement of achievement alone. Nevertheless, as one can see in Chapter V, an attempt is made to use indices of potential value for demonstrating this relationship at a later time.

(2) Is there any constant social patterning which emerges as distinctive of "middle class mobiles," when compared with the "action seekers," and "routine seekers" of Herbert Gans' Urban Villagers?

Although the educational system provides one of the major channels for vertical mobility, the individual develops and maintains contacts in other institutional sectors of the society. One of the more exciting and perceptive accounts of these networks of social relationships is found in Gans' account of the Italian-Americans of Boston's West End. Gans' contribution, however, is limited to a set of general observations. For the most part action- and routine-seekers are socially non-mobile, while in contrast, the middle class mobiles, although bearing a superficial resemblance to the routine seekers, strive to move themselves—or, more often, their children—into the middle class and out of the West End. Since "no middle class culture exists among West Enders,
The mobiles have to model themselves on outsiders. As a result they must detach themselves from relatives and old friends and are often rejected by these. This basic proposition suggested by Gans and others, that reference groups outside the lower class environment function as important models for the middle class mobiles, focuses attention on the use of reference group theory in description of the social fields for upwardly mobile. A number of more specific problems are raised by the reference group perspective. Three of them follow.

(2.1) Relatively how important are peer, home, school, and community reference groups in the determination of a student's academic performance?

This question raises two issues pertinent to the interpretation of the thesis data. First, as I stated earlier in this chapter, processes of social influence readily cross institutional boundaries. This is especially true when such general changes in behavior as those encompassed in social mobility are involved. The types of social support encountered in the home, among relatives and friends, and in the community all have potential bearing on academic achievement in the school. Secondly, once it is recognized that processes of social influences do


cross institutional boundaries, the empirical problem is to identify those sources of influence and to determine their relative importance in the determination of levels of academic performance. The research is designed to try to make these identifications and to determine the distribution of their influence on achievement in this particular phase of the educational system.

(2.2) What are the implications for social mobility of the sociological observation that middle class value-ideals permeate even to the culturally disadvantaged?

Many sociologists assert that an important factor in modeling behavior is the normative rather than the social structure of the environment.¹⁹ S. N. Eisenstadt goes so far as to suggest that in recognition of the importance of the normative structure, we may wish to study reference norms rather than reference groups from which they are derived.²⁰ Working from principles similar to those of Rodman (cited above) the thesis focuses on those in the social environment who, because of various social characteristics (or status attributes) may be diffusers of the middle class, mobility oriented culture. While mass media influences serve to diffuse much of the middle class value system to all

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¹⁹ All sociologists recognize the importance of norms for determining social actions. In particular reference to this problem see Robert K. Merton, Social Theory and Social Structure (Glencoe: Free Press, 1957), and James S. Coleman, The Adolescent Society.

segments of the population, several studies on the "two step" pattern of 
communication still give an important place to the role of opinion 
leaders.21 The concentration on the school setting itself has been 
utilized because this institution is an important channel for the com-
munication of middle class norms and values of high achievement.

(2.3) Are there differences between the modes of social support en-
countered by those doing well in school and those who are not?

This question about the modes of social influence represents, 
in the context of this thesis, another means for giving differential 
weightings to the incumbents of the many positions in the environment.
Parents, for example, would be expected to exhibit a more diffuse, emo-
tionally supportive and nurturant role in their relationships with a 
child than would the teacher whose role performance calls for more 
specific, achievement-oriented expectations of her students. For this 
reason, parents may be more important for achievement than teachers. Al-
though specific hypotheses are not embodied in the empirical work, the 
issue of modes of social influence raises many questions concerning the 
evaluative, cathectic, and cognitive content of social relations. These 
questions will ultimately have to be included in a comprehensive picture 
of the phenomena under study. The limitations of this particular phase 
of the research have made it necessary to defer major work on this prob-
lem until a later time.

21. See Elihu Katz, "The Two-Step Flow of Communication: An Up-To-Date 
Report on an Hypothesis," Public Opinion Quarterly, 21 (Spring 1957), 
61-78.
D. SUMMARY

The social mobility framework and the series of specific questions which followed are the outgrowth of several initial explorations into the problem studied in the main body of the thesis. As stated above, the literature on social stratification includes few analytic studies on such specific forms of vertical mobility as academic achievement. Therefore a variety of theoretical perspectives are utilized for the formulation of specific empirical propositions. These perspectives will be analyzed and applied further in subsequent chapters.
CHAPTER II
SOME BASIC POSTULATES

Enumeration of the postulates of this study provides the reader with an opportunity to observe the assumptions on which the research is based. In addition, it indicates the level at which the generalizations should be accepted. These postulates are for this particular research. Not that the assumptions stated herein would necessarily differ from those used at other times, but research in the social sciences may proceed at a number of different levels. The following sections include suppositions about personality, modes of social influence, conformity, and structural patterning.

3.1. PERSONALITY: THE SOCIAL SELF AND THE CONSISTENCY OF IDENTITY

Much social psychology centers around clarification and elaboration on the concepts of social self and identity.¹ These researches, however, are far beyond the scope of our particular interests. The assumptions about personality are drawn from the work of several social psychologists. Particularly relevant are social interactionist,

¹. These basic postulates are implicit in the following chapter, for reference group theory assumes the subjective (although socially predictable) definition of significant others.
stimulus-response, cognitive perceptual, and cognitive dissonance models.²

The need for consistency and the reduction of dissonance among cognitive elements is a central proposition for the organization of both the social self and identity. Much material on perception of the social environment can be cogently organized around this simple "need."³ It is the first element in the postulate of personality. The second supposition is that the "self," which is organized on the basis of consistency, is viewed as an object only through social interaction.

Two of the precursors of contemporary symbolic interactionist theories were G. H. Mead and Charles Horton Cooley. Their "generalized other" and "looking glass self" were among the earliest insights in the study of social influence on personality formation. Both men refer to a characteristic of the "self" as an object of itself (social self), when the "role of the other is employed as a mirror, reflecting the expecta-

². For more detailed accounts of these theories see: Leon Festinger, A Theory of Cognitive Dissonance; Kurt Lewin, Field Theory in Social Science; George Herbert Mead, Mind, Self, and Society; Theodore Newcomb, Social Psychology; and Newcomb, Turner, and Converse, Social Psychology. For accounts of self and identity from the perspective of other disciplines see: Ruth Wyle, Self Concept, and Sydney Shoemaker, Self Knowledge and Self-Identity.

³. Other instances of the same proposition from which this abbreviated statement is derived can be seen in Festinger's principle of "cognitive dissonance" and in Newcomb's "AIX" models. The implicit application of a similar model to social phenomena can be seen in Lenski's accounts of status inconsistency.
tions or evaluations of the self as seen in the other role." Utilizing Mead's "taking the role of the other," Shibutani, a contemporary social interaction theorist, talks about the person who approaches the world from the standpoint of the culture of his group. "Since he defines objects, other people, the world, and himself from the perspective he shares with others, he can visualize his proposed line of action from this generalized standpoint, anticipate the reactions of others, inhibit undesirable impulses, and thus guide his conduct." This process, whereby the self as object is defined through interaction with significant others in interaction with the "subject self," is the central statement of the social interactionist contribution.

Study of the strain toward cognitive consistency, the first supposition about personality organization, has also been the object of much study. One concept in which the striving to reduce tension has been used as a motivational characteristic is "identity." Identity implies persistence, the existence of one and the same thing at different times and in different settings. Eric Erickson apparently had this in mind in the development of identity as a function of stages in the life cycle.  

6. Talcott Parsons and Robert F. Bales, Family, Socialization and Interaction Process (Glencoe: Free Press, 1955) also contains a reference to a model of discontinuous development similar to that outlined by Erickson although less developed.
Borrowing heavily and yet imaginatively from psychoanalytic theory, Erickson has developed a model of "ego-identity." Successive periods of psycho-social development (roughly analogous to the Freudian stages) are utilized to account for both the original choice of significant others at different times in the past, and for long term organization of their expectations to produce a consistent identity. Social interaction, as in the symbolic interactionist formulation, provides the context in which identity is developed. One gains the sense of personal identity by locating himself, at each stage, in a meaningful world.

According to Erickson, identity formation begins early in childhood, when the usefulness of identification ends. The final identity, which is the product of a long development largely unconscious to the individual, becomes fixed during adolescence. Like the partial identities of earlier stages, it is "superordinated to any single identification with individuals of the past: it includes all significant identifications, but it also alters them in order to make a unique and reasonably coherent whole of them." Ego identity grows from the ordering of former

7. Identification refers to a state of affairs wherein the overt or covert behavior of the ego model (or person with whom the individual identifies) is reflected in the overt or covert behavior of the identifier (see Robert Winch, Identification and its Familial Determinants (New York: Bobbs-Merrill, 1962), p. 2). Identity, as distinct from identification, arises from a selective repudiation and mutual assimilation of childhood identifications and their absorption into a new configuration.

social relations and identifications. The development of the final identity is a process wherein one minimizes the cognitive dissonance and develops a coherent view of himself and his world-view over time.

Another example of dissonance reduction as a motivating principle in personality is found in the Lewinian concept of "life space." In his field theory, "life space is defined so that at a given time it includes all the facts that have existence and excludes those that do not have existence for the individual or group under study." Despite the obvious similarities between organization of life space and the development of the concept of ego-identity, there is an important difference in emphasis. Lewin, and many other social psychologists, have stressed cognitive processes and the present environment. In contrast, psychoanalytic theory has been dominated by concentration on the past and the irrational. Erickson has made an important contribution to an understanding of why the present life-space studied by the field theorist is organized in one way rather than another.

Despite the digression, this thesis is interested only in the development of two very general assumptions about personality which are relevant for understanding the reference group context. No attempt has been made to order the materials on how significant others are chosen.

9. A helpful article which demonstrates the utility of considering both personality and environmental factors when predicting social action is J. Milton Yinger's "Research Implications of a Field View of Personality."
The first postulate includes simply a recognition of (1) the interactionist model for the development of the "self," and (2) an organizing and dynamic principle of strain for cognitive consistency in time and space. 10

3.2. MODES OF SOCIAL INFLUENCE

The suppositions about socialization and social influence are closely linked with those about personality formulation and development which stress the continuity between past interaction, present behavior, and expectations about the future. March and Simon present a simple mechanical model of socialization which specifies two forms of influence assumed in reference group theory: (1) the presence of significant others from whose perspective a person views particular behavioral alternatives, and (2) the "act-in-process" which defines the context in which a particular reference group is evoked. Both the "audience" for whom actions are tailored and the situations in which a reference group perspective is used are relevant for explanation of the final behavior.

In the March and Simon paradigm, the behavior of an organism

10. Several specific works have contributed to empirical verification of these two assumptions about personality. M. M. Helper, Richard Videbeck and Alan Bates, Staines, and Simpson have all studied the influence of interaction on self concept and the performance of specific roles. There have also been several research works on the need for consistency. Particularly worthwhile are Gross, Mason, and McEachern's Explorations in Role Analysis, and Newcomb's Personality and Social Change. The former work uses role theory and the latter reference group theory as a basis for analysis. Both utilize a variation of the concept of "strain toward consistency" or "reduction of tension."
any short interval of time can be accounted for by (1) its internal state at the beginning of the interval, and (2) its environment at the beginning of the interval. In the human organism, the internal state (memory) is a function of history, and consists of partial and modified records of past experience. In addition, the memory content for any particular set of interactions can be divided into two parts. One part, the evoked set, exerts a significant influence on behavior at a particular time, while another and much larger part exerts little or no influence on behavior at a particular time. 11

With this model as background, the first form of influence involves slow changes in the total content of the memory. In sociological terminology this is often called socialization. Socially manifested, it is the process whereby newcomers learn to participate effectively in social groups. 12 Socialization is a gradual accumulation of experiences with certain people, particularly those with whom we maintain both frequent and long-term interaction. These persons are directly responsible for the internalization of norms. In addition they are important for the communication of social reward and status structures which provide motivation.

The second process of social influence comes from potentially

11. This view of personality is obviously consistent with the previous statements in postulate 3.1, particularly those of Erickson and Lewin.
12. See: Tamotsu Shibutani's Society and Personality
rapid changes in the content of the evoked set. Because the relevant part of the memory is determined by stimuli in the environment, a second means whereby behavior can be influenced arises from the change in the immediate surroundings. A reference group varies in importance according to the frequency with which it is part of the evoked set. For a student who is continually working for grades, the reference group for academic achievement is, presumably, very important. The social worker whom he sees only once a month is probably less relevant than his parents whom he sees daily.

Clearly both processes of influence must be assumed for there to be utility in the reference group perspective. If proper environment exists then, according to this theory, the individual will adopt the norms of the reference group as part of his own perspective.

3.3. CONFORMITY

In the previous postulate, the importance of socialization in the choice of reference groups was explained as a function of socialization and environment. Socialization, however, is not a process which stops abruptly at adolescence, leaving the individual with an immutable

13. The following chapter on reference group theory includes a long discussion of the environment in which the reference group perspective is important for determining social action. A briefer statement is included under postulate 3.4.

personality. The relevancy of the normative structure is not maintained in a vacuum. Norms and values are identified with social "groups." They condition our behavior and our expectations.

The process whereby expectations of others are stabilized inevitably involves placement of those individuals in terms of some social scheme or categories. Because norms themselves usually have social reference points, the postulate on conformity provides a link between the socialized man and his environment. It explains the importance of reference groups. Through them the individual defines the statuses and normative structure which are rewarding.

Conformity to reference group norms is insured by two social processes: (1) the reward the norm itself will bring if obeyed, and (2) the social approval which will be won or lost from those with whom the individual interacts. While both reward processes contribute to conformity, reference group theory emphasizes primarily the first aspect. Social psychologists using this theory have examined how each person has incorporated into his own perspective the expectations of others. He is able to anticipate their responses to his action and adjust to them in advance. The internalization of such a reference group means either that


16. Status, as a concept implying rank, is the sociological manifestation of the psychological concept of reward. Rewards are socially defined and meted out as increases in status.
conformity to a norm will be its own reward or that conformity will bring approval from others. Conformity to the norm will permit a person to enhance or maintain his status in some kind of real or imaginary reference "group."  

In those instances where behavior appears to deviate from accepted norms (in that social approval is withheld) the use of the reference group perspective still assumes conformity to be an organizing principle for social action. The problem is to find the reference norms to which the individual is conforming. As Sherif, who uses conformity as a central indicator of reference groups, states, we have to know what there is to conform to or depart from. The "what" refers to a person’s reference group norms. They are held by reference individuals or groups.  

At one level, conformity can be seen as the social manifestation of an attempt to reduce personal tension. For any single reference group, the individual will attempt to minimize the dissonance through conformity to what are perceived as the group, individual, or

17. It should be recognized that social categories may be negative as well as positive frames of reference. In such cases "conforming" behavior is seen as deviation from the norms of one reference group, for it is the group which best embodies the norms held by the individual who is deviating. Conformity in this instance is to an imaginary group whose norms are opposite of the norms of the negative reference group. This thesis deals only with positive reference groups. The limitation is a methodological simplification in design rather than a theoretical oversight.  

social category's central values. According to reference group theory, the same tendency toward minimization of cognitive dissonance would also occur in the presence of several reference groups. A student, for example, may refuse an offer to carouse with his friends, reinforced (in a sense) by incorporation of parental expectations in his own perspective. The reference group for this decision (those whose norms he has adopted for his own perspective) are not his fellow students, but the physically distant parents.

Admittedly, the combination of past socialization (in which a particular reference group perspective is developed) and present social approval does not insure complete conformity to societal norms. Likewise, these two processes do not insure total compliance with all reference group norms and their behavioral implications. Within the individual and society alike, there is a latitude of acceptable behavior which is neither supported nor sanctioned by others. The degree of social distance characteristically maintained from other people is also important for the determination of the autonomy or compliance with internalized reference group demands. Despite these reservations, the "normal" pattern for the socialized man is one in which he seeks to maximize his own "socially determined" rewards through conformity to the values of those whom he emulates and through compliance with the demands of those whose approval he desires.
Almost irrespective of provenience, sociological theory holds that identification with groups and with individuals occupying designated statuses does not occur at random, but tends to be patterned by the environing structure of social relationships and by the prevailing cultural traditions.\(^1\)

The reference group concept (developed extensively in the next chapter) has particular relevance for the identification of social patterning in modern mass society. This fact is clearly illustrated by Sherif.\(^2\) As he points out, there is little need for the concept in a stable, integrated, and relatively less differentiated society. The primitive isolated communities studied by anthropologists earlier in the century were dominated by one world view. Communication networks pervaded the whole society, as did the common culture. Behavioral expectations were clearly defined. They were comparatively stable. In sharp contrast, the complicated, rapidly changing, extensive mass society is far more difficult, both to live in and to study. Vertical mobility, in particular, presents dilemmas and contradictions of statuses and the painful predicament of marginality created by demands and goals originating in different groups. The individual passes rapidly from one group situation to another from time to time. He reacts to the demands,

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pressures and appeals of new group situations. One of the characteristics of modern society is the simultaneous membership in a wide variety of social worlds. Participation in unrelated activities leads to segmented life. The social influences on behavior are often unclear. The consistency in ties of membership in relation to a person’s past and present identifications and his future makes possible some regulation of experience and behavior with reference to basic values and norms.

Reference group theory aims at the identification of social patternings which provide for continuity by focusing on social actions which at first exhibit little consistency. In cases where a person seems to have a choice between two courses of action why does he choose one rather than another? Numerous studies have indicated that the major sources of an individual’s weighty attitudes and significant behaviors are the values and norms of the groups to which he relates himself, i.e., his reference groups. In fact, the normative structure of his reference groups constitute one of the major anchorages for the values and norms around which his experience of self identity and world view are organized. Social structure and culture are responsible for the social patterning of reference groups in the population of this thesis. The environment is important in the structuring of subjective perception. It can be studied as a function of social organization.

