AN INVESTIGATION OF SOCIAL-PSYCHOLOGICAL VARIABLES COMPRISING SCHOOL NORMATIVE ACADEMIC CLIMATE IN HIGH- AND LOW-ACHIEVING WHITE-URBAN, BLACK-URBAN, AND RURAL ELEMENTARY SCHOOLS WITH SCHOOL MEAN SOCIO-ECONOMIC STATUS CONTROLLED

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ABSTRACT

AN INVESTIGATION OF SOCIAL-PSYCHOLOGICAL VARIABLES COMPRISING SCHOOL NORMATIVE ACADEMIC CLIMATE IN HIGH- AND LOW-ACHIEVING WHITE-URBAN, BLACK-URBAN, AND RURAL ELEMENTARY SCHOOLS WITH SCHOOL MEAN SOCIO-ECONOMIC STATUS CONTROLLED

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The purpose of this study was to compare a number of social-psychological variables of school normative academic climate, between high- and low-achieving elementary schools, while controlling, as much as possible, for the effects of school mean socio-economic status (S.E.S.), race, and urban-rural community type. More specifically this researcher's desire was to determine which of several social-psychological environmental factors most strongly predict the variation in achievement, as well as differentiate between high- and low-achieving predominantly white-urban schools, predominantly black-urban schools, and schools located in rural communities.

Data were collected from a selected sample, composed of 10 predominantly white-urban, 7 predominantly black-urban, and 7 rural elementary schools. Schools within each stratum were selected on the basis of their mean student achievement, as measured by the Michigan State School Assessment Achievement Index, and mean student

S.E.S., as measured by the Michigan State School Assessment S.E.S. Index. Pairs of schools were selected with similar S.E.S., racial composition, and urban-rural community types, but significantly different mean student achievement scores.

The variables selected for study were derived from a varimax rotation factor analysis performed upon data gathered from instruments administered to fourth, fifth, and sixth grade students and the teachers of these students, in the schools sampled. Four student factors and six teacher factors emerged from this analysis: Student Perceived Present Evaluations-Expectations (S.P.P.E.E.), Student Perceived Future Evaluations-Expectations (S.P.F.E.E.), Student Reported Sense of Futility (S.R.S.O.F.), Student Perceptions of School's Academic Norms (S.P.S.A.N.), Teacher Present Evaluations-Expectations (T.P.E.E.), Teacher Future Evaluations-Expectations (T.F.E.E.), Teacher Perceptions of Parent Student Academic Push (T.P.P.S.P.), Teacher Reported Push of Individual Students (T.R.P.I.S.), Teacher Reported Feelings of Job Satisfacton (T.R.F.J.S.), and Teacher Perception of Social System Belief in Student Academic Improvability (T.P.S.A.I.).

Applying these factors as independent variables, this researcher employed a least square add linear regression analysis to predict the variation in the dependent variable, achievement. The following climate variables were found to be significant ($p = 0.10$) predictors of higher achieving schools, beyond the effects of S.E.S., race, and urban-rural community type:

1. less Student Perceived Sense of Futility; p = 0.0005; predicting 44.92% of the variance in achievement beyond the amount accounted for by the design variables

2. greater Teacher Future Evaluations-Expectations; p = 0.008; predicting an additional 9.83% of the variance in achievement

3. less Teacher Reported Push of Individual Students; p = 0.023; predicting an additional 5.28% of the variance in achievement

4. greater Student Perceived Present Evaluations-Expectations; p = 0.052; predicting an additional 3.36% of the variance in achievement

Because of the high predictive power of S.R.S.O.F., another least square add linear regression analysis was employed, as the dependent variable with the other nine climate factors as independent variables. The following climate variables were found to be significant (p = 0.10) predictors of higher achieving schools, beyond the effects of S.E.S., race, and urban-rural community type:

1. Higher Teacher Present Evaluations-Expectations; p = 0.002; predicting 25.17% of the variance in futility beyond the amount accounted for by the design variables.

2. Higher Student Perceived School Academic Norms; p = 0.029; predicting and additional 8.32% of the variance in sense of futility.

3. Higher Student Perceived Present Evaluations-Expectations; p = 0.042; predicting an additional 8.05% of the variance in sense of futility.