21. Ibid., p. 207.
The fourth general postulate is that the choice of reference groups—conformity to the primary and secondary norms of the group whose perspective has been assumed—is a function of one's interpersonal relations. The extent to which the culture of a group or values of an individual serve as a matrix for organization of perception, comparison, or aspiration, is dependent upon one's relationship and personal loyalty to others who share that outlook. The selection of significant others is a consequence of participation in common communication channels. This basic supposition is frequently overlooked in mass society where variations in outlook arise through differential contact and association, and through maintenance of social distance. These processes lead to the formation of many different individual "frames of reference" within a single society. Thus, for example, the lower class population of this study has developed different modes of life and outlook (see Chapter I) not because of anything inherent in economic position, but because similarity of occupations and limitations set by income dispose them to certain restricted networks of interaction and communication. Because interaction varies in stability and extent, social worlds differ in composition, size, and territorial distribution of participants. This differentiation in mass society is one of its more pervasive structural features. It accounts for the utility of reference group theory.

Two factors are critical in the structure of reference group orientations for the individuals studied in this thesis. The first is the stage in the life cycle. Not only does the period of adolescence
dictate the institutions in which a person will participate, but it also affects the way in which he will view his social involvement. Adolescence is a time of rapid change in social expectations, in perspective and in identity. American adolescence is epitomized by an unstable identity in which the relations between past, present, and future are unclear. Social expectations are frequently divergent; behavior manifests great irregularities. Final identity formation, according to Erikson, occurs during the trying times of this psycho-social moratorium. Later values, norms, and styles of living are crystallized in adolescence. Kurt Lewin places special emphasis on two changes which occur during this period: (a) the widening of the life space (geographically, socially, and in time perspective), and (b) the cognitively unstructured character of the new situation. They have important effects on the regularity of social patterning.

The second structural factor important for the population is the stable lower class background which is common to all the students. The impact of this heritage on the structural patterning of potential significant others is relatively straightforward. The structure of the lower class kinship systems, the extent and variety of participation in voluntary groups, the occupational structure, and the recreational habits which persist in this setting have all been well described. Some of the literature has been reviewed in the previous chapter.

Somewhat more difficult to study is the impact of "culture" on the choice of reference groups. Much less work has been done in this area, partly because accurate and easily reproducible data are difficult to obtain. Some of the more general components of this subculture are the lack of emphasis on worldly success and community prestige which are so highly valued in middle class settings; emphasis on stability and tradition; and the importance of the family as a unit of social and economic organization.23 Those who have stressed the pervasive character of middle class values into the culture of the lower class, cite the continued reality of the American dream. There is always the hope that children with adequate education can bridge the gap into the middle class.24

Both stage in the life cycle and the milieu of the working class culture affect the choice of reference groups for this study. Their structural patterning makes them subjects for sociological analysis.

A brief summary of the basic postulates shows both their extent and their interrelationships:

(1) Personality: organized around a striving for cognitive


consistency and developed through interaction with others.

(2) Socialization: the influence of past learning (for range of valued norms and behaviors which characterize reference groups) and the immediate stimulus of the environment (for determination of the evoked set) are both necessary to explain the operations of reference group theory.

(3) Conformity: The social manifestation of the actor's attempt to minimize cognitive dissonance as exhibited in his choice and ranking of reference groups. His behavior is attributable in part to the reference group norms to which he conforms in an attempt to maintain a valued status.

(4) Social Patterning: the assumption that both the stages in the life cycle and the socio-cultural environment of the stable lower class are critical for determination of regularly patterned significant others who can be identified for sociological study.
The reference groups supporting high and low educational attainment among "culturally disadvantaged" junior high school students are the independent variables. There is sufficient literature on reference groups to permit the assumption that all students have one or more significant others of varying importance for the determination of their educational behavior. The purpose of this study is not to demonstrate this point. Instead, the object is to see which of the many groups and individuals in the environment of the subjects shows the statistically most significant relationship to high and low academic achievement. Not until reference groups have been reliably identified does one encounter the theoretical and research problem of how the social structure of the situation encourages particular status similarities and values to become the basis for behavior while others are ignored.

In this chapter we develop the concept of reference group quite fully and stress its utility for explanation of the data. In the first part, the utilities and disadvantages of the concept of social class are reviewed. We place particular emphasis on the implications of a reference group framework in the use of class as a rough predictor of educational and other behaviors. In the second phase of the discussion the concept of reference group itself is developed. The relationship between reference group theory and the work of social interaction theorists is
discussed. Of special importance are the reasons for the choice of this particular framework from several alternatives. The third section is a short development of the concept in recent research. The fourth part includes a review of literature on the reference groups for educational performance. Finally, we develop specific measures for the identification of educational reference groups.

A. SOCIAL CLASS: ITS RELEVANCE FOR REFERENCE GROUP THEORY

Stratification theory is the framework for organization of the findings. It permits the integration of otherwise disparate elements and places the study of educational attainment within the context of social mobility. Social class remains a reasonably accurate unit for analysis because it is a catchall concept describing a large body of social characteristics in the self-contained life styles of large segments in the population. Class predictable behavior can be identified because people in these large categories exhibit many of the same social characteristics. Numerous sociological studies have used the concept for this reason. Rogoff has found I.Q. to be positively correlated with social class. Kohn has explored the relationship between social class and parental values and discovered significant intercorrelations. Rosen and D'Andrade have found positive correlations between class structure of the high school and striving for social mobility. In each case the concept has the ability to predict. Yet because it is not a unitary concept, it may be possible to predict more exactly by breaking it down into its
several dimensions. Social class is one of the most important concepts in stratification theory, but it can scarcely be the focus of attention in applied work: one does not change a person's social class to eliminate or encourage a particular form of action on his part. For any kind of social engineering we must proceed differently.

For the particular problem of mobility, social class is not an accurate predictor, because mobile and non-mobile persons share class characteristics. Mobile and non-mobile must in some way exhibit different constellations of status characteristics. The particular collections of norms and values present among the upwardly mobile may represent some form of subculture within the larger social class. Probably it represents a peculiar mixture of orientation adopted from two social classes.

Beneath this problem one can see the possible utility of the reference group perspective. The very fact that the synthetic concept of class is shorthand for interactions with many groups indicates that some parts of the total may have greater relevance in the determination of academic achievement than others. One of the important dimensions of social influence implicit in social class is the presence of reference groups whose norms have been internalized (primary norms) or whose approval is valued (secondary norms) by the actor. But the fact that something—the social norm—consists of the appraisals of other people immediately links the question of what to the question of who the people
are whose appraisals count for the individual.  

Reference group theory is a complement to the study of social stratification and mobility.

In explaining mobility behavior reference group theory has one advantage over the stratification framework. A common theory can be used to explain the constant pattern of reference orientations and the dynamic changes in the frames of reference for different forms of behavior. It is also more limited than the theory of social class for it eliminates emphasis on coercion and constraint. Reference groups are important solely because of the internalization of primary and secondary norms. They constitute the structure of expectations imputed to some group or audience for whom one organizes his conduct. This thesis is designed to explore, beyond the general variable of social class, the inter- and intra-class patterns of reference for academic achievement of high school students.

B. WHY REFERENCE GROUP THEORY?

Why study patterns of reference? Would it not be more fruitful to study role expectations or mechanisms of social control which contribute to one form of academic achievement or another? One of the principal reasons for using reference group theory was an attempt to break away from the institutional boundaries which are useful primarily for

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studies of organizational pressures on behavior. At the same time, reference group theory in studying the subjective rather than the objective definition of the environment takes a different emphasis from many sociological studies. Since Durkheim, sociologists have been committed to explanation of social facts by reference to other social facts. For some, the rejection of the psychological reductionist position—in which all social forms could be traced to individual motives—has led to the opposite error—neglect of the subjective point of view. By focusing on the elements of the individual’s decision to act, reference group theory (and role theory as used by Goode) avoids the pitfall of supposing that people carry out their obligations because they are "functional" for the society. As I have tried to point out in the previous chapter, most sociological analyses at least implicitly recognize the deficiencies in reasoning directly from social fact to social fact. Reference group theory carries this recognition of personality variables one step further. Because of differences in cognition, the impact of the social environment is not uniform for all individuals or groups. Cognitive styles are learned. They are a function of placement in the social structure. For this reason they are sociologically predictable. In


social psychology where the concept of reference group originated, it focused primarily on the responses of the individual to his interpersonal and more extended social environment. In sociology, the concept can help clarify our understanding of the structures of society and their impact on social action by showing how they are subjectively defined. We can learn about the consequences of social structures for behavior without losing our structural perspective. 4

The question of "why study patterns of reference" is important for another reason. Role theory also recognizes the subjective definition of the environment. It refers to behavioral expectations as defined by the actor himself and has been subjected to much more extensive theoretical development than the concept of reference group. Why not use it instead? There are several reasons.

As stated above, this thesis makes no attempt to identify specific roles of academic achievers. Instead we want to know what are the reference groups which encourage the many possible roles included in this general form of mobility behavior. Many of those who are reference groups for high achievement probably do not know what specific roles are required. Many whose role performance is copied are irrelevant as

4. It should be made explicit that use of "subjective perception" of the environment does not mean the individual is able to verbalize this organization. Social influence can affect behavior without being either felt or understood. This thesis attempts to demonstrate that it is possible to identify the reference groups using sociological variables and statistical techniques, without asking how the individual himself defines them.
reference groups. Their behaviors are imitated, but the motivation for imitation comes from others. Role theory has traditionally been limited to situations in which one can specify clearly defined roles. These include prescriptions of very specific behaviors. A person has few alternative ways of fulfilling a particular role, be it defined by himself or someone else. He can imperfectly perceive the demands of the role or be unable to meet the ideal demands, but that is another issue. Even in the case of role strain, the behavioral alternatives remain clear: one may bargain by sacrificing a part of the role performance, but the sacrifice usually takes behavioral and not normative form. Values and behaviors not concerned with the performance of a role are irrelevant. In contrast to role analysis, reference group theory has been most consistently applied to situations in which social expectations are not readily defined. Very often it is applied to situations in which behavior is not concretely prescribed. According to Goode, "Role relations are seen as a consequence of 'role bargains,' and as a continuing process of selection among alternative role behaviors, in which each individual seeks to reduce his role strain."\(^5\) Shibutani's review of the literature on reference group, on the other hand, "reveals that all the discussions of reference groups involve some identifiable grouping to which an actor is related in some manner and the norms and values shared in that

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The distinction between the organizational (or structural) and the normative (or cultural) aspect of a group illustrates the difference in emphasis of role and reference group theories. Structurally, the group members are related to one another with definite role expectations involving status differentiation and task differentiation among them. While the structure is important in determining the normative aspect of the group, it is insufficient to permit the group to become a reference group for other than these structurally prescribed behaviors. A group also has a code or set of values which are peculiar to the particular formation and are in addition to what group members share in other respects with other people in their community. These norms are an essential product of group formation. This code comes to define and regulate what is acceptable and desirable in the attitudes and behaviors of group members. The frame of reference is dependent on these norms.

In sum, each person may be said to act for some kind of audience—reference group or reference individual, real or imagined. He tries to maintain or enhance his standing in some kind of reference group whose norms have become his own. Much of a person's voluntary conduct in unstructured situations is difficult to understand without identification of  

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7. Sherif and Sherif, Reference Groups, pp. 53-54.
these reference norms and the significant others with whom they are asso-
ciated. An individual's frame of reference is his conception of his be-
havior, as seen from the standpoint of his audience.

C. THE DEVELOPMENT OF MODERN REFERENCE GROUP THEORY

Reference group theory was anticipated by the work of social
interactionists like Cooley and Mead. According to Mead, "the individual
experiences himself as such, not directly, but only indirectly, from the
particular standpoints of other individuals of the same group, or from
the generalized standpoint of the group as a whole to which he belongs." 8
Significant others for Mead are these groups of which the individual is a
member. These groups yield the significant frame of reference for self-
evaluation. 9 The recent work of Carolyn and Muzafer Sherif continues
this tradition, emphasizing groups in which a person is a member as sig-
nificant frames of reference. The principal hypothesis of this classical
form of reference group theory has been concisely summarized by Merton:
"Insofar as subordinate or perspective group members are motivated to
affiliate themselves with a group, they will tend to assimilate the senti-
ments and conform with the values of the authoritative and prestigeful
stratum of that group." 10

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8. George Herbert Mead, Mind, Self and Society (Chicago: University of

9. Robert K. Merton, Social Theory and Social Structure (Glencoe: Free

10. Ibid., p. 254.
This formulation imposes serious limitations on the concept. In more recent usage, the term "reference group" is something of a misnomer, for the term applies not only to groups, but to individuals and to social categories as well. Beneath this definitional clarification lies a more important contribution of reference group theory which is largely ignored by those who concern themselves solely with membership groups.

Sociology has long focused on the social frame of reference yielded by the groups of which men are a part. There is, however, the further fact that men frequently orient themselves to groups other than their own in shaping their behavior and evaluations. It is the set of problems centered around this fact of orientation to non-membership groups (also individuals and social categories) that constitutes the distinctive concern of reference group theory. One of the first recognitions of this fact comes from the studies of Merton and Kitt. In their re-analysis of *The American Soldier*, serendipity in the data contributed to the development of three possible frames of reference.

First to be distinguished in the revision of the findings were the attitudes held to be influenced by comparison with the situation of others with whom soldiers were in actual association, in sustained social relations. A second frame of reference implied a base of comparison with those men who were in some pertinent respect of the same status or in the same social category. The third comparison was assumed to be with those

11. Ibid., p. 282.
who were in some particular respect of different status or in a different social category. 12

Explanation of the differences in these three frames of reference led Merton to explore two major modifications of the initial reference group hypothesis. Initially, research led him to infer the presence of non-membership groups as significant frames of reference. Subsequently he identified the importance of multiple reference group perspectives in determining the impact on behavior of any single group. The reference groups varied depending on the particular type of behavior or attitude in question.

This development in reference group theory provides a setting for the general (revised) hypothesis with which Merton concludes: "Some similarity in status attributes [also called social characteristics, norms, and values in this thesis] between the individual and the reference group must be perceived or imagined, in order for comparison to occur at all. Once this minimal similarity obtains, other similarities and differences pertinent to the situation will provide the context for shaping evaluations." 13

Identification of group membership as a basis for significant frames of reference, like the use of social class, represents a particular case of a more general reference group phenomenon. The quality of

12. Ibid., p. 231.
reference groups, as those groups, individuals, or social categories whose norms provide an outlook for determining behavior, lies at the heart of this thesis. Numerous instances of reference behavior are well documented. The existence of reference groups as important referents for social action is now a truism in sociology. Identification of the status attributes of reference groups for high and low achievers is one of the focii for research. Presumably, if reference groups are important for the determination of academic attainment, then there will be significant differences between the social characteristics of reference groups for high and low achievers.

All discussions of reference groups involve some identifiable social category to which an actor is related in some manner and the norms and values shared in that "group." 14 The most recent development in the theory centers around the different modes of social influence which are lumped together in the single concept of reference group. Because we are studying a more general phenomenon, no attempt has been made to sort out the possible variations in modes of influence. The Mertonian concepts of "normative" and "comparative" reference groups are both included in the

14. Not only may actual individual and social categories serve as points of reference, but imaginary and constructed reference groups are also used. Elizabeth Bott feels that social class, for example, is a constructed reference group. Her researches in Great Britain support her contention that social class is an audience to which people project their own respective expectations and of which they do not, in fact, possess accurate knowledge.
operational definition. Reference group theory, with its stress on the fact that individual actions are strongly influenced by reference group norms, avoids the pitfalls of supposing that people carry out their obligations because these are "functional" for the society. At the same time, it refers to behaviors which are neither compromises between specific role alternatives nor defined by concrete behavioral expectations. Because neither functionality for the society nor prescription of specific behavioral alternatives is applicable for this situation, then social action is limited primarily by the normative structure of an individual’s frame of reference which may be identified by its structural counterpart, the reference group.16

Norms can be of two types, as described above. Thus, reference groups in which the relevant norms are located, may be said to exert two forms of influence on behavior. The importance of these norms does not exclude, however, the presence of structure in the determination of

15. For further elaborations on the modes of influence see: Robert K. Merton, Social Theory and Social Structure; Tamotsu Shibutani, "Reference Groups as Perspectives"; Harold H. Kelley, "Two Functions of Reference Groups"; and Ralph H. Turner, "Role Taking, Role Standpoint, and Reference Group Behavior."

16. S. N. Eisenstadt has pointed out that in all the discussion about how reference groups are chosen a very basic assumption has been slighted—conformity to the norms of the group whose perspective has been assumed. In recognition of this he speaks of reference norms as the critical variables for reference "group" behavior. Reification of the norms into structural groups is merely a convenience to permit identification. It should not obscure the importance of the norms themselves.

16a. See pp. 37-8 of this thesis.
achievement behavior in the educational system. In fact, the structure is important in assessment of reference group location. At the same time, the concentration on normative determinants does not preclude the importance of force for limiting behavioral alternatives. Most conforming behavior, however, is dependent on rewards rather than sanctions. The use or threatened use of deprivation is but a small part of social control. The major proposition on which the findings are based is that academic achievement is a function of reference group influences which prescribe the norms delimiting particular forms of academic behavior. If this is true, then variation in social influence will parallel the importance of reference groups and the differences in achieving behavior will be closely related to particular status attributes of these groups which are, in turn, indicative of particular value and normative orientations.

There are two outstanding limitations to this theoretical explanation of the results. The first area of slippage (because the exact relationships between behaviors and norms has never been well described) is in the individual's inference from status attributes to normative structure. The second weakness is in the translation of these various reference norms to achievement behavior. If one can assume, as this we

17. Influence, according to Dahl and Easton, refers to the process whereby others are induced to act in a way they would not otherwise act. Power is a special application of influence in which action is effected through actual or threatened deprivation for non-conformity.
must, that these two processes are constants for all subjects, then we can draw the relationships between status attributes of different reference groups and this particular form of mobility behavior.

Schematically, the problems take this form:

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**Diagram**

The impact of reference groups on educational achievement.
The discussion of reference group theory can be quickly summarized to provide a background for discussion of the literature in the next section of the chapter. There are three major points.

(1) It is evident from the study of social class and other sociological concepts that the basic postulates of reference group theory have long been implicit in sociology. Reference groups appear to be frames of reference held in common by a proportion of individuals within a social category sufficiently large to give rise to definitions of the situation characteristic of that category.\(^\text{18}\)

(2) Reference group theory provides for a "subjective definition" of the environment from which one can proceed to study status similarities (or differences) which become the bases for comparison. While one can study the social sources of reference group orientations, we explore the impact of reference groups on particular forms of behavior instead.\(^\text{19}\)

(3) The most important contribution of the reference group framework is its utility in directing attention to a variety of possible status attributes which are important for assessing the salience of the reference group norms. Implicit in the structural concept of status is a certain normative structure. Reference norms, in turn, influence behavior.