This researcher also attempted to find which of the ten derived student-teacher factors most highly differentiated between higher- and lower-achieving schools within the three strata: predominantly white-urban, predominantly black-urban, and rural schools. Using a discriminant function analysis, it was concluded that a low student reported sense of futility was consistently the

most powerful of the four student variables in differentiating achievement groups. Other factors, however, did vary in their power to discriminate achievement within each of the three stratum. Student perceived school social system norms advocating higher achievement appear to better discriminate in predominantly white-urban schools than in schools within the other strata. While teacher perception of the school social system belief that students can improve upon previous academic achievement appears to differentiate higher achieving schools within the black-urban stratum, it does not appear to be very significant in the predominantly white-urban schools. The level of teacher perceived parent-student push for educational achievement and student perceived present evaluations-expectations appears to have greater discriminating powers in rural communities than in urban schools.

Individual pairs of schools, matched on S.E.S., race, and urban-rural community type but differing significantly on achievement, were case analyzed. Incorporated within this analysis were selected information from the principal data, and interviewer observations pertaining to the school, the curriculum, the community, and the school-community relationship. As a result of his findings, this researcher contends that the level of "psychological-integration" between the school and the community, coupled with teacher and student stability, are deserving of further research as possible contributors to the creation of a normative academic climate conducive to higher achievement.

AN INVESTIGATION OF SOCIAL-PSYCHOLOGICAL VARIABLES COMPRISING SCHOOL NORMATIVE ACADEMIC CLIMATE IN HIGH- AND LOW-ACHIEVING WHITE-URBAN, BLACK-URBAN, AND RURAL ELEMENTARY SCHOOLS WITH SCHOOL MEAN SOCIO-ECONOMIC STATUS CONTROLLED

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CHAPTER I

INTRODUCTION

Statement of the Problem

The tremendous waste of human potential within the schools of contemporary American "society" can no longer be tolerated. The day has long since past when reliance upon such educational theories as the genetic origin of intelligence or the permanent effect of environmental deprivation can be used as excuses for the failure of schools to educate large numbers of children, especially those from low socio-economic and/or culturally different backgrounds.

There is a good deal of research, including studies by Coleman (Equality of Educational Opportunity, 1966), Sewell and Shah (1967), and Sexton (1961) which demonstrate the strong positive relationship between an individual's social class and his probable amount of educational attainment. In an attempt to discover why this is the case, researchers have followed various paths of inquiry. A large body of environmental research has focused upon student inadequacies brought to the school (Ausubel and Ausubel, 1963; McClelland, 1961; Bettleheim, 1964; and Hunt, 1968), and the failure of schools to effectively educate non-middle class students (Gans, 1962:68; Riessman, 1962; Cloward and Jones, 1963; and Clark, 1965).

In recent years an increasing number of researchers have begun to give serious consideration to the question of school normative climates, and their effect upon patterns of behavior within the school environment, including the achievement orientation of students (Coleman, 1961; Orth, 1963; Davis, 1963; Pace, 1963; Trow, 1962; Mitchell, 1968; and Boyle, 1965). An enlightening study in the area was provided by McDill, Meyers, and Rigsby (1967) reporting that high schools having high proportions of middle class students generally have both high academic norms and high achievement, while schools having all lower class students had low academic norms and achievement. Their results also indicated that all of the climate aspects, except one, were more highly related to achievement than Socio-Economic-Status (S.E.S.). Even when the effects of both intelligence and S.E.S. were controlled the effects of climate still had some explanatory power.

As the relationship between elementary school academic achievement, normative academic climate, and S.E.S. has not, thus far, been empirically established, it becomes an apparent matter for serious research. The crucial concern which must be investigated is whether a school climate conducive to educational attainment is only arrived at through those values which the students bring from their middle-class homes, or if a positive climate can be structured in any situation and with students from lower S.E.S. backgrounds, through the manipulation of certain social-psychological factors. The current lack of research dealing with this question has led to the present study.

The theoretical foundation for this research is derived from a social psychological theory of human behavior, as stated by Brookover and Erickson (1969);

1. The social norms and expectations of others define the appropriate behavior for persons in various social situations.
2. Each person learns the definitions of appropriate behavior through interaction with others who are important and significant to him.
3. The individual learns to behave in ways that he perceives are appropriate or proper for him.
4. The individual also acquires conceptions of his ability to learn various types of behavior through interaction with others whose evaluations are important to him.

Purpose of the Study

The purpose of this study is to compare certain social-psychological variables comprising school normative academic environment between high and low achieving schools of similar socio-econmic status, race, and community type. This researcher's desire is to find which of those factors studied most strongly predict the variation in, and differentiate between, high and low achievement in predominantly white urban-schools. Predominantly black-urban schools, and schools located in rural communities.

Inventory of Variables

The following is an inventory of the variables on which we have collected data. It is categorized according to the data obtained from the students, teachers and principals. Not all of the variables listed were employed for the current analysis. The items which were used are listed in Chapter IV within the ten derived factors of the varimax rotation analysis.