\(^{18}\) Merton, Social Theory and Social Structure, p. 244.

\(^{19}\) The existence of reference groups is assumed, but they are not all equally important. Several measures of salience are utilized for this reason.
One of the aims of reference group theory is to seek out the regularities of social patterning. The normative structures implicit in the status attributes of reference groups are often consistent with social actions when the norms defining approved behavior within the membership group are not.

D. REFERENCE GROUPS FOR EDUCATIONAL BEHAVIORS: A REVIEW OF PAST CONTRIBUTIONS

There is a large body of literature on the functions and possible locations of significant others for the socially mobile. The studies reviewed in this section are selected from much past research and speculation on the location and modes of social influence. Some report merely on the identification of other social phenomena which are related to mobility or academic achievement. Others go more deeply into the content of communication and interaction itself.

One of the most important studies on the location of significant others for academic achievement was conducted by Brookover, Patterson, and Thomas.20 They report responses to two related questions: (1) who are the people who are important in your life? (a general reference group is supposed to be identified here), and (2) who are the people who feel concerned about how well you do in school? As the two tables

below reveal, rank orderings differ for sex and over- and under-achievement. Nevertheless, some general patterns can be observed.

**TABLE I**

Percent Naming at Least One Person in Each Category as "Important"

<table>
<thead>
<tr>
<th>Significant Other</th>
<th>Male over-achiever</th>
<th>Male under-achiever</th>
<th>Female over-achiever</th>
<th>Female under-achiever</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>School personnel</td>
<td>74</td>
<td>37</td>
<td>52</td>
<td>65</td>
<td>62</td>
</tr>
<tr>
<td>Adult relatives</td>
<td>47</td>
<td>43</td>
<td>52</td>
<td>57</td>
<td>50</td>
</tr>
<tr>
<td>Peer relatives</td>
<td>59</td>
<td>48</td>
<td>74</td>
<td>70</td>
<td>63</td>
</tr>
<tr>
<td>Other adults</td>
<td>24</td>
<td>26</td>
<td>10</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Peers</td>
<td>44</td>
<td>43</td>
<td>52</td>
<td>48</td>
<td>47</td>
</tr>
<tr>
<td>Others</td>
<td>18</td>
<td>4</td>
<td>10</td>
<td>00</td>
<td>9</td>
</tr>
</tbody>
</table>

**TABLE II**

Percent Naming at Least One Person in Each Category as "Concerned"

<table>
<thead>
<tr>
<th>Significant Other</th>
<th>Male over-achiever</th>
<th>Male under-achiever</th>
<th>Female over-achiever</th>
<th>Female under-achiever</th>
<th>Total</th>
</tr>
</thead>
<tbody>
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<td>100</td>
<td>94</td>
<td>96</td>
<td>96</td>
</tr>
<tr>
<td>School personnel</td>
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<tr>
<td>Adult relatives</td>
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<td>45</td>
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<td>38</td>
</tr>
<tr>
<td>Peer relatives</td>
<td>26</td>
<td>17</td>
<td>35</td>
<td>17</td>
<td>25</td>
</tr>
<tr>
<td>Other adults</td>
<td>6</td>
<td>00</td>
<td>3</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Peers</td>
<td>18</td>
<td>00</td>
<td>35</td>
<td>22</td>
<td>20</td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
<td>00</td>
<td>00</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>
The study of significant others for the choice of vocation has revealed a similar ordering.  

Three influences have often been studied as sources of mobility aspirations and behaviors. They are the school setting, the family, and social class. The researches reported in the subsequent pages have not been related to the specific phenomenon of social mobility. Neither have they been tied to the reference group theory utilized in the analysis of the data which follows. Nevertheless, their contribution is clear. They illustrate numerous mechanisms of mobility examined in the thesis. Like the descriptive studies of lower class culture and mobility, these researches provide a foundation for my own hypotheses.

D.1. The School and Reference Group Behavior

Three sets of research give evidence of the importance of educational institutions in providing a frame of reference for social action:

The first study, reported by James S. Coleman, is one of several later incorporated into the author's *The Adolescent Society*. Coleman discovered what initially appeared to be shocking results on the

21. Anne Roe, in research cited by Gross (Harvard Educational Review, 1953), has summarized studies of reported influence on vocational choice. Her ordering of importance was as follows: (1) parents, (2) other relatives, (3) friends or other students, (4) teachers, (5) people in the vocation, (6) books and magazines, (7) abilities, (8) school subjects, (9) tried and liked the vocation, and (10) best school marks.

disrepute of academic achievement orientations in American high schools. This observation led him to intensively examine the social demands and constraints of school organization to which adolescents are subject. If the extensive uniformity in findings indicated anything, it was that the structure of the school itself may help to generate norms contradictory to the formal goals of the educational institution. Although he does not apply reference group theory to the problem, Coleman briefly examines those demands and constraints in the school setting which make it analogous to a total institution. This structure functions to exaggerate the importance of the peer reference group and the accompanying pattern of collective response which labels the superior student a "damned average raiser." Here the "organizational" structure of the school contributes to a set of norms which holds down achievements and produces in students conflicting reference group expectations and motivations—be one of the fellows and don't work too hard, or work hard and ignore the group.23

A second group of studies focuses on the school class as a social setting in which one encounters both peer and teacher-student relationships in interaction.24 Wilber Brookover has established a research


24. See Talcott Parsons, "The School Class as a Social System: Some of its Functions in American Society."
design to examine the proposition that the teacher's classroom role in relation to his pupils is a significant part of the learning situation. A quantitative analysis of the data revealed that by using an absolute measure of achievement (the incorporation of history information) those teachers who maintain congenial "democratic" relationships with their children teach significantly less than those who assume more "autocratic" roles. On the other hand, Staines has demonstrated that teachers, through their roles as significant others can alter the self-concept of their students by making positive comments to them as well as creating an atmosphere of greater psychological security. In general, the importance of classroom roles of teachers has been under-estimated as a significant factor in the choice of teachers as a reference group for behavior. This is reflected in the lack of concrete measures for the impact of teacher-reference groups.

The third set of studies centers around the development of student subcultures and their relevance for classroom performance. Mazafer and Carolyn Sherif, in their recent study of high school "gangs," demonstrate the importance of social groups not affiliated with the school as reference points for values and norms related to levels of academic performance in the classroom. Coleman's Adolescent Society documents the importance of peer group cultures within the high school setting of active

25. Also see Neil Gross, "Some Contributions of Sociology to the Field of Education," and Hilda Taba and Deborah Elkins, With Focus on Human Relations.
participant and isolate students. Finally, Ikeda has studied the relative significance of teachers, students, and courses for generating interest and activity in art and music. He gives detailed evidence of the impact of student subcultures and groupings in orienting the student toward and supporting him in such activities. 26

These few inquiries by no means exhaust the writings on the possible locations or functions of reference groups in our educational institutions. They do, however, illustrate both the variety of researches which can be organized by reference group theory, and the importance of adequate recognition for the school-based reference groups for the upwardly mobile in the over-all design.

D.2. The Family: A Central Focus for Reference Group Orientations

Despite the amount of time spent in school and the importance of peer group relationships, the findings of Roe on significant others for choice of occupation and of Brookover (cited above) place the nuclear family and relatives in the position of prime significance as influencers of some important social actions. Preliminary survey of the data collected in this thesis substantiates those claims. While one may speculate on the reasons for this finding, the diffuse and affective relationships between kin would appear to strengthen the emulation of and identification with others characteristic of reference group frameworks.

26. Many other works have bearing on this problem of school influences on mobility attitudes and behaviors. They are included in the bibliography.
One of the principal contributions of Parsons' article on the school as a social class system is his description of the manner in which first adults and then peers become increasingly important as agents of socialization. Coleman also documents the extent to which peers, rather than parents, become important reference figures for high school youth. These findings, combined with those of Jones and others, are interpreted by Sewell as indications that the adolescent period is one in which some childhood habits and roles must be abandoned while new roles appropriate to sex and age must be learned. This general pattern in adolescence was also mentioned in chapter three.

One of the secondary hypotheses of this study is that family and relative reference groups are still more important for academic achievement than peer groups. Despite the acknowledged changes which occur in the social environment of adolescents, much evidence suggests that parental influence remains strong. Richard L. Simpson's research on the alternatives within the hypothesis supports the inclusion of both peers and parents as significant reference groups. Simpson began by testing the hypothesis suggested in the research findings of Kahl, Bordua, and others, that "a working-class boy is relatively likely to

27. See William H. Sewell, "Some Recent Developments in Socialization Theory and Research."


29. Also see Elmo Roper, "College Ambitions and (continued on page 58)
seek advanced education and occupational mobility if his parents urge him to do so, and unlikely to seek mobility if his parents do not exert pressure on him in this direction." Using four groups (mobile and non-mobile, middle and working class boys) he finds that parental advice is a much better predictor of high ambition than is the boy's social class. Then Simpson explored the proposition that "anticipatory socialization into the middle class values by middle class peers at school [for example, heavy participation in organized extracurricular activities] may be the decisive factor." Considering middle and working class boys separately, his findings also give clear support to the "anticipatory socialization" hypothesis that social class of the peer group is predictive of occupational ambition and mobility. Subsequent study of the independent effects of these two factors revealed: (1) that the independent effect of parental influence was significantly greater than that of peer group influence, (2) that there was some, although substantially


less, peer group than parental influence with the latter controlled, and (3) that when both types of influence were either high or low they came close to nullifying (there was no significant difference) the effects of class background on career aspiration. 33

From Simpson's evidence, it is clear that parental influence remains the more significant for this particular measure of mobility aspiration. The relative effects of parental, relative, and peer groups on a particular measure of mobility behavior are reported in the Third Section.


Three factors in the determination of mobility orientations and behavior have been isolated by studies of social class, (1) mobility resources--those qualities and conditions conducive to upward mobility that are either ascribed to or are inherent in the individual, such as economic resources or basic capacities and abilities; (2) mobility skills--learned patterns of behavior and acquired attitudes and values that are instrumental to mobility such as deferred gratification patterns, manners, and modes of communication; and (3) mobility orientation--which refers to aspirational levels within the stratification system that may serve as points of motivation in competition for position in the social

33. For other writings on the relationship of nuclear and extended family units to mobility see the bibliography.
Both this thesis and the studies reviewed below are concentrated on description of the mobility skills and orientation which are attributable to class.

Stephenson studied the class differences (measured by father's occupation) in orientation to mobility and discovered that depending on the kind of orientation discussed, lower class children exhibited behavior both like and unlike that of their middle class counterparts. In asking questions about mobility aspirations, he found the results little affected and inferred that this was a reflection of the general cultural emphasis on high goal orientations. On the other hand, expectations of mobility revealed significant class variations which he attributed to realistic differences in opportunity and life chances. This finding and interpretation was substantiated by research conducted by the author in the summer of 1964 and is consistent with the observations of Hyman Rodman, Reissman and Miller, and others.35

The more basic problem from a reference group perspective is


the assumption that social class is important because it describes a generalized set of value, attitude, and personality orientations which affect mobility. The studies on value orientations of social classes have already been reviewed. Others have intensively studied personality development and child raising as a function of social class, without attempting to relate this specifically to mobility behavior. In this group, among them Rosen, some have attempted to relate social class and other variables to variation in psychological and cultural orientations toward achievement.

Two significant gaps in this literature on social class, as I have noted previously, are made the specific objects for study in this thesis. The first is the relationship between the educational attainment, occupational prestige, and job stability of significant others, and academic achievement. If these factors affect the relationship between social class and mobility, then it should be possible to rank their importance as individual measures. A description of each contribution

36. See other works cited in Chapter II and in the bibliography.


38. For an introduction to the voluminous literature on this subject see Bernard C. Rosen, "Race Ethnicity, and the Achievement Syndrome," and David McClelland, The Achieving Society.
should aid in the formulation of further hypotheses about the social categories used in the choice of reference group orientations for academic achievement and mobility. The second point on which this literature remains weak is the concentration on attitudes. For this population attitudes and opinions are continually in flux. This thesis uses only measures of mobility behavior and asks questions about matters of fact, not opinion. Hopefully these show less variation.

E. SPECIFIC MEASURES

Measures pertinent to the reference group variables in the research fall into three categories: (1) those for identification of reference group salience, (2) those designed to illuminate the structural patterning of reference groups, and (3) those for the identification of status attributes of significant others.

Five measures of salience were used to determine the importance of different reference groups for the individual. No attempt was made to have the students order the individuals' names in order of "importance." This procedure was omitted because of the concentration on easily reproducible factual data, and because the attitudes of adolescents are so frequently changing. Instead several other devices were used. First, the order in which others are listed is considered important. Although earlier researchers have found this method to be an accurate means for ranking the importance of groups, this pattern of recall may be significant only for measurement of reference groups. Secondly, the frequency
of interaction with each person was determined. The theoretical background for this index is obvious. Two measures were used to assess the importance of communication content for reference group salience. One attempts to gather information on the range of subjects discussed with each person on the theory that reference group perspectives involve more general relationships than do role interactions, and that the more general the relationship, the more important it would be to the individual. The other measure of content sought to describe the amount of discussion with each significant other focused specifically on school performance. The hypothesis behind its inclusion was that interaction must be at least tangentially relevant to educational achievement. One does not consult his barber about vocational choice whereas he may consult a teacher or a parent. Finally, a measure of consistency in social characteristics is used to determine the importance of constancy in reference group "expectations" for achievement behavior.

Measures of social patterning were designed to collect data on five different classes of significant others: nuclear and extended family members, peers, school personnel, and other adults. Information was also gathered on the structure of the home situation of each respondent.

Finally, a large battery of questions sought to measure the social characteristics of those who are significant others. A measure of educational attainment is divided into four possible classes for the purposes of data analysis. Occupation was recorded by both a nine-
category classification of occupations and a measure of occupational prestige. "Occupational history" was gathered for each significant other with emphasis placed on the temporal nature of employment, be it full time, seasonal, part-time, or none. An ethnic classification is broken down into white-native, immigrant white, Negro, or Spanish American. Responses in this category, particularly in the decision between immigrant and native white, are the closest in the questionnaire to subjective opinion measures. Yet another series of questions sought information on participation in voluntary associations in an attempt to relate this phenomenon to the distinction between the inactive lower class individual and the hyper-active member of the middle class. Finally, questions on acceptance of social welfare were used to gather information about continuity in the steadiness of employment.

F. SUMMARY

There are three major divisions of this chapter. The first includes the derivation of the reference group perspective as an implicit statement within social class analyses. The second part includes the delimitation and development of the concept, its distinction from role theory, its extension beyond the membership group, and its utility in organizing the literature on school, home, and class contributions to the study of academic achievement. Finally, the specific measures used to identify reference groups are previewed. They could be developed only after an understanding of reference group theory and a review of research on the social influences for academic achievement in this population.
CHAPTER IV

ACADEMIC ACHIEVEMENT

In this chapter we shall discuss the reasoning behind use of academic achievement and its particular measures. In the first chapter we noted that the study of social stratification furnished a theoretical context for understanding the diverse variables of this research. At the same time, it has proved necessary to limit the thesis to a very specific form of mobility behavior--academic achievement. These restrictions were dictated by several specific interests. First, they were necessary to insure a problem of manageable proportions given both the time and resources available. Secondly, because the thesis proposes to measure actual behavior rather than attitudes, it was necessary to find a dependent variable for which there were some comparable behavioral measures. Finally, focus on the school, which keeps records of behavior in a number of different forms, permits study of one of the central institutions for mobility in our society. Such specificity in definition of a particular form of social mobility has the advantages of a narrow study--greater depth of knowledge about a particular behavioral form. On the other hand, there are the minor disadvantages of ignoring other forms and means of vertical mobility. Need for more precise and easily reproducible data on the phenomena of mobility unfortunately requires a sacrifice of the breadth of a more general perspective for the depth of a more narrow view.
A. THE SCHOOL AND ITS GOALS

The stress on achievement, a paramount American value, is one of the major reasons why the educational institutions are a primary avenue for vertical mobility in the United States. Excellence in social activities and academic subjects are highly valued in our schools. Their central themes are the production of winning athletic teams, prize winning musical groups, and the biggest and best of social functions. Any definition of the "institutional goals" of the school as a formal organization must include the emphasis on achievement and competition for excellence among its students.¹ The paramount goals of our educational system are in curricular areas. While extracurricular offerings are important and often receive seemingly more attention than the academic training, they still remain subordinate to the classroom program around which they are built. The diffusion of knowledge is one of the central functions of the academic institutions. In addition, it is the most studied and measured area in which a student can excel. For these reasons it is particularly useful for the behavioral measurement undertaken in this thesis.²

¹ From a macroscopic functional point of view, emphasis on achievement may be subordinate to the more dominant socializing functions of the school. While these are also important for mobility, the emphasis on achievement in the educational institutions is much more critical for explaining its importance as a locus of behavior which may be called that of the "upwardly mobile."

² The academic performance in the high school may appear subsidiary in the eyes of students and parents who devote most(continued on page 67)
Few deny that more than the cognitive ability of academic achievement is important for vertical mobility; yet cognitive ability is but one dimension on which the upwardly mobile may prove their merit. The true extent of its importance would require a larger study of the relationship between actual mobility and the academic performance of the mobiles and non-mobiles. Until such studies are undertaken, emphasis is placed on academic achievement as an important indicator of mobility behavior.

B. MEASURES OF ACADEMIC ACHIEVEMENT

Schools use several indicators of achievement in curricular activities. They may refer proudly to their students as possessing high intelligence, usually meaning some form of I.Q. For others, the percentage of students on the honor roll indicates the importance of grades as evidence of excellence. In professional circles, educators compare scores on nationally administered achievement tests as demonstrations of achievement deserving favorable note. Even good behavior and "citizenship ratings" are sometimes added to prove the educational merit

(continued from page 66) of their energies to work in extracurricular activities of the school. (See Coleman, The Adolescent Society.) But the lack of importance of curricular excellence for upward mobility has yet to be demonstrated. Until it is otherwise demonstrated, we have assumed that the routine business of attending classes, which occupies a significant part of the student's time, is at least as important as the comparatively small amount of time and effort spent on the other activities of the school.
of a school. These various dimensions of educational achievement are all legitimate measures. They all have advantages and limitations. These pros and cons must be weighed to determine their utility as indices of achieving behavior which might have a relationship to social mobility.

Perhaps the most widely accepted (and poorly understood) measure of academic achievement is the battery of tests designed to measure I.Q. Several instruments are extensively used in the public schools, among them the Stanford-Binet, Wisk, and Otis Group measures. The important quality of the I.Q. measures, when used to symbolize academic achievement, is their insensitivity to extensive cumulative change relative to other measures of educational attainment. They are widely used as a means of measuring ability when it is desired to hold that factor constant, because the greater part of intelligence measured by I.Q. appears to derive from heredity and/or early socialization rather than from later learning. The small life-long variation in I.Q. (~15 points) limits its utility as an indicator of accumulated knowledge. This same quality makes it the standard index of educational potential.

3. The Otis group measure, which tends to cluster scores closer to the mean than some other measures, was used to measure I.Q. in this study.

4. Much evidence on the importance of middle class thought patterns and values for performance on I.Q. tests has raised new doubts about the utility of I.Q. measures as "culture free" indicators of educational potential. For a discussion of the class bias of I.Q. and other standardized tests, see Frank Reissman's Culturally Deprived Child. Kenneth Eells, et al., Intelligence and Cultural Differences.
A second technique for measurement of educational attainment is the nationally administered achievement tests. They represent a comparatively recent innovation in educational measurement, and are becoming standard in most school systems. On one hand, they provide the teacher with a measure of subject matter absorbed by the child. On the other hand, they provide the school administrator and guidance counselor with a measure of the child's level of knowledge which is comparable to national norms for children of the same grade placement. These tests have two particular advantages over I.Q. measures as indicators of achievement. First, they are much more sensitive to fluctuations in the child's rate of learning. Secondly, they can be broken down into both specific subject and composite scores, a feature which permits tracing accumulated knowledge in a much more detailed manner than was previously possible.5

The third technique used for evaluation of a student's achievement is the grading of his classroom work. More than either of the other two measures, this one reflects the many factors (besides absorption of factual knowledge) which contribute to "success" according to more general school goals. At the same time, grades also minimize the fluctuations due to testing error because they are recorded more frequently than either of the measures described above. Unlike I.Q. and Achievement

5. The achievement test scores used in the study are Iowa Basic Skills Test composite scores administered in June, 1964.
test scores, grades are distributed at best according to citywide curves. Even though this procedure may be in effect, differences in the school populations and individual teacher variations in the procedures for evaluation minimize the validity of these measures outside the small comparison group of the particular classroom or school.

Each measure described above has both limitations and assets. Obviously, some combination of these measures might be devised to build both a flexible and reliable measure of achievement. Two additional considerations are timely for the development of a new scale. The first is a distinction drawn by Getzels and Jackson between creativity and intelligence. The second is a contribution by Brookover and others toward the development of an instrument for assessment of achievement as related to expected attainment.

Creativity and Intelligence, the source for the Getzels and Jackson argument, cogently points out that there are at least two distinguishable modes of cognition. Those exhibiting one mode of cognition tend toward retaining the known, learning the predetermined, and conserving what is. Intellectual acquisitiveness and conformity are the characteristics of this style of thought. The second pattern of cognition, in contrast, tends toward revising the known, exploring the undetermined, and constructing what might be. Intellectual inventiveness,

6. "Cognition may be defined as the process whereby an organism becomes aware or obtains knowledge of an object, a quality, or an idea." Jacob W. Getzels and Philip W. Jackson, Creativity and Intelligence (New York: John Wiley & Sons, Inc., 1962).
divergent thinking, and innovation are the characteristics of this pattern. The distinction, while interesting in itself, is particularly critical for evaluation of standard I.Q. measures.

Among the important observations drawn by the authors was the conclusion that the standard intelligence tests (including those mentioned above) slight the latter mode of cognition. Using a measure of creativity which they developed, the authors have discovered that the top 20% in a high creativity group scored below the top 20% of high intelligence on the I.Q. measure, and that the top 20% in the high intelligence group scored below the top 20% of high creativity on the creativity measure. A second conclusion, also relevant to the thesis, comes from evidence of test scores of the two groups on standard achievement tests. On these measures, both the high I.Q. and high creativity students scored significantly higher than the population from which the sample was drawn (and this despite a 23 point difference in the mean I.Q.'s of the two populations).

Because cognitive achievement already represents a significant specification (if not a modification) of the general academic achievement variable proposed for study, it would appear worthwhile to place greater emphasis on the findings of the standardized achievement test than on the I.Q. scales. The former measure, from evidence of Getzels and Jackson, would represent a more generalized form of cognitive behavior than the latter.

The final series of modifications in the operational measurement
of academic achievement is suggested by recent research of Wilbur Brookover and associates. Their measurement techniques go beyond the standard measures of I.Q., achievement tests, and grade point averages. According to the authors, these measures provide no way of understanding the student's performance in reference to how well he might be expected to perform. A school having students of I.Q.'s above 120, for example, would exhibit less achievement of its goals if its students were continually clustered close to the mean on standard achievement tests, than would a school exhibiting a similar grouping whose students range in I.Q. from 90 to 100. In the former school students would "not be working up to their potential," while in the latter school the students would be working "more nearly up to their potential." If the goal of the school's curricular program is to increase achievement in relation to initial potential, then a measure of achievement taking this dimension into account is helpful in evaluating success of both the institution's fulfillment of its goals, and of the school as a channel of mobility.7

7. The relationship between high achievement in the school setting and outside remains undetermined. It is expected, however, that those who exhibit a pattern of achievement in one area will also do so in the other. High achievement as a psychological phenomena has received extensive attention. See David McClelland, The Achieving Society. Bernard Rosen has dealt extensively with the social determinants of the "achievement syndrome."
Brookover, Patterson, and Thomas developed a procedure for distinguishing four groups with differences in level of achievement in relation to initial potential. Rather than finding that all persons achieve in proportion to their ability (here measured by I.Q.), the authors distinguish four distinct ratings of achievement: (1) over achievers (high achievement and low I.Q.); (2) high achievers (high achievement and high I.Q.); (3) underachievers (high I.Q. and low achievement); and low achievers (low I.Q. and low achievement). Graphically these groups bear this relationship to each other:

![Figure I](a GPA x I.Q. matrix)
The authors have limited their perceptive contribution to this one basic form. They plot only grade point averages against I.Q. scores, neglecting some of the other measures of academic achievement which might be equally useful. It may be recalled from discussion in the preceding pages that standard achievement tests provide a more reliable and rationally comparable means for measuring achievement. It would appear, for this reason, to be an important modification of the original design to plot I.Q. against achievement test scores rather than grade point averages. Graphically, such a model would look like this:

![Iowa x I.Q. matrix](image-url)
A third form based on the Brookover, et al. model can be introduced to take account of the particular problem with the I.Q. measure suggested by the research of Getzels and Jackson. This matrix merely uses standard achievement test scores, rather than I.Q. measures, and plots them against grade point averages. Compared with the form used by Brookover, Patterson, and Thomas, the design has the weakness of using a comparatively flexible measure, the achievement test, instead of the much less flexible I.Q. test as the basic indicator of potential. Nevertheless, compared with the form presented in Figure I, it might provide a corrective factor which takes into account the second mode of cognition, creativity. Graphically, this third form takes this shape:

<table>
<thead>
<tr>
<th>Grade Point Average</th>
<th>Iowa Basic Skills Test (composite)</th>
</tr>
</thead>
<tbody>
<tr>
<td>low</td>
<td>low achievers</td>
</tr>
<tr>
<td>high</td>
<td>high achievers</td>
</tr>
<tr>
<td></td>
<td>standard error of measurement of GPA</td>
</tr>
<tr>
<td>low</td>
<td>low achievers</td>
</tr>
<tr>
<td>high</td>
<td>high achievers</td>
</tr>
</tbody>
</table>

Figure III

\[ \text{GPA} \times \text{Iowa matrix} \]
The measures of academic achievement utilized for the present study include six specific forms: Otis group I.Q. measures, Iowa Basic Skills Test (composite) scores, grade point averages, one standard Brookover matrix, and two modified Brookover matrices. Each of the measures will be related to the independent variables in an effort to determine their relative utility and to provide numerous points for the comparison of the results of these researches with those of others using one or more of these scales as indicators of academic achievement.
CHAPTER V
DESIGN AND MAJOR HYPOTHESES

A. DESIGN

The theoretical justification for choice of variables and their interdependence has been presented in the foregoing chapters. Knowledge of the research design is essential for assessing the validity of the data collection procedures used, the relationship of the study to the more generic phenomena it represents or illustrates, and the causal or descriptive form of the conclusions. Discussion of the design follows this functional organization.

A.1. Data Collection

One important emphasis of this study has been on the measurement of behaviors rather than attitudes. The relationship between the two is complex, dependent on both the subject and the external conditions. While most studies of reference group behavior have sampled attitudes and then traced them to reference groups, we have measured concrete behaviors. Attitudes, especially aspirations and plans for mobility, have a tendency never to materialize in mobility behavior which they were intended to forecast. The divergence between hopes for mobility and expectations of mobility studied by Richard Stephenson is illustrative of this problem. \(^1\) The author's own research has revealed similar differences

\(^1\) Richard M. Stephenson, "Mobility Orientation and Stratification of 1000 ninth graders," *American Sociological Review*, 22 (1957), 204-211.
depending on which attitudes are measured. A second reason for assessment of behaviors has particular relevance for this population. Attitudes change readily, especially among adolescents. Concrete thinking and planning about the future is conspicuously absent from their perspective.2 Because attitudes about future mobility vary widely, they are poor indicators of the stable and consistent mobility orientation which this thesis seeks to measure.

Behavior, we stated in the previous chapter, is also valuable because it is a reliably collected form of data. Factual information does not vary significantly with the form of questions or the variation in location. The resulting verifiability of the information gathered is an essential requisite for empirical science. The behavioral data used in this thesis is especially valuable. Because it is part of school records it is readily accessible for legitimate sociological inquiry. This greatly minimizes the costs of data collection. In addition to its archival qualities, the data gathered in the educational institutions are readily comparable with similar or identical measures employed throughout the nation's schools.

Most of the data on the independent variable (reference groups) were gathered by questionnaire. Although difficulties of the questionnaire construction are too obvious to enumerate here, several important

steps were included in construction of the final schedule. Because this thesis focuses on a small sector of the research done during the summer of 1964, the questionnaire represents an expansion and a refinement of several earlier instruments. In addition, several informal and one formal pre-test were used prior to selection of the present measures. Length and content were of greatest importance during the refinement process. The number of questions and their form had to be limited so that seventh graders of average ability could complete the questionnaire in a regular 40-45 minute class period. In the final schedule, between 50 and 60 seconds were allowed for completion of each question. The content was also considerably limited. Stripped to the barest minimum it includes measures for social characteristics and salience of six significant others.3

The use of a standardized IBM 503 answer sheet (which permits direct transfer of data to cards by use of an IBM 1230, if the machine operates correctly) was another important factor in the data gathering. Many seventh graders are unable to follow simple instructions and for this reason much time was devoted to the reduction of instructions and data recording to its most basic components. Because the answer sheet is very similar to forms used for much educational testing, it greatly facilitated the collection of accurate responses in a minimum of time.4

3. See Appendix I.
4. See Appendix II.
The initial decision to use a paper and pencil instrument for data collection was influenced by its efficiency for gathering large amounts of simple information at minimal cost. The inflexibility of the closed end responses and the specific questions was overcome to some extent by questions asked of the researcher during administration periods. These questions greatly facilitated its adaptability to the individual students. The questions on the schedule itself were also phrased with the particular population in mind. Presumably past testing and frequent contact with comparable populations made it possible to adapt the phrasing of questions to the cognitive style of the subjects.

The setting in which the questionnaire was administered is also important for assessment of the findings. The ten waves of the instrument were given in the regular classroom settings. Although behavioral data are not particularly subject to variation because of the environment for testing, several precautions were exercised to minimize differences between settings and to eliminate biasing influences. In all cases the teacher was absent from the room during the giving of instructions and much of the administration itself. Both explanations given to student questions and the general instructions were given by the researcher. During each administration, rapport and interest in the questionnaire were excellent, attributable in part to Oberlin's favorable image in the community. In both junior high schools, administration and teacher cooperation contributed to the favorable image. Although the questionnaire was administered on two different days, no instances of contamination
were found, although my presence in the school for two successive days occasioned several questions from non-subjects.

A.2. External Validity

At no point in this study has there been an attempt to measure the external validity of the conclusions. The population selected is not a sample of a larger universe in any statistical sense. The characteristics which aid and limit its utility as a case study are discussed at length in the description of the population in Chapter VI. The external validity of the conclusions will rest on the similarity between this and other populations, and this, as in any study, must be carefully considered for a comparison. 5

A.3. Causal or Descriptive Conclusions

The experimental design for the study permits only the description of the relationships between the two sets of variables. While it could be argued theoretically that achievement, in any correlations, would most likely be the dependent variable, no methodological or design considerations have been included to support or deny such hypotheses. Because the time allotted for the thesis makes a long-term panel design impossible, this subject was selected because much descriptive study is still needed to show the most rudimentary relationships between the

5. Selection of the top seven of fourteen ability groupings for study, for example, was dictated not by any attempt to have a representative cross sample of the school, but rather by the fact that those below the median were unable to read and complete the questionnaire in the allotted time.
As the major hypotheses indicate, location, social characteristics, and indicators of saliency are of particular interest.

B. SPECIFIC HYPOTHESES

Much of the theory in an exploratory descriptive work like this is included in the selection of variables rather than in the development of explicit empirical propositions about their interrelations. Because we are interested in identification and description, the three major areas of research findings are proposed in the form of null hypotheses. While numerous subsequent hypotheses are developed in analysis of the data, these are primarily serendipitous findings informed by past inquiry in other areas than those explored in the study of reference groups. The three major hypotheses are as follows:

(1) There is no significant difference in the location of significant others for high and low academic achievers, when social characteristics and salience are uncontrolled.

(2) There is no significant difference in the social characteristics of significant others when location and salience are uncontrolled.

(3) There is no significant difference between the measures of salience of significant others when location and social characteristics are uncontrolled.
CHAPTER VI

DESCRIPTION OF THE POPULATION

Because the population studied is not a statistically designed sample, application of our findings to other schools requires great caution.

The questionnaire was administered to students from Hawthorne and Whittier Junior High Schools in Lorain, Ohio. Both schools are in stable lower class neighborhoods which are racially and ethnically heterogeneous. The following table gives this distribution for the population.¹

<table>
<thead>
<tr>
<th></th>
<th>father N=295</th>
<th>mother N=306</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negro American</td>
<td>8.1%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Native white American</td>
<td>69.4</td>
<td>71.5</td>
</tr>
<tr>
<td>Immigrant white American</td>
<td>8.1</td>
<td>7.5</td>
</tr>
<tr>
<td>Spanish American</td>
<td>9.8</td>
<td>10.4</td>
</tr>
<tr>
<td>Other or do not know</td>
<td>4.4</td>
<td>3.2</td>
</tr>
</tbody>
</table>

¹. It should be recalled that the sample was from the top third ability grouping. All inferences about the characteristics of the neighborhood should be interpreted with this in mind.
The correlate of this mixture of newly immigrant and several racial groups is the educational and occupational background of the parents of the respondents. The following table illustrates the quality of education.

Table 2

Distribution of educational background for fathers and mothers of respondents

<table>
<thead>
<tr>
<th></th>
<th>father</th>
<th>mother</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=281</td>
<td>N-295</td>
</tr>
<tr>
<td>Grade school, junior high or some high school</td>
<td>43.4%</td>
<td>40.0%</td>
</tr>
<tr>
<td>Graduated from high school</td>
<td>35.9</td>
<td>46.4</td>
</tr>
<tr>
<td>Attended business school, trade school or technical school</td>
<td>9.6</td>
<td>6.1</td>
</tr>
<tr>
<td>Attended college or junior college</td>
<td>8.8</td>
<td>4.7</td>
</tr>
<tr>
<td>Went to more school after college</td>
<td>2.1</td>
<td>2.7</td>
</tr>
</tbody>
</table>

One of the most important sociological variables for description of the class structure of the population is the occupational distribution of breadwinners in families of the respondents. The following table gives the distribution by occupational group. The relatively low N, in comparison with the total population, can be explained by frequent lack of sufficient knowledge about the content of father's or mother's

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2. Educational data have been obtained for both father and mother of respondents. The size of the N is reduced because several students were not certain of how much school their parents had completed.
ob to permit classification. The high concentration of craftsmen, fore-
men, etc.; laborers, and operatives for this population may result from
domination of the labor market by large manufacturing firms.

Table 3

Occupational Distribution of Breadwinners

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clerical and kindred workers</td>
<td>4.4%</td>
</tr>
<tr>
<td>Craftsmen, foremen, and kindred workers</td>
<td>32.9%</td>
</tr>
<tr>
<td>Retired or not working</td>
<td>0.8%</td>
</tr>
<tr>
<td>Laborers</td>
<td>35.3%</td>
</tr>
<tr>
<td>Managers, officials, proprietors</td>
<td>4.0%</td>
</tr>
<tr>
<td>Operatives and kindred workers</td>
<td>11.3%</td>
</tr>
<tr>
<td>Private household workers</td>
<td>0.0%</td>
</tr>
<tr>
<td>Professional, technical, and kindred workers</td>
<td>8.1%</td>
</tr>
<tr>
<td>Sales workers</td>
<td>2.8%</td>
</tr>
</tbody>
</table>

N = 246

Two additional indices were used to assess the occupational
structure of the community. Steadiness of employment is one of these
measures. Again, the domination of major industry may make these re-
sults peculiar for a stable lower class population.
Table 4

Steadiness of work of breadwinner

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Works full time</td>
<td>86.8%</td>
</tr>
<tr>
<td>Works part time</td>
<td>5.9</td>
</tr>
<tr>
<td>Has seasonal work</td>
<td>.9</td>
</tr>
<tr>
<td>Out of work, looking for job</td>
<td>3.3</td>
</tr>
<tr>
<td>Out of work</td>
<td>0.0</td>
</tr>
</tbody>
</table>

N = 305

The placement of the breadwinner in the family is also an important variable for determination of the stable lower class life style. As Table 5 shows, most subjects have stable male models who are the principal contributors to household finances.

Table 5

Person in the family who has earned most of the money to pay the bills

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Father or step-father</td>
<td>85.9%</td>
</tr>
<tr>
<td>Mother or step-mother</td>
<td>5.2</td>
</tr>
<tr>
<td>Both parents equally</td>
<td>8.4</td>
</tr>
<tr>
<td>Someone else</td>
<td>.1</td>
</tr>
</tbody>
</table>

N = 306

The data given in the previous table are also important for understanding the family structure of the population. While steadiness of work and presence of father or step-father as breadwinner definitely contribute to family stability, the incidence of broken homes was also
Measures of frequency of interaction with parents reveal only minor differences in frequency of contact and discussion about school. (See Tables 8 and 9.) There is, however, a significant difference (.005 level) between the extensiveness of communication with mother and father. (See Table 10.)
Table 8
Frequency of interaction with parents

<table>
<thead>
<tr>
<th></th>
<th>mother N = 306</th>
<th>father N = 292</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once a day or more often</td>
<td>93.7%</td>
<td>88.3%</td>
</tr>
<tr>
<td>3 - 4 times a week</td>
<td>5.5</td>
<td>6.5</td>
</tr>
<tr>
<td>About once a week</td>
<td>0.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Less than once a week</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Table 9
Frequency of discussion about school with parents

<table>
<thead>
<tr>
<th></th>
<th>mother N = 605</th>
<th>father N = 292</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once a week or more</td>
<td>31.8%</td>
<td>24.3%</td>
</tr>
<tr>
<td>Once every two weeks</td>
<td>23.2</td>
<td>17.8</td>
</tr>
<tr>
<td>Once a month</td>
<td>23.2</td>
<td>24.3</td>
</tr>
<tr>
<td>Less than once a month or never</td>
<td>20.9</td>
<td>32.8</td>
</tr>
</tbody>
</table>

Table 10
How many different things talked about with parents*

<table>
<thead>
<tr>
<th></th>
<th>mother N = 306</th>
<th>father N = 292</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost everything I think about</td>
<td>62.4%</td>
<td>40.4%</td>
</tr>
<tr>
<td>Some things</td>
<td>30.7</td>
<td>44.1</td>
</tr>
<tr>
<td>Only a few things</td>
<td>6.8</td>
<td>15.0</td>
</tr>
</tbody>
</table>

* Significant difference .005 level
The final index employed for description of the population ranks membership in voluntary associations. The measure is used as another rough indicator of the class level of the subjects. Like the other variables, participation in voluntary groups indicates a stable lower class population. (See Table 11.)

Table 11

Participation in voluntary associations

<table>
<thead>
<tr>
<th></th>
<th>Mother N = 293</th>
<th>Father N = 285</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belong to no groups</td>
<td>39.9%</td>
<td>41.0%</td>
</tr>
<tr>
<td>Belongs to one group</td>
<td>25.9</td>
<td>30.5</td>
</tr>
<tr>
<td>Belongs to two or three groups (usually labor, fraternal, veterans, etc.)</td>
<td>33.1</td>
<td>26.3</td>
</tr>
<tr>
<td>Belongs to three or four groups (usually school, business, charitable, church)</td>
<td>1.0</td>
<td>2.1</td>
</tr>
</tbody>
</table>

A final characteristic of the population is directly relevant to the achievement behavior used as an indicator of mobility in the remainder of the thesis. Because the results reported here have been evaluated on the basis of Form I of the Brookover matrix (I.Q. x GPA), Table 12 summarizes the distribution of achievement using this measure.


4. This sex breakdown is used throughout the discussion of the findings.
Tables 13 and 14 give the breakdown by grade point averages and I.Q. scores.

Table 12

Breakdown for Brookover matrix I, for men and women

<table>
<thead>
<tr>
<th></th>
<th>men N = 130</th>
<th>women N = 173</th>
</tr>
</thead>
<tbody>
<tr>
<td>High achievement</td>
<td>33.1%</td>
<td>39.3%</td>
</tr>
<tr>
<td>Over achievement</td>
<td>24.6</td>
<td>18.5</td>
</tr>
<tr>
<td>Low achievement</td>
<td>30.0</td>
<td>35.3</td>
</tr>
<tr>
<td>Under achievement</td>
<td>12.3</td>
<td>6.9</td>
</tr>
</tbody>
</table>

Table 13

Distribution of grades

<table>
<thead>
<tr>
<th></th>
<th>men</th>
<th>women</th>
</tr>
</thead>
<tbody>
<tr>
<td>High grade point average*</td>
<td>21.7%</td>
<td>36.5%</td>
</tr>
<tr>
<td>Low grade point average</td>
<td>13.5</td>
<td>25.3</td>
</tr>
</tbody>
</table>

\* High and low GPA represent division of population at closest class interval to the mean.

Table 14

Distribution of I.Q. scores

<table>
<thead>
<tr>
<th></th>
<th>men</th>
<th>women</th>
</tr>
</thead>
<tbody>
<tr>
<td>High I.Q. scores*</td>
<td>19.5%</td>
<td>26.4%</td>
</tr>
<tr>
<td>Low I.Q. scores</td>
<td>23.4</td>
<td>30.7</td>
</tr>
</tbody>
</table>

\* Again, the population was divided at the class interval closest to the mean I.Q.
The tabular summaries of several social characteristics of the subjects and their families support the initial statement about a stable lower class population. Although the students were selected from culturally deprived neighborhoods in Lorain, the use of only the top third of the students from each school has selected out only the most stable elements from each universe. From this population one can expect significant inter-generational mobility into the middle class, for within these families are both the means and the potential aspirations for vertical movement in the class structure.

5. See S. M. Miller, "The American Lower Classes: A Typological Approach."
One of the major null hypotheses stated in Chapter V referred to the location of significant others in the environment. The whole distribution of reference groups is significantly different from what one would expect by chance, making it possible to reject the null hypothesis at a .005 level for both boys and girls. This, however, masks some of the more important relationships which the data reveal.

Each subject, it will be recalled, was asked to name four significant others in addition to his parents. These persons were then classified into five groups: family members (excluding parents), other relatives, school personnel, other adults, and peers. The graphs used subsequently in this chapter illustrate the range of choices. The graphs are arranged in five pairs (one for boys and one for girls in each pair) each of which illustrates the percentage choosing people in that particular location as significant others. The sets follow the order given above.

Two interesting variations in the selection of significant others are revealed by these graphs. Initially, one is struck by several differences in weighting of various significant others which are common

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1. See Appendix III, Table 1, for the distribution of the choices and indicators of significance.
to all graphs. Secondly, the patterns vary, depending on the rank position of the person selected. Several specific hypotheses on these differences are discussed in the latter portion of this chapter.

Not all distributions permit us to reject the null hypothesis. In the selection of others in the immediate family\(^2\) we cannot reject the \(H_0\) that the distribution is what we might expect by chance. Graphs I and II illustrate variations in the percentages of the four classes of achievers\(^3\) choosing family members as significant others. There are separate graphs for boys and girls.\(^4\)

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2. The category of family includes natural and step-siblings and brother-or sister-in-laws.

3. Graphs I - X all give the percentages of those choosing significant others in this location. A standard code will be used for all graphs in which Group 1 = high achievers, Group 2 = over achievers, Group 3 = low achievers, and Group 4 = under achievers.

4. The different lines in Graphs I - X represent the percent of those selected as the first, second, third, and fourth significant other, respectively. The "X" line refers to the mean percentage of all four choices.
Graph I

Percent of Girls Choosing
Immediate Family as Significant Others
Graph I

Percent of Girls Choosing Immediate Family as Significant Others

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Graph I

Percent of Girls Choosing Immediate Family Members as Significant Others
The most significant rejection of the null hypothesis occurs in the distribution of the percent naming relatives as significant others. For both boys and girls the $H_0$ can be rejected at a .01 level of significance. We can conclude that the observed results are probably significant.

5. The category of relatives includes many potential significant others. Specifically, it includes grandparents, uncles and aunts, and cousins on both mother's and father's sides of the family.
and that the distribution is probably not what can be expected to occur by chance. Although the graphs do not reveal a high correlation between achievement and choice of relatives as significant others, it is possible to conclude that for high achievers and over achievers (both boys and girls) relatives are a more important reference group than they are for low achievers and under achievers.

Graph III

Percent of Girls Choosing Relatives as Significant Others
The importance of school personnel varies with sex as well as level of achievement. For the girls, the chi square is not large enough to permit rejection of the null hypothesis that the findings could have occurred by chance. For the boys, however, the $H_0$ can be rejected at a .05 level of significance, indicating that chance would probably not account for the variation which occurs between different levels of achievement in the population. Again, study of the graphs (VI and VII)
reveals differences in the importance of school personnel for the four
groups of achievers. The lowest and highest percentages of significant
others in this group are found in the high and under-achieving groups,
respectively. Certainly further investigation, in which other variables
are controlled, might clarify the relationship.

Graph V

Percent of Girls Choosing School
Personnel as Significant Others
Very few conclusions can be drawn from the simple information on the importance of significant others among non-relative and non-school personnel adults. In view of the wide range possible in the social characteristics of these other adults (includes, for example, both educated clergy and unemployed neighbors), it is not surprising that the findings indicate no clear trends. For this category, more than any of
the others, information on the social characteristics of significant others is needed before any patterning is revealed.

Graph VII

Percent of Girls Choosing Other Adults as Significant Others
The probable significance of the variation in peers selected as significant others can be established for girls but not for boys. The $H_0$ for the girls can be rejected at a .05 level of significance. For girls, there is clearly a negative correlation between percent of significant others who are peers and high or over achievement. For boys, the evidence tends toward similar conclusions, but is not as clear cut.
Conclusions about this variable, like those about others, will be greatly clarified by controlling various social characteristics.

Graph IX

Percent of Girls Choosing Peers as Significant Others
Very little has been said about the variance in the percentage of significant others in each of the five categories. Each graph has both the percentage of significant others in that category for each potential significant other and a line representing the mean variation. In almost every graph, the variance between choices of high- and low-achievers is less than the spread between the choices of either high or
achievers. Further study on this difference could follow two alternative hypotheses. First, it is possible that there is much more constancy in the environment of high and low achievers than in that of their over and under achieving counterparts. They may exhibit very stable constellations of significant others across the total population. In contrast, the over and under achievers may either exhibit very unstable sets of significant others, or else the presentation of the data in this form may obscure several modal patterns within these groups which would be clarified by introduction of the additional variable of social characteristics of the individuals, e.g., racial or ethnic origin, educational level of parents, etc. A second hypothesis for exploration is that the social characteristics of those in the larger categories of significant others may vary widely for over and under achievers, while it remains stable for high and low achievers. This too can be explored with the data which are reported in later chapters. Both these hypotheses are stated within the context of the general reference group theory used for analysis.

If the analysis of locational influences contributes nothing more, it does show the relative importance of various potential locations of significant others for achievement in this population. The following graph (XI) provides a summary of the location of significant others for different groups of achievers. For girls, family and relative reference groups are important for the high and over achievers, while school personnel and peer reference groups are more important for low and under
achievers. For the boys, one can conclude with surety only that family and relative reference groups are more important for high and over achievers than for low or under achievers.

Graph XI

Relative Importance of Significant Others Chosen by Boys and Girls
The findings on location of significant others can be related specifically to the findings of two other researchers. Brookover, Patterson, and Thomas found significant differences between the location of significant others of over and under achievers. By using the same measure of achieving behavior (an I.Q. x GPA matrix) and the highest percent naming a person in the category for any of four significant others, the data of this thesis reveal a slightly different ranking than that of Brookover and his associates who asked about "people who are important in your life." 

6. See Chapter II, Table I.

7. See Appendix III, Table II.
Graph XII

Relative Weightings of Reference Group Locations: Brookover and Thesis Over Achievers
Graph XIII

Relative Weightings of Reference
Group Locations: Brookover and Thesis
Under Achievers

Another secondary hypothesis which can be evaluated is that explored by Simpson on the relative importance of parents and peers for mobility aspirations. For mobility behavior, which includes both high and low achievement, the importance of peers decreases as mobility behavior decreases.
By using grade point averages, rather than the Brookover model for achievement, we find a significant relationship between high and low GPA and the percentage of significant others in the peer group, especially for girls.
Table I

<table>
<thead>
<tr>
<th></th>
<th>Girls</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High GPA</td>
<td></td>
<td>Low GPA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>48.4</td>
<td></td>
<td>78.1*</td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>58.5</td>
<td></td>
<td>61.7</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at a .01 level

The full benefit of the data collected on the location of significant others depends on much more extensive analysis. While the initial null hypothesis, that distribution of locations of significant others for the population grouped by level of achievement is what one would expect by chance, has been rejected, much more can clearly be said about the relationship of location to academic achievement.
CHAPTER VIII
THE STATUS ATTRIBUTES OF SIGNIFICANT OTHERS FOR ACADEMIC ACHIEVEMENT

Ten different status attributes of significant others are considered in this chapter. Two of these, location of the breadwinner and family structure, apply only to the family of the subject. Five additional attributes are applicable to both parents and the others who were named by the respondents. They include occupation, educational background, job continuity, employment duration, participation in voluntary groups, and racial and ethnic background. A final two variables, age and sex, are used only for the four others named in addition to the parents. Each status characteristic will be considered briefly, in the order given above. In addition to graphs showing the relationships of these variables to different levels of achievement, several more specific hypotheses suggested by the arrangement of the data are explored.

The following two graphs picture the relationships between the location of the breadwinner in the family structure and educational achievement.¹

In these two graphs, I = father is breadwinner, II = mother is breadwinner, III = both parents contribute equally to family income, IV = someone other than parents provides family income.
GRAPH I

The Placement of the Breadwinner in the Family Structure: For Girls
Graph II

The Placement of the Breadwinner in the Family Structure: For Boys

While there is not a significant difference\(^2\) between the choices of the four groups, such that we can reject the null hypothesis that the differences could probably occur by chance, the direct relationship between the high percent of families with both

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2. Chi Square values and tables of distribution of choices are included in Appendix IV.
parents working and low achievement is particularly striking. The difference for girls is not significant, while for boys, the chi square is greater than that for a .05 level of significance. Further correlation measures will establish the exact relationship between the two variables.

Although the distribution of family structures is out of the range which one would probably expect to find by chance, there appears to be a close parallel between the place of the father in the family for all groups of achievers. The variation is even smaller for mothers.

Graph III

The Identity of the Male Guardian: For Girls

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3. In Graphs III and IV, I = male guardian is true father, II = male guardian is step-father, III = male guardian is some other relation than father, and IV = have no male guardian.
The occupational distribution of both fathers and other reference individuals permits us to reject the major null hypothesis on the distribution of status characteristics at a .005 level. In Graphs V and VI, we find no variations in the percentages of father's occupations in the direction which permit us to make any hypotheses from our knowledge of reference group theory. By using the mean percentage in each
occupational category \( \bar{X} = \frac{X}{4} \) of percents in each occupational category, for four significant others we find a different, but no more informative distribution of occupations (see Graphs VII and VIII). Because of the large percentage of housewives and students among reference groups, the third category dominates the distribution. In none of the categories where there are significant differences (.05 or greater) is there a rank variation as we would expect.

The findings on school completion as a status attribute of reference groups related to academic achievement are somewhat more encouraging. Like the other attributes mentioned above, the distribution of educational attributes for the four categories of achieving behavior is significant at the .005 level, which means that we can reject the initial null hypothesis for this variable and conclude that there is probably a significant relationship between reference groups and academic achievement. A more detailed breakdown reveals several relationships of importance. As Graphs IX and X show, for both men and women there is a significant difference in the expected direction of the percentages.

\[ \text{For the four graphs on the occupational attributes of reference groups, the following categorization of occupations has been used: 1 = clerical and kindred workers, 2 = foremen, craftsmen, and kindred workers, 3 = housewives, students, and retired persons, 4 = laborers, 5 = managers, officials, and proprietors, 6 = operatives and kindred workers, 7 = private household workers, 8 = professional, technical, and kindred workers, and 9 = sales workers.} \]
Graph V

Distribution of Fathers' Occupations: For Girls
Graph VI

Distribution of Fathers' Occupations: For Boys
Graph VII

Distribution of Occupations
Among Significant Others: For Girls
Graph VIII

Distribution of Occupations Among Significant Others: For Boys

[Graph showing distribution of occupations among significant others for boys]
Further hypotheses should be explored to account for the wide fluctuations in educational attainment among significant others as revealed in Graphs IX - XVIII. In particular, it would be worthwhile to explore the implications of the high percent of significant others in the first category (some grade school, junior high school, or high school) for low achievers. Although the exact relationship is not clear, the data do support our expectations. Further explorations may allow us to explain the data, using specific hypotheses derived from reference group theory.

In the following two graphs, roman numerals signify the following levels of school completion: I = grade school or some high school, II = high school graduate, III = attended trade school or technical school, IV = attended college or junior college, V = went to some school after college.

For distributions of percentages for each significant other see Appendix IV, Graphs I - X.
Graph IX

Average Level of School Completion:
For the Significant Others of Girls

Graph IX

5 PERCENT COMPLETING SCHOOL BY ACHIEVEMENT GROUP: FOR WOMEN
Graph X

Average Level of School Completion:
For Significant Others of Boys

Two additional measures were employed in assessment of the occupational attributes described above. By past employment continuity, we refer to the reliance of significant others on various forms of public or private assistance during periods of unemployment. Rather than being interested in the particular forms of assistance, the question was designed to elicit information about job continuity, an important dimension
Two additional measures were employed in assessment of the occupational attributes described above. By past employment continuity, we refer to the reliance of significant others on various forms of public or private assistance during periods of unemployment. Rather than being interested in the particular forms of assistance, the question was designed to elicit information about job continuity, an important dimension
of occupational position. Although there is a significant difference (p < 0.05 level again) between the percent in different achievement groups whose significant others revealed discontinuity in past employment, Graphs XI - XII reveal almost no differences in average percent experiencing employment discontinuity across the four levels of achievement. A high percentage for fathers of underachievers reveals the variable to be of great significance for that group, although the results for the other three groups are mixed.

Graph XI

Percent Experiencing Employment Discontinuity:
For Significant Others of Girls

![Graph XI](image-url)
Graph XII

Percent Experiencing Employment Discontinuity:
For Significant Others of Boys

The third dimension of occupational status explored, to discover its variation from a distribution which could be accounted for by chance, was employment duration. As Graphs XV - XVIII reveal, full employment...
dominates for all categories of achievers. Because housewives and students are both classified as full time workers, the results may be slightly biased, but generally, there is little variation between levels of achievement in this variable.

Graph XV
Duration of Employment for the Fathers of Girls

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7. For Graphs XV - XVIII roman numerals are used to represent the following categories: I = full time, II = part time, III = seasonal, IV = out of work but looking for a job, V = out of work and not looking for employment.
Graph XVI

Duration of Employment for Fathers of Boys

(Graph and labels are not transcribed due to image quality.)
Graph XVII

Average Duration of Employment:
For Significant Others of Girls

[Graph showing average employment duration for different groups: High Achievers, Over, Low, Under. The x-axis represents employment status (full-time, part-time, in school, out of work but looking, out of work). The y-axis represents the percentage of persons for each group.]
Another status attribute examined was participation in voluntary associations. Group membership has been equated with class position, educational level, and income in several studies. The use of the chi square to test the null hypothesis revealed that once again the initial hypothesis on the distribution of status attributes can be rejected at the .005 level. Graphs XIX and XX plot the participation in voluntary
associations for fathers of subjects in the four groups; XXI and XXII for the mothers of subjects, and XXIII and XXIV for the average of all reference individuals. In Graphs XXI and XIII we find interesting distributions in the proportions of mothers and significant others, respectively, in the category of "membership in one group." Further investigation will be needed, however, to reveal the dynamics which contribute to this particular ranking.

Graph XIX

Participation in Voluntary Groups for Fathers of Girls
Graph XX

Participation in Voluntary Groups for Fathers of Boys
Graph XXI

Participation in Voluntary Groups for Mothers of Girls

[Graph showing participation in voluntary groups for mothers of girls, with lines indicating different levels of achievement and a legend for high, over, and low achievers.]
Graph XXII

Participation in Voluntary Groups for Mothers of Boys
Graph XXIII

Average Participation in Voluntary Groups for Significant Others of Girls
The graphs of the last status attribute, racial-ethnic distribution, are the most interesting. While they suggest little to confirm or deny reference group theory in its relationship to academic achievement, they do make a major contribution to understanding the patterns of association which prevail in the community. Graphs XXV and XXVI reveal that choice of significant others within the same racial group is
generally lower for higher achieving Negroes. What is more surprising is the consistency in this pattern, particularly for high and over achieving groups of both men and women.

Graph XXV

Percent Negro Significant Others for Girls
Among native born whites (Graphs XXVII and XXVIII) a similar consistency can be noted, but in this grouping greatest homogeneity occurs for high and over achievers, with lowest homogeneity found among the low achievers.
Graph XXVII

Percent Native Born White Significant Others for Girls
Graph XXVIII
Percent Native Born White
Significant Others for Boys

For the children of foreign born whites (Graphs XXIX and XXX) we find the greatest variance in the ethnic characteristics of significant others.
Graph XXIX

Percent Immigrant White Significant Others for Girls
The most consistent pattern of association is found among the Spanish Americans (Graphs XXXI and XXXII), who are primarily of Puerto Rican descent in this particular community. The pattern of associations here is the reverse of that found among native whites and much more like that of the Negroes. The greatest percentage choosing significant others outside the group is found among high and over achievers. The greatest
homogeneity, which still does not exceed 25% of the significant others, is found in the low achieving group. Given these surprisingly consistent associations for all levels of achievement and the close parallel between Negro and Spanish-American patterns, exploration of the social characteristics associated with each of these might yield significant results of relevance for the general reference group hypothesis.

Graph XXXI

Percent Spanish-American Significant Others for Girls
Two important determinants of social position, age and sex, were used for further identification of the four significant others chosen in addition to the parents. The most interesting fact revealed by the graphs (XXXIII - XXXVI) on the percentage of significant others by sex is the consistency of the girls in the choice of both males and females as compared with the boys. This phenomenon should be explored to
see if there are any particular status characteristics associated with this pattern, for example, close peer groups or strong ties in the matrilinial family.

Graph XXXIII

Percent of Males Among Significant Others: For Girls
Graph XXXIV

Percent of Males Among Significant Others: For Boys
Graph XXXV

Percent of Females Among Significant Others for Girls
Graph XXXVI
Percent of Females Among Significant Others: for Boys

The distribution of age groups (see Graphs XXXVII and XXXVIII) reveals little variation in the average percent in any single age group for either boys or girls. Wide variations in the ages of significant others in the different age categories indicate that further investigation may be necessary before the information on age of significant others
can be used to either support or contradict the central propositions about reference group theory.

Graph XXXVII

Average Ages of Significant Others: For Girls

8. See Appendix IV, Graphs 11 - 18, for evidence of the wide variations.
Graph XXXVIII

Average Ages of Significant Others: For Boys
In general, the distribution of different social characteristics reveals significant variations for different levels of achievement without other status attributes controlled. Despite the fact that the distributions were probably such that they could not be accounted for by race variation, the independent variations of each variable have constrained little to support or deny the central tenets of the reference group framework. Much finer analysis than the use of the chi square will be needed to draw important conclusions about the status attributes of reference groups for academic achievement.
CHAPTER IX
THE SALIENCE OF SIGNIFICANT OTHERS

The distributions on three measures of salience employed all chi square values greater than that needed to reject null hypothesis at a .005 level. Thus we may observe initially that the distribution of salience, broken down by the four levels of achievement, is probably not what one would expect to find by chance.

Graphs I and II illustrate the distributions of average frequency of interaction for the four achievement groups. In each case, very few conclusions can be drawn about the importance of different status attributes for academic achievement because no controls for status attributes have been employed. We can only notice the distributions of frequencies for the four levels of achievement. Of particular interest for further exploration are the distributions for the lowest category of interaction, in which subjects report interaction with the significant other less than once a week.

For Graphs I and II, roman numerals designate different frequencies of interaction. I = once a day or more, II = 3 or 4 times a week, III = once a week, and IV = less than once a week.
Graph I

Average Frequency of Contact and Discussion With Significant Others: For Girls
Graph II

Average Frequency of Contact and Discussion With Significant Others: For Boys

Graphs III and IV give the average frequency of discussion with significant others about how far he wants to go in school. Although very few differences between the four groups of achievers are apparent,

2. The roman numerals designate different frequencies: I = about once a week or more often, II = about once every two weeks, III = about once a month, and IV = less than once a month or never.
clearly, there is variation across the population in the frequency of such discussions. Further exploration of this relatively constant variation at all levels of achievement might provide new insights either about the initial proposition that junior high school students actually talk with others about how far they want to go in school, or about the relevance of social characteristics for determination of frequency of such discussion.

Graph III

Average Frequency of Discussion With Significant Others About Going on in School: For Girls
The distribution of the last measure of salience, diffuseness of interaction with significant others, is illustrated in Graphs V and VI. Although there is a significant variation in the distribution of

3. The roman numerals represent differences in the kinds of things shared with significant others. I = share almost everything I think about with the significant other, II = talk about some things with significant others, and III = talk about only a few things with significant others.
those with whom the subjects share their thoughts, a series of very specific hypotheses would need to be developed before one could adequately explore the differences.

Graph V

Average Diffuseness of Interaction
With Significant Others: For Girls
Quite obviously, very little can be concluded about the salience of significant others without more decisive variations either between levels of achievement or between various measures of salience. As with the other variables which have not appeared significant in this elementary analysis, further work, in which numerous variables are
matched or differentiated, is needed.\textsuperscript{4} This analysis has only demonstrated that there is enough difference in the population to merit further work along these lines.

\textsuperscript{4} See Appendix V.
A. THE THEORY

Significant others are those whose values, norms, and behaviors influence the values, norms, and consequently, the behaviors of the actor. The social determinants of action implied in this definition are central for sociological inquiry. Focus on the "group" as a unit, defined in terms of its normative and structural boundaries, clearly demonstrates this fact. At the same time, however, many actions are not subject to easily traced pressure from group structures or norms. Because this study focuses on roles not bounded by any one social group, the unit of analysis must be more inclusive. Reference group theory provides such a framework. By using the theoretical scheme which has developed around the concept, the sociologist can continue study of the social dimension of human behavior without limiting himself to the study of group processes. Instead, significant others from many groups are considered. The studies of Stouffer and his associates in the American Soldier, of Newcomb in his analysis of attitude formation and maintenance among Bennington College students, and of the Sherifs in their analysis of juvenile gangs, have documented the importance of those outside existing group memberships for defining the normative structure to which an individual's attitudes are related. Because there have been few studies of reference groups for behavior we have begun our theoretical discussion
by stating several of the points of convergence and divergence between the concepts of group and reference group.

The underlying theme of conformity to norms has been studied as part of both group and reference group processes. The assumption of conformity to the normative structure can be illustrated by looking at the concept of social class. Although not strictly a group phenomenon, generalizations about class (which is, alas, but a social category at best) are built on the assumption that peculiar life styles develop at different class levels and represent regular social patterns. If these life styles represent conformity to class specific norms, then social mobility is indicative of "deviance" from these norms or, reciprocally, conformity to other norms.¹ Because there has been little research on whose norms are adopted by the upwardly mobile, reference group theory is particularly apt. Hopefully the use of this concept in the study of social mobility will allow us to identify the individual contacts through which specific norms and techniques for mobility are diffused.

In addition to adopting a concept from social psychology for the analysis, we have extended its application beyond its past usage. Although reference group theory has been used to explain conformity in

¹ "Deviance" is placed in quotes because of ambiguity in the literature between deviance resulting from biologically or socially induced inability to conform, and deviance which is in fact conformity to norms which are at odds with those developed in the larger society or some part thereof. Henceforth, deviance will be used only in the first of the two meanings.
attitudes, it has not been extensively applied to description of the normative context of behavior. Concomitant with the sociological emphasis on groups has been the study of behavior rather than attitudes. Because behaviors are of particular interest in this thesis, we have attempted to use the concept of reference group to explain concrete actions. This extension of the concept of reference group represents a significant modification which will make the findings of this study non-comparable with those of others who have applied it only to the processes of attitude formation.²

The use of this particular theoretical framework has had three functions for the study of significant others for educational achievement of junior high school students. First, reference group theory extends the utility of many principles of social relationships already established for groups. The potential set of significant others is expanded to include any person with whom the students interact. A sociometric description of the cohort's social environment, rather than an enumeration of group memberships provides the starting point for analysis. Secondly, by extending the principle of reference groups to the influence of significant others on the normative context for behavior as well as that for attitude formation, we are able to utilize many of the insights developed in past sociological research (e.g., on stratification) in which the

². For an understanding of the process of influence assumed in this formulation the reader may find it helpful to refer to the schematic diagram presented on page 49.
model of normative reference group has been implicit. Finally, we are able to develop a systemic paradigm for description of educational behavior much broader than is possible in the study of intra-institutional or of group influences on role definition.

B. THE DATA

1. Preliminary Results

The results of the empirical investigation reviewed in Part III include only a preview of the analyses necessary to substantiate the major theoretical propositions. Because of the time and length limitations, it has been necessary to restrict this preliminary review to that necessary for verification of the three null hypotheses stated at the end of chapter five. This presentation has nevertheless, demonstrated that there are at least variations between the profiles of different categories of achievers which are statistically significant and worthy of continued study. In addition to support for the three general statements on the significance of the distributions, the section on the data provides the reader (and the author) with the macroscopic picture of the data necessary for probing later relationships of significance.

In general, the preliminary data review allows us to speak much more conclusively about locational than about other social characteristics of significant others. This is attributable primarily to the fact that no single "status attribute" measure is adequate for definition of the total status of a significant other. The measure of ethnicity is a
a possible exception to the above generalization, for it is indicative of both locational and status variables. The variance on this index demonstrates that patterns of association between status attributes and educational achievement may be in the hypothesized direction.

For each category of achievers, there are important variations in the location of significant others mentioned in different ordinal positions. We find, for example, that parents and other relatives are among the first named by high and over achievers, whereas peers become more prominent among those first mentioned as significant others by low achievers. Several interpretations (which need more substantive verification in further study of the results) might be offered to account for the differences.

Most obviously, we may hypothesize that the ordinal position in which a person is named bears some relationship to the particular function(s) he performs for the actor (in this case the junior high school student). The answers to such a query may also be helpful in understanding the location of particular functions in the family and in the student's larger social network. We hypothesize that these variations result from different types of normative support needed to insure behavioral conformity. Quite possibly, the relationship between the ordinal positions of the significant others who are named reflects differences in a qualitative content of the relationships which is theoretically important for our understanding of academic achievement.

Secondly, findings on variation in relative percentage of
significant others in different locations have interesting theoretical implications. The writings of Brookover and of Simpson (reviewed in Chapter seven) focus on influence as a function of structural positions. The statistically significant differences between percent of significant others in the five structural locations, for those exhibiting different levels of educational achievement, indicates that influence is probably not accounted for by chance alone. These variations in patterning between those exhibiting different levels of achievement are certainly worth continued exploration. The relatively greater importance of school personnel, among low and under achievers, for example, may enable us to make meaningful suggestions for restructuring pupil-teacher interaction. Some modes of interaction may be necessary for development of significant positive influence on educational behaviors. Certainly, these differences in percentage of significant others in various structural locations suggests an area needing further probes.

There is, however, much more information collected than that which identifies locations of significant others. The relationship between status attributes of significant others and different levels of achievement for actors is the central focus of the thesis. Unfortunately, with the data analysis in its present form, we can draw very few conclusions about the correlation between the independent and dependent variables—socio-economic status of significant others and achievement for the students, respectively. The one variable for which we can draw tentative conclusions is that on the ethnic distribution of significant others.
Among Negro and Puerto Rican students there is a striking positive association between high achievement and the percent of significant others in other ethnic groups. Because the percentage of either Negroes or Puerto Ricans of high socio-economic status is significantly lower than the mean in the population, we can infer a positive relationship in the expected direction. High achievement appears to be correlated with the selection of a larger percentage of significant others from ethnic groups having higher socio-economic status. Clearly many refinements are necessary before any conclusions can be positively stated, but the trends indicated in this first breakdown are sufficient bases for this tentative generalization.

2. Areas of Further Analysis

Many of the specific propositions built into the general theoretical design have yet to be subjected to empirical testing. As a preview to this work, we shall outline several procedures for organizing the material, and explain briefly the techniques to be employed in later analysis. Unquestionably, this further study will provide the bulk of the substantive conclusions to be drawn from the data.

Many of the problems which await testing are methodological rather than theoretical. To the extent that one goes beyond the development of abstract theory to (1) the identification of major variables in the real world, and (2) the specification of measurement techniques; an empirical thesis must necessarily cope with substantive methodological problems. The data which are already gathered will permit us to comment
extensively upon the verity of the theorized relationships. At the same time, scientific restraint makes it necessary that we recognize the weaknesses of both reification, and of inferring causal relationships where we find only correlation.

The greatest measurement problems are associated with the "independent variable"—the status attributes of significant others. For this reason considerable effort has been devoted to construction of measures to identify these reference individuals and to determine their relative salience for the subjects. Although these two issues are inextricably united it is worthwhile to abstract the two components and discuss each of them in isolation.

The problem of identification of significant others has become central to the logic of this thesis for several reasons. First, we find very little discussion of the meta-theoretical implications of the measures of significant others used in the past by Newcomb, Sherif, Stouffer, and others. Although there is extensive overlap between the indices utilized by these authors, little published data (besides that included in J. S. Coleman's Adolescent Society) is available on the differences between results which may arise from use of one measure or another. Not even Coleman attempts to explain the possible significance of such variation, or to justify the continued use of one measure as opposed to another. A second issue arises because of the particular use made of the idea of reference group in this thesis. While others have concentrated exclusively upon reference groups for attitudes, the
dependent variables in this study are primarily behavioral. The extent to which the same measures will yield the relevant results for behavior as for attitudes is problematic. This is another area which has been left open for inquiry.

Finally, there are problems at a theoretical level with the validity of an approach which (1) talks about a generalized reference group for many behaviors over extended time periods, and (2) measures only those who at one particular point in time are recognized as generalized significant others. With reference to the first point, some attempt will be made to determine the possibly varied functions of those who are mentioned as generalized significant others. Looking at the second problem, there is very little which can be done to test the comparative significance of those who are manifestly and those who are latently significant. The only technique which will be employed to illuminate the proposition that latency may be important is an attempt to see how much of the total variation in educational achievement is accounted for by these measures of recognized (manifest) significant others.

The problem of saliency of significant others, as the reader can guess, is closely associated with those confronted in identification of significant others. We are not interested in the identification of just any significant other, but only in those who are "salient" for explaining educational achievement of this particular kind. At present there exist no theoretical rationale for preferring one measure over
another. By using a number of different measures of significant others, however, we may employ regression analyses and other statistical techniques to see which measures seem to account for more of the variation in the dependent variables. This procedure represents an attempt to develop methodological tools for the identification of our theoretically significant variables; not an abandonment of theoretical concerns to the determination of statistical technique. At the same time, the matrix of socioeconomic characteristics and measures of functionality of significant others (which must be included in any such regression analysis) are substantive rather than purely methodological in character. Several such problems in definition and understanding of these status attributes are potentially worthy of further examination.

One of the first problems is to discover which of the socioeconomic characteristics measures in the thesis is most relevant for educational achievement. Although we can do no more than establish correlations as a basis for our conclusions, the use of regression analysis techniques will at least show us which properties exhibit correlations and are therefore worthy of further consideration. At the same time, it is necessary to push beyond the simple indicators of socioeconomic status which appear significant and establish new hypotheses suggested by these correlations. Further empirical studies could examine the relevant data and thus increase our understanding of the postulated causal chain.

A second issue of interest is the study of the functions of significant others which may be identified by (1) the type of interaction
with the subject population of junior high school students, and (2) the structure in which they are located. Given the extensive sociological theory and study of the relationship between structure and function, it would be useful to establish some initial propositions on the relationship between position and functional significance of reference groups for academic achievement. For example, we might draw conclusions about the modal role of teachers which will enable us to understand why they are so infrequently mentioned as significant others by high achievers. One should be able to perform the same type of statistical analysis for this set of variables as one would for the measures of socio-economic attributes, and again establish additional hypotheses based on the observed correlations between the two sets of independent variables and academic achievement.

A third question, what proportion of the observed variation in levels of academic achievement can be accounted for by this set of variables, is essential for any research which purports to have practical application. Unfortunately, the answer to this question must await extensive analysis of all possible explanatory principles which can be tested from the data. An extensive analysis of the data will enable us to more clearly define the nuances of what is meant by the influence of significant others—quite obviously a problem which includes many areas of sub-interest. This kind of information is essential before one can develop any notion of the percent of total variability which can be accounted for by this series of probes into the social environment of academic achievement.
C. SUMMARY

Unfortunately, the summation of the material presented in this thesis does not provide the simple, easily identified, and quickly capped closing that the author might hope. The many strands of thought are not yet tied together. Nevertheless, it is possible to identify the major avenues of thought and trace them up to this point.

(1) The use of reference group theory as the major theoretical concept in the thesis has resulted in some interesting modifications in the use of the term. In the first place, it is applied strictly to references for behaviors, rather than attitudes. Secondly, it permits a systematic view of influence not restricted by institutional or group boundaries.

(2) Preliminary results from the data analysis have demonstrated that variations in location of significant others are beyond what one would expect by chance alone and are therefore worth further study. Variations in the relative percentage of significant others in different structural locations for those at different levels of academic achievement suggest that the series of postulates about the relationship of structure and function are a possible avenue for further study. Results obtained on the ethnic background of significant others strongly suggest the feasibility of the hypotheses on the relationship between status attributes and educational achievement.

(3) Several areas for further analysis are also built into the thesis. These include (a) a series of measures of significant others
designed to establish some initial data in the area of measurement, (b) several measures of salience, directed toward the same methodological ends, and (c) a series of three proposals for possible elaboration if the data on more basic propositions yield promising results.
CHAPTER XI
CONCLUSION

One need not be a perfectionist to have feelings of dissatisfaction about his M.A. thesis on a topic which would, even in its greatly reduced final form, take a lifetime of work to develop in satisfying detail. Above all, I find myself explaining what has been produced in the one hundred fifty odd pages of this document as a good beginning, one which certainly merits further investigation in the coming years. At the same time, however, it can be looked upon as one of the most valuable learning experiences to which I have been subjected up until this point and probably until it is time to apply the knowledge gained herein to a similar venture in the form of a Ph.D. dissertation. With these two thoughts running through my mind each time I think about the enterprise, perhaps it is worthwhile to document such concluding thoughts, which are only tangential to the substantive content of the thesis, in the hope that others may truly learn from the experience—and maybe come up with similar conclusions.

Much of the verbiage, and certainly much of the thought behind the thesis, has been involved in staking out an area of interest and then attempting to actually define what within that area is worth studying and what it is possible to study. For better or worse, the deadlines of having to get something down on paper caught me at the point where I was trying to somehow reconcile both my dissatisfaction with the highly
generalized level at which research had been done in this area and a desire to somehow base my observations on what I had gleaned thus far from my exposure to sociological thinking. The concept of reference group at the time, and still to some degree, was particularly intriguing in that it seemed to presuppose little other than that the social environment was somehow important for the determination of people's attitudes. I was not interested in attitudes, because they are generally so amorphous, but in hard replicable data on behaviors. Reference groups theory had not been used extensively in the study of how significant others might affect social behavior, so I was pushed back upon other literature in sociology to see if I could base my intuitive hunches on some body of theory or research which was more concrete. There seemed to be some analogous kinds of reasoning underlying the kinds of thinking which had been done in the area of social stratification, so into that area I plunged to see what could be resurrected. As I say, it was a learning experience and one with which I am not terribly satisfied. I am not particularly happy with the manner in which I have dealt with either work on social stratification on the one hand, or with the material on reference group, role, or identification processes on the other. What is more troublesome is that I have still reached no synthesis which is intellectually satisfying. Further pursuit of this borderline area between social psychology and sociology is certainly anticipated. Nevertheless, the thesis has given me something to which it will be possible to develop an antithesis and maybe even another synthesis.
Not only was much time spent on the development of a theoretical justification for the study, but even more time was devoted to the precise definition of those areas of the problem which could feasibly be studied. The measures employed as dependent variables will, I feel, continue to be valuable for they are universally recorded, easily available for sociological research purposes, and hence reliable and relatively constant behavioral indices. The whole approach to identification, measurement of salience, and structural functional placement of significant others leaves much to be desired. Beyond the methodological problems which were briefly touched upon in the last chapter there are many touchy theoretical problems which have not been mentioned. One of the more basic issues which I have not dealt with to my own satisfaction is that of conformity as a postulated constant. Current work being done in the study and measurement of social distance may shed some light on the dynamics implicit in my assumptions about conformity.

Another issue, briefly mentioned in the summary chapters, was that of getting at latent as well as manifest influence. This will probably mean the development of either (a) more sophisticated interview schedules or, more probably, (b) the development of new ways for collecting data which are of predictive value.

Once again, a study was carried to the point where much data was collected and yet very little analysis carried through. This practice is probably one of the most persistent crimes of social scientists who, like myself, lacking sufficient background and techniques and/or time never spend sufficient time on the actual analysis—the meat of the
whole research process. One of the principal reasons for this, at least in my own case, is that before one has enough data to make for a meaningful theoretical analysis, he is already far beyond the scope of the material which he can easily and quickly analyze. This becomes increasingly true as one attempts to get any kind of systemic picture and to avoid the pitfalls of survey research. A possible suggestion is to have those doing M.A. theses work on smaller segments of larger research projects in which the data have already been partially collected, or at least where the project has been thought out to some extent by others. The idea of carrying out an entire piece of empirical research to arrive at substantive conclusions may be completely unrealistic, given the time allocated for both M.A. and Ph.D. theses.

Quite clearly, the above comments represent a self-conscious attempt to draw lessons from past experience. In retrospect, it is hard to say where one might have added, subtracted, or substituted in the definition of the required task. Certainly some such changes would alter the kinds of learning possible, but whether or not these would be in a more beneficial direction for either myself or for those who have been of continued assistance to me is difficult to assess.

For better or worse, this stage of the research is now codified. Now the task at hand is to improve upon past results.
This booklet contains questions about the people who are important in your life. The purpose of the questionnaire is to find out a few things about the people you meet, and to see how this affects what you learn in the classroom.

The answers WILL NOT BE GRADED by your teachers or school, however they will be studied for scientific purposes by people at Oberlin College. The results may be used to help other students. Therefore it is important that you answer every question as accurately as possible.

Here are a few things to keep in mind as you fill out this questionnaire:

1. For every question that is numbered, mark your choice on the answer sheet. Be sure the number of the question you are answering and the number on the answer sheet are the same.

2. Some of the questions are not numbered. The answers to these questions should be written in this questionnaire booklet.

3. Answer every question (unless you are specifically told to skip a particular question or series of questions).

4. Answer every question as accurately as you can.

5. Mark all your choices — 1, 2, 3, etc. — for the numbered questions on the answer sheet. Put all your write-in answers in this questionnaire booklet.

EXAMPLES:

1. Today the sky is what color?
   1 blue
   2 grey

What color is the sky today? (write-in your answer below)
2. In your family, who has earned most of the money to pay most of the bills during your lifetime?

1. your father or step-father
2. your mother or step-mother
3. both mother (or step-mother) and father (or stepfather) nearly equally
4. someone else

What kind of work has the person you checked in question #2 done during most of your life? What is this person's job? (If you checked "both", answer the question for your father or step-father.)

(Examples: runs a milling machine at Ford, makes jewelry, is delivery man for laundry, is salesman, cleans houses, is a high school teacher, is disabled and cannot work, is not working, etc.)

JOB IS:

3. How steady is this person's job?

1. works full-time
2. works part-time
3. has seasonal work
4. is out of work, but looking for a job
5. is out of work

The next eight questions are about your father, step-father, or male guardian. Please answer all of them as accurately as possible.

4. What is your male guardian's exact relationship to you? (If you have no father, stepfather, or male guardian, mark #4 on your answer sheet and then skip to the question marked with two stars (**) on page 3.)

1. is my father
2. is my step-father
3. is some other relation
4. have no male guardian (skip to ** on page 3)
5. In which of the following categories does your father belong? (mark the answer on your answer sheet)

   1Negro American
   2white American
   3European American
   4Spanish American
   5something else (or don't know)

6. On the average, how often do you see and talk with your father?

   1once a day or more
   2three or four times a week
   3about once a week
   4less than once a week

7. How often, on the average, do you talk with your father about how far you want to go in school?

   1about once a week or more often
   2about once every two weeks
   3about once a month
   4less than once a month or never

8. On the average, how many different kinds of things do you talk about with your father?

   1almost everything I think about
   2some things
   3only a few things

9. What is the farthest your father went in school?

   1grade school, junior high school, or some high school
   2graduated from high school
   3attended business school, trade school, or technical school
   4attended college or junior college
   5went to more school after college

If your father is a member of any clubs or organizations (eg. athletic leagues, church groups, lodges, cultural, school, business, or political groups) would you name some of them. If he is not a member of any groups, write "NONE" and go on to question number 10.

   1.
   2.
   3.
10. Has your father ever received unemployment compensation, public assistance, veterans disability benefits, or welfare of any kind?
   1. yes
   2. no

**

The next eight questions are about your mother, step-mother, or female guardian. Please answer all of them as accurately as possible.

11. What is your female guardian’s exact relationship to you?
   (If you have no mother, step-mother, or female guardian, mark #4 on your answer sheet and then skip to the three stars (***) at the top of page 5.)
   1. is my mother
   2. is my step-mother
   3. is some other relation
   4. have no female guardian (skip to *** at the top of page 5)

12. In which of the following categories does your mother belong?
   1. Negro American
   2. white American
   3. Europian American
   4. Spanish American
   5. something else (or don’t know)

13. On the average, how often do you see and talk with your mother?
   1. once a day or more
   2. three or four times a week
   3. about once a week
   4. less than once a week

14. How often, on the average, do you talk with your mother about how far you want to go in school?
   1. about once a week or more often
   2. about once every two weeks
   3. about once a month
   4. less than once a month or never

Make sure that the number of the question you are answering and the number on the answer sheet are the same.
15. On the average, how many different kinds of things do you talk about with this person?

1. almost everything I think about
2. some things
3. only a few things

16. What is the farthest your mother went in school?

1. grade school, junior high school, or some high school
2. graduated from high school
3. attended business school, trade school, or technical school
4. attended college or junior college
5. went on to more school after college

If your mother is a member of any clubs or organizations (e.g., church groups, lodges, school groups, women's clubs, political groups, etc.) would you please name some of them. If she is not a member of any groups, write "NONE" and go on to question number 17.

1.
2.
3.

17. Has your mother ever received unemployment compensation, public assistance, aid to dependent children, or welfare of any kind?

1. yes
2. no

BE SURE NOT TO SKIP ANY QUESTIONS UNLESS YOU ARE SPECIFICALLY TOLD TO DO SO.
We all have some people who are more important to us than others. Sometimes we try to be like these people. Sometimes they are just good friends to us.

We would like to know who are the four other people, besides your parents, who are most important to you.

To help you remember these people quickly, here are some examples: older brothers or sisters, other relatives, your teachers or guidance counselors, your minister, priest, or rabbi, a coach or recreation worker, neighbors, or friends of your parents, etc.

So that you can remember the person you are answering the following questions about, write the name of the first person you have thought of in the space below.

NAME:

18. Is this person a man or a woman?
   1 a man
   2 a woman

19. In which of the following categories does this person belong?
   1 Negro American
   2 white American
   3 European American
   4 Spanish American
   5 something else (or don't know)

20. What is this person's age?
   1 12 - 15
   2 16 - 21
   3 22 - 59
   4 60 or older

21. On the average, how often do you see and talk with this person?
   1 once a day or more
   2 three or four times a week
   3 about once a week
   4 less than once a week
22. How often, on the average, do you talk with this person about how far you want to go in school?
   1. about once a week or more often
   2. about once every two weeks
   3. about once a month
   4. less than once a month or never

23. On the average, how many different kinds of things do you talk about with this person?
   1. almost everything I think about
   2. some things
   3. only a few things

What is this person's job? What kind of work does he (or she) do?
If this person is still in school, write "STUDENT."

JOB IS:

24. How steady is this person's job? (If this person is a housewife or a student, mark #1.)
   1. works full-time
   2. works part-time
   3. has seasonal work
   4. is out of work and looking for a job
   5. is out of work

25. Has this person ever received unemployment compensation, public assistance, veteran's disability benefits, aid to dependent children, or welfare of any kind?
   1. yes
   2. no

26. What is the farthest this person has gone in school? (If this person is still in school, choose the answer which says where he or she is NOW in school.)
   1. grade school, junior high school, or some high school
   2. graduated from high school
   3. attended business school, trade school, or technical school
   4. attended college or junior college
   5. went on to more school after college

BE SURE YOUR ANSWER SHEET AND QUESTION NUMBERS ARE THE SAME
If this person is a member of any clubs or organizations that you know about (e.g. athletic leagues, church or lodge groups, school groups, business groups, or political groups, etc.) would you please name some of them. If he (or she) is not a member of any groups write "NONE" and go to the next question.

1.

2.

3.

Choose another person who has been important in your life and write his (or her) name in the space below.

NAME:

27. Is this person a man or a woman?
   1 a man
   2 a woman

28. In which of the following categories does this person belong?
   1 Negro American
   2 white American
   3 Europian American
   4 Spanish American
   5 something else (or don't know)

29. What is this person's age?
   1 12 - 15
   2 26 - 21
   3 22 - 59
   4 60 or older

30. On the average, how often do you see and talk with this person?
   1 once a day or more
   2 three or four times a week
   3 about once a week
   4 less than once a week

ANSWER ALL QUESTIONS AS ACCURATELY AS YOU CAN.
31. How often, on the average, do you talk with this person about how far you want to go in school?
   1 about once a week or more often
   2 about once every two weeks
   3 about once a month
   4 less than once a month or never

32. On the average, how many different kinds of things do you talk about with this person?
   1 almost everything I think about
   2 some things
   3 only a few things

What is this person’s job? What kind of work does he (or she) do? (If this person is still in school, write "STUDENT."

JOB IS:

33. How steady is this person’s job? (If this person is a housewife or a student, mark #1.)
   1 works full-time
   2 works part-time
   3 has seasonal work
   4 is out of work and looking for a job
   5 is out of work

34. Has this person ever received unemployment compensation, public assistance, veterans disability benefits, aid to dependent children, or welfare of any kind?
   1 yes
   2 no

35. What is the farthest this person has gone in school? (If this person is still in school, choose the answer which says where he (or she) is NOW in school.)
   1 grade school, junior high school, or some high school
   2 graduated from high school
   3 attended business school, trade school, or technical school
   4 attended college or junior college
   5 went on to more school after college
If this person is a member of any clubs or organizations that you know about, (e.g. athletic leagues, church or lodge groups, school or cultural groups, business groups, or political parties, etc.) would you please name some of them. If he (or she) is not a member of any groups, write "NONE" and go on to the next question.

1.
2.
3.

Choose another person who has been important in your life and write his (or her) name in the space below.

NAME:

36. Is this person a man or a woman?
   1 a man
   2 a woman

37. In which of the following categories does this person belong?
   1 Negro American
   2 white American
   3 Europian American
   4 Spanish American
   5 something else (or don't know)

38. What is this person's age?
   1 12 - 15
   2 16 - 21
   3 22 - 59
   4 60 or older

39. On the average, how often do you see and talk with this person?
   1 once a day or more
   2 three or four times a week
   3 about once a week
   4 less than once a week
40. How often, on the average, do you talk with this person about how far you want to go in school?
   1. about once a week or more often
   2. about once every two weeks
   3. about once a month
   4. less than once a month or never

41. On the average, how many different kinds of things do you talk about with this person?
   1. almost everything I think about
   2. some things
   3. only a few things

What is this person's job? What kind of work does he (or she) do? (If this person is still in school, write "STUDENT."

   JOB IS:

42. How steady is this person's job? (If this person is a housewife or a student, mark #1.)
   1. works full-time
   2. works part-time
   3. has seasonal work
   4. is out of work and looking for a job
   5. is out of work

43. Has this person ever received unemployment compensation, public assistance, veterans disability benefits, aid to dependent children, or welfare of any kind?
   1. yes
   2. no

44. What is the farthest this person has gone in school? (If this person is still in school, choose the answer which says where he (or she) is NOW in school.)
   1. grade school, junior high school, or some high school
   2. graduated from high school
   3. attended business school, trade school, or technical school
   4. attended college or junior college
   5. went on to more school after college

MAKE SURE YOUR ANSWER SHEET AND QUESTION NUMBERS ARE THE SAME.
If this person is a member of any clubs or organizations that you know about, (eg. athletic leagues, church or lodge groups, school or business organizations, and cultural or political groups, etc.) would you please name some of them. If he (or she) is not a member of any groups, write "NONE" and go on to the next question.

1.
2.
3.

Would you again choose a person who has been important to you in your life in some way and write his (or her) name in the space below.

NAME:

45. Is this person a man or a woman?
   1 a man
   2 a woman

46. In which of the following categories does this person belong?
   1 Negro American
   2 white American
   3 European American
   4 Spanish American
   5 something else (or don't know)

47. What is this person's age?
   1 12 - 15
   2 16 - 21
   3 22 - 59
   4 60 or older

48. On the average, how often do you see and talk with this person?
   1 once a day or more
   2 three or four times a week
   3 about once a week
   4 less than once a week
49. How often, on the average, do you talk with this person about how far you want to go in school?

1. about once a week or more often
2. about once every two weeks
3. about once a month
4. less than once a month or never

50. On the average, how many different kinds of things do you talk about with this person?

1. almost everything I think about
2. some things
3. only a few things

What is this person’s job? What kind of work does he (or she) do? (If this person is still in school, write "STUDENT" in the space below.

JOB IS:

51. How steady is this person’s job? (If this person is a housewife or a student, mark #1.)

1. works full-time
2. works part-time
3. has seasonal work
4. is out of work and looking for a job
5. is out of work

52. Has this person ever received unemployment compensation, public assistance, veterans disability benefits, aid to dependent children, or welfare of any kind?

1. yes
2. no

53. What is the farthest this person has gone in school? (If this person is still in school, choose the answer which says where he (or she) is NOW in school.)

1. grade school, junior high school, or some high school
2. graduated from high school
3. attended business school, trade school, or technical school
4. attended college or junior college
5. went on to more school after college
If this person is a member of any clubs or organizations that you know about, (eg. athletic leagues, church or lodge groups, school or business organizations, cultural clubs, or political parties, etc.) would you please name some of them. If he (or she) is not a member of any groups, write "NONE."

1.

2.

3.

MAKE SURE YOUR ANSWER SHEET AND QUESTION NUMBERS ARE STILL THE SAME.

This is the end of the questionnaire. If you have extra time go back over the parts you have completed and make sure that you have answered every question accurately.

Thank you.
### APPENDIX III

#### TABLE I

**LOCATIONS OF SIGNIFICANT OTHERS:** PERCENT PER CATEGORY FOR EACH POSSIBLE LOCATION

**TITLE: A** Percent of Significant Others Located in the Immediate Family: For Girls

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
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<tr>
<td>MEAN %</td>
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<td>30.27</td>
<td>25.57</td>
<td>27.47</td>
<td>28.20</td>
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**TITLE: B** Percent of Significant Others Located in the Immediate Family: For Boys

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1 The total populations on which the percentage figures are based vary considerably. The maximum possible for each group of achievers (answers for particular items are based on smaller totals because of incomplete schedules) is as follows:

**Girls:** high achievers, 68; over achievers, 32; low achievers, 61; under achievers, 12.

**Boys:** high achievers, 43; over achievers, 32; low achievers, 39; under achievers, 16.

* Distribution is significant at a .05 level or higher.
### Title: C Percent of Significant Others Who Are Relatives: For Girls

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### Title: D Percent of Significant Others Who Are Relatives: For Boys

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**Percent of Significant Others Who Are School Personnel: For Boys**

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### TITLE: G

**Percent of Significant Others Who Are Adults Not Classified Above: For Girls**

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### TITLE: Percent of Significant Others Who Are Peers: For Girls

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<td>CHOICE 3</td>
<td>19.7</td>
<td>28.1</td>
<td>33.3</td>
<td>6.7</td>
<td>22.22</td>
<td>17.64 *</td>
</tr>
<tr>
<td>CHOICE 4</td>
<td>29.1</td>
<td>26.7</td>
<td>36.7</td>
<td>33.3</td>
<td>32.12</td>
<td>1.21</td>
</tr>
<tr>
<td>MEAN %</td>
<td>22.12</td>
<td>24.90</td>
<td>35.25</td>
<td>22.50</td>
<td>25.08</td>
<td>5.60</td>
</tr>
</tbody>
</table>

### TITLE: Percent of Significant Others Who Are Peers: For Boys

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHOICE 1</td>
<td>16.2</td>
<td>22.2</td>
<td>27.8</td>
<td>17.5</td>
<td>19.67</td>
<td>7.82 *</td>
</tr>
<tr>
<td>CHOICE 2</td>
<td>16.6</td>
<td>8.0</td>
<td>43.2</td>
<td>37.5</td>
<td>26.32</td>
<td>56.10 *</td>
</tr>
<tr>
<td>CHOICE 3</td>
<td>27.5</td>
<td>21.4</td>
<td>33.3</td>
<td>6.7</td>
<td>22.22</td>
<td>17.64 *</td>
</tr>
<tr>
<td>CHOICE 4</td>
<td>28.9</td>
<td>29.6</td>
<td>36.7</td>
<td>33.3</td>
<td>32.12</td>
<td>1.21</td>
</tr>
<tr>
<td>MEAN %</td>
<td>22.30</td>
<td>20.30</td>
<td>35.25</td>
<td>22.50</td>
<td>25.08</td>
<td>5.60</td>
</tr>
</tbody>
</table>
### APPENDIX III

#### TABLE II

**RANK ORDERING OF LOCATION OF SIGNIFICANT OTHERS COMPARING BROOKOVER WITH THESIS DATA**

#### OVERACHIEVERS

<table>
<thead>
<tr>
<th>Brookover</th>
<th>Male</th>
<th>Thesis</th>
<th>Male</th>
<th>Thesis</th>
<th>Female</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td>Parents</td>
<td>Parents</td>
<td>Parents</td>
<td>Parents</td>
<td>Parents</td>
<td>Parents</td>
</tr>
<tr>
<td>Adult Relatives</td>
<td>Family</td>
<td>Adult Relatives</td>
<td>Peer Relatives</td>
<td>Other Adults</td>
<td>Peers</td>
<td>Other Adults</td>
</tr>
<tr>
<td>Other Adults</td>
<td>Other Adults</td>
<td>Other Adults</td>
<td>Other Adults</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peers</td>
<td>School Personnel</td>
<td>Peers</td>
<td>School Personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

#### UNDERACHIEVERS

<table>
<thead>
<tr>
<th>Brookover</th>
<th>Male</th>
<th>Thesis</th>
<th>Male</th>
<th>Thesis</th>
<th>Female</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td>Parents</td>
<td>Parents</td>
<td>Parents</td>
<td>Parents</td>
<td>Parents</td>
<td>Parents</td>
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<tr>
<td>Peer Relatives</td>
<td>Peers</td>
<td>Peer Relatives</td>
<td>Peers</td>
<td>Peers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult Relatives</td>
<td>Relatives</td>
<td>Adult Relatives</td>
<td>School Personnel</td>
<td>School Personnel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peers</td>
<td>Family</td>
<td>Peers</td>
<td>Other Adults</td>
<td>Other Adults</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Adults</td>
<td>Other Adults</td>
<td>Other Adults</td>
<td>Other Adults</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>---</td>
<td>Others</td>
<td>---</td>
<td>Others</td>
<td>---</td>
<td>Others</td>
</tr>
</tbody>
</table>
## APPENDIX IV
### TABLE I

**THE PLACEMENT OF THE BREADWINNER IN THE FAMILY STRUCTURE FOR DIFFERENT CATEGORIES OF ACHIEVEMENT**

### TITLE: A Placement of Breadwinner in the Family Structure: Percentage Distribution For Girls

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR PERSON</th>
<th>CHI-SQUARED FOR PERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>89.7</td>
<td>81.2</td>
<td>73.7</td>
<td>83.3</td>
<td>81.97</td>
<td>1.59</td>
</tr>
<tr>
<td>Mother</td>
<td>4.4</td>
<td>6.2</td>
<td>9.8</td>
<td>0</td>
<td>5.10</td>
<td>9.76 *</td>
</tr>
<tr>
<td>Both</td>
<td>5.8</td>
<td>12.5</td>
<td>14.7</td>
<td>16.6</td>
<td>12.40</td>
<td>5.36</td>
</tr>
<tr>
<td>Someone else</td>
<td>0</td>
<td>0</td>
<td>1.6</td>
<td>0</td>
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<td>2</td>
</tr>
</tbody>
</table>

### TITLE: B Placement of Breadwinner in the Family Structure: Percentage Distribution For Boys

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR PERSON</th>
<th>CHI-SQUARED FOR PERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>95.3</td>
<td>87.5</td>
<td>89.7</td>
<td>89.5</td>
<td>90.00</td>
<td>.38</td>
</tr>
<tr>
<td>Mother</td>
<td>2.3</td>
<td>9.3</td>
<td>2.5</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Both</td>
<td>2.3</td>
<td>3.1</td>
<td>7.6</td>
<td>12.5</td>
<td>6.37</td>
<td>10.41</td>
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<td>0</td>
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<td></td>
</tr>
</tbody>
</table>

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2 The Chi-Squared calculated only for those tables where the expected frequency is greater than or equal to five.
APPENDIX IV

TABLE II

VARIATION IN FAMILY STRUCTURE FOR DIFFERENT CATEGORIES OF ACHIEVEMENT

**TITLE: A** Percent of Male and Female Guardians Who Are Natural Parents: For Girls

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED %</th>
<th>CHI-SQUARED FOR CHOICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>88.2</td>
<td>96.7</td>
<td>83.0</td>
<td>100.0</td>
<td>91.97</td>
<td>1.97</td>
</tr>
<tr>
<td>Mother</td>
<td>98.5</td>
<td>96.8</td>
<td>98.3</td>
<td>100.0</td>
<td>98.40</td>
<td>.05</td>
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</tbody>
</table>

**TITLE: B** Percent of Male and Female Guardians Who Are Natural Parents: For Boys

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED %</th>
<th>CHI-SQUARED FOR CHOICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>95.3</td>
<td>100.0</td>
<td>92.3</td>
<td>93.7</td>
<td>95.32</td>
<td>.35</td>
</tr>
<tr>
<td>Mother</td>
<td>97.6</td>
<td>100.0</td>
<td>97.4</td>
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**TITLE: C** Percent of Male and Female Guardians Who Are Step-parents: For Girls

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED %</th>
<th>CHI-SQUARED FOR CHOICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>7.3</td>
<td>0</td>
<td>3.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mother</td>
<td>1.4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### Title: D Percent of Male and Female Guardians Who Are Step-parents: For Boys

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED FOR CHOICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>4.6</td>
<td>0</td>
<td>5.1</td>
<td>6.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>2.3</td>
<td>0</td>
<td>2.5</td>
<td>6.2</td>
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<td></td>
</tr>
</tbody>
</table>

### Title: E Percent of Male and Female Guardians Who Bear Some Other Relation to Respondent: For Girls

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED FOR CHOICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALE</td>
<td>0</td>
<td>3.2</td>
<td>3.3</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEMALE</td>
<td>0</td>
<td>3.1</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Title: F Percent of Male and Female Guardians Who Bear Some Other Relation to the Respondent: For Boys

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED FOR CHOICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEMALE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Title: G Percent Who Have No Male or No Female Guardian: For Girls

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED FOR CHOICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Male</td>
<td>4.4</td>
<td>0</td>
<td>10.1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Female</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Title: H Percent Who Have No Male or No Female Guardian: For Boys

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED FOR CHOICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Male</td>
<td>0</td>
<td>0</td>
<td>2.5</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Female</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Title: D

**Percent of Male and Female Guardians Who Are Step-parents: For Boys**

<table>
<thead>
<tr>
<th></th>
<th>High Achievers</th>
<th>Over Achievers</th>
<th>Low Achievers</th>
<th>Under Achievers</th>
<th>Expected %</th>
<th>Chi-Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>4.6</td>
<td>0</td>
<td>5.1</td>
<td>6.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>2.3</td>
<td>0</td>
<td>2.5</td>
<td>6.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Title: E

**Percent of Male and Female Guardians Who Bear Some Other Relation to Respondent: For Girls**

<table>
<thead>
<tr>
<th></th>
<th>High Achievers</th>
<th>Over Achievers</th>
<th>Low Achievers</th>
<th>Under Achievers</th>
<th>Expected %</th>
<th>Chi-Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0</td>
<td>3.2</td>
<td>3.3</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0</td>
<td>3.1</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Title: F

**Percent of Male and Female Guardians Who Bear Some Other Relation to the Respondent: For Boys**

<table>
<thead>
<tr>
<th></th>
<th>High Achievers</th>
<th>Over Achievers</th>
<th>Low Achievers</th>
<th>Under Achievers</th>
<th>Expected %</th>
<th>Chi-Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Title: G

**Percent Who Have No Male or No Female Guardian: For Girls**

<table>
<thead>
<tr>
<th></th>
<th>High Achievers</th>
<th>Over Achievers</th>
<th>Low Achievers</th>
<th>Under Achievers</th>
<th>Expected %</th>
<th>Chi-Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Male</td>
<td>4.4</td>
<td>0</td>
<td>10.1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Female</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Title: H

**Percent Who Have No Male or No Female Guardian: For Boys**

<table>
<thead>
<tr>
<th></th>
<th>High Achievers</th>
<th>Over Achievers</th>
<th>Low Achievers</th>
<th>Under Achievers</th>
<th>Expected %</th>
<th>Chi-Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Male</td>
<td>0</td>
<td>0</td>
<td>2.5</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Female</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### APPENDIX IV

#### TABLE III

**VARIATION BY OCCUPATIONAL GROUPINGS FOR DIFFERENT CATEGORIES OF ACHIEVEMENT**

#### TITLE: A

**Percent of Clerical and Kindred Workers Among Significant Others:** For Girls

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED %</th>
<th>CHI-SQUARED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>1.7</td>
<td>0</td>
<td>10.8</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHOICE 1</td>
<td>3.1</td>
<td>3.3</td>
<td>6.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHOICE 2</td>
<td>3.3</td>
<td>0</td>
<td>5.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHOICE 3</td>
<td>9.3</td>
<td>3.3</td>
<td>3.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHOICE 4</td>
<td>3.2</td>
<td>0</td>
<td>2.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEAN %</td>
<td>4.12</td>
<td>1.32</td>
<td>5.660</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### TITLE: B

**Percent of Clerical and Kindred Workers Among Significant Others:** For Boys

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED %</th>
<th>CHI-SQUARED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>2.7</td>
<td>4.0</td>
<td>8.5</td>
<td>7.1</td>
<td>5.57</td>
<td>3.88</td>
</tr>
<tr>
<td>Mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHOICE 1</td>
<td>5.2</td>
<td>3.5</td>
<td>0</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>CHOICE 2</td>
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<td>3.7</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
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3 Occupation given for father/mother category is always that of the father unless the mother is the breadwinner of the family.
### APPENDIX IV

#### TABLE III

VARIATION BY OCCUPATIONAL GROUPINGS
FOR DIFFERENT CATEGORIES OF ACHIEVEMENT

**TITLE: A** Percent of Clerical and Kindred Workers Among Significant Others: For Girls

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS</th>
<th>OVER ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED FOR CHOICE</th>
</tr>
</thead>
<tbody>
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<td></td>
</tr>
<tr>
<td>Mother</td>
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<td></td>
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**TITLE: B** Percent of Clerical and Kindred Workers Among Significant Others: For Boys

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<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED FOR CHOICE</th>
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3 Occupation given for father/mother category is always that of the father unless the mother is the breadwinner of the family.
### Percent of Craftsmen, Foremen and Kindred Workers Among Significant Others: For Girls

<table>
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<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED FOR CHOICE</th>
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### Percent of Craftsmen, Foremen and Kindred Workers Among Significant Others: For Boys

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<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED FOR CHOICE</th>
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### Percent in Non-occupational Categories (Student, Housewife, Retired) Among Significant Others: For Girls

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<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
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<th>CHI-SQUARED FOR CHOICE</th>
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<td>0</td>
<td></td>
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### TITLE: F

Percent in Non-occupational Categories (Student, Housewife, Retired) Among Significant Others: For Boys

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**MEAN %**

|      | 52.4 | 44.8 | 56.20 | 50.6 |

### TITLE: G

Percent of Laborers (Unskilled, non-service) Workers Among Significant Others: For Girls

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<td>4.4</td>
<td>0</td>
<td>5.67</td>
<td>10.69 *</td>
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</table>

**MEAN %**

|      | 12.6 | 14.06 | 13.70 | 5.14 |

### TITLE: H

Percent of Laborers (Unskilled, Non-service) Workers Among Significant Others: For Boys

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<th>UNDER</th>
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<td>35.90</td>
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**MEAN %**

|      | 14.67 | 17.42 | 11.72 | 10.46 |
### Title 1
Percent of Managers and Proprietors Among Significant Others: For Girls

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<th>OVER ACHEIVERS</th>
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<th>UNDER ACHEIVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED</th>
</tr>
</thead>
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<td>11.1</td>
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<td>14.23 *</td>
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### Title 2
Percent of Managers and Proprietors Among Significant Others: For Boys

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<th>UNDER ACHEIVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED</th>
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### Title 3
Percent of Operatives and Kindred Workers Among Significant Others: For Girls

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<th>CHI-SQUARED</th>
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### TITLE: Percent of Operatives and Kindred Workers Among Significant Others: For Boys

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<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
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### TITLE: Percent of Private Household Workers Among Significant Others: For Girls

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<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED FOR CHOICE</th>
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### TITLE: Percent of Private Household Workers Among Significant Others: For Boys

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<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED FOR CHOICE</th>
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## Percent of Professional, Technical and Kindred Workers Among Significant Others: For Girls

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<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
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## Percent of Sales Workers Among Significant Others: For Girls

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<th>LOW ACHIEVERS</th>
<th>UNDER ACHIEVERS</th>
<th>EXPECTED % FOR CHOICE</th>
<th>CHI-SQUARED FOR CHOICE</th>
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<td>MEAN %</td>
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<td>5.02</td>
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### TITLE: R Percent of Sales Workers Among Significant Others: For Boys

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<th>UNDER ACHIEVERS</th>
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</table>
GRAPH I Percent of significant others completing grade school, junior high school, or some high school. For girls.

GRAPH II Percent of significant others completing grade school, junior high school, or some high school. For Boys

GRAPH III Percent of significant others completing high school. For Girls.

GRAPH IV Percent of significant others completing high school. For Boys.
GRAPH V  Percent of significant others who attended business, trade or technical school. For Girls.

GRAPH VI  Percent of significant others who attended business, trade or technical school. For Boys.
GRAPH VII  Percent of significant others who attended college or junior college. For Girls.

GRAPH VIII  Percent of significant others who attended college or junior college. For Boys.
GRAPH IX  Percent of significant others who went on to school after college. For Girls.

GRAPH X  Percent of significant others who went on to school after college. For Boys.
### APPENDIX IV

#### TABLE IV

**LEVEL OF SCHOOL COMPLETION AMONG SIGNIFICANT OTHERS**
**FOR DIFFERENT CATEGORIES OF ACHIEVEMENT**

**TITLE: A**
Percent of Significant Others Completing Grade School, Junior High School, or Some High School: For Girls

<table>
<thead>
<tr>
<th>PERCENT NAMED</th>
<th>HIGH ACHIEVERS %</th>
<th>OVER ACHIEVERS %</th>
<th>LOW ACHIEVERS %</th>
<th>UNDER ACHIEVERS %</th>
<th>EXPECTED %</th>
<th>CHI-SQUARED</th>
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<tbody>
<tr>
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<td>64.7</td>
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<td>48.80</td>
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**TITLE: B**
Percent of Significant Others Completing Grade School, Junior High School, or Some High School: For Boys

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<tr>
<th>PERCENT NAMED</th>
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<th>OVER ACHIEVERS %</th>
<th>LOW ACHIEVERS %</th>
<th>UNDER ACHIEVERS %</th>
<th>EXPECTED %</th>
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<td>54.8</td>
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