Student Variables[1]

1. Age
2. Sex
3. Grade level
4. Years at the school
5. Occupation of father
6. Self-aspiration for education
7. Reported aspiration of other students
8. Reported student press for competition
9. Importance of the self-identity or role of student
10. Academic norms of the school
11. Extra school academic behavior of friends
12. Sense of control
13. Self-concept of academic ability
14. Perceived "best friend" expectations
15. Perceived "best friend" evaluations
16. Reported teacher press for competition
17. Reported teacher demand for performance
18. Perceived teacher expectations
19. Perceived teacher evaluations
20. Perceived parental expectations
21. Perceived parental evaluatons
22. Reported principal evaluations of all students
23. Reported principal expectations for all students

Teacher Variables[2]

1. Sex
2. Years at present school
3. Years as a teacher
4. Formal preparation
5. Attitude (general) toward school before coming
6. Change in attitude since coming
7. Grouping practices across sections of grade levels
8. Grouping practices in own class
9. Reported importance of standardized tests
10. How often standardized test scores are used
11. Academic expectations for students in the school
12. Academic expectations for students in the class
13. Evaluations of academic ability of students in the school
14. Evaluations of academic ability of students in the class
15. Reported aspirations of the students in the school
16. Commitment to teaching (job satisfaction)
17. Reported principal's expectations for students in the school

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[1] See Student Questionnaire, Appendix A

[2] See Teacher Questionnaire, Appendix B

18. Reported principal's evaluations of students' academic ability
19. Teacher press for educational achievement
20. Teacher demand for performance
21. Reported teacher press for student competition
22. Reported student press for competition (whole school)
23. Reported student press for competition (own class)
24. Reported community press for educational achievement of students
25. Reported community support for school

Principal Variables[1]

1. Sex
2. Years as the principal of the present school
3. Years in total as a principal
4. Has the principal ever been a teacher
5. How long a teacher
6. Attitude (general) toward school before coming
7. Change in attitude since coming
8. Grouping procedure across sections of grade levels
9. Grouping procedure within sections of grade levels
10. Grouping procedures across grade levels
11. Number of teachers with a bachelor's degree; graduate degree
12. Number of teachers with provisional certificate; permanent certification
13. Kinds of standardized tests used in the school
14. Principal opinion of what standardized tests measure
15. Use of test results by the principal
16. Reported importance of standardized test scores for the teachers
17. Reported use of standardized test scores by the teachers
18. Academic expectations for students in the school
19. Evaluations of the academic ability of the students in the school
20. Reported community press for educational achievement of the students
21. Reported community support for the school

Questions to be Explored

The following questions will be explored in this study:

1. Which of a number of social-psychological school normative academic climate variables derived from student attitudinal data best differentiate between higher and lower achieving predominantly white-urban elementary schools, when the effects of S.E.S. have been controlled.

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[1]See Principal Questionnaire, Appendix C

2. Which of a number of social-psychological school normative academic climate variables derived from teacher attitudinal data best differentiate between higher and lower achieving predominantly white-urban elementary schools, when the effects of S.E.S. have been controlled?

3. Which of a number of social-psychological school normative academic climate variables derived from principal attitudinal data best differentiate between higher and lower achieving predominantly white-urban elementary schools, when the effects of S.E.S. have been controlled?

4. Which of a number of social-psychological school normative academic climate variables derived from student attitudinal data best differentiate between higher and lower achieving predominantly black-urban elementary schools, when the effects of S.E.S. have been controlled?

5. Which of a number of social-psychological school normative academic climate variables derived from teacher attitudinal data best differentiate between higher and lower achieving predominantly black-urban elementary schools, when the effects of S.E.S. have been controlled?

6. Which of a number of social-psychological school normative academic climate variables derived from principal attitudinal data best differentiates between higher and lower achieving predominantly black-urban elementary schools, when the effects of S.E.S. have been controlled?

7. Which of a number of social-psychological school normative academic climate variables derived from student attitudinal data best differentiate between higher and lower achieving rural elementary schools, when the effects of S.E.S. have been controlled?

8. Which of a number of social-psychological school normative academic climate variables derived from teacher attitudinal data best differentiate between higher and lower achieving rural elementary schools, when the effects of S.E.S. have been controlled?

9. Which of a number of social-psychological school normative academic climate variables derived from principal attitudinal data best differentiate between higher and lower achieving rural elementary schools, when the effects of S.E.S. have been controlled?

10. What part of the variance, between high and low achieving elementary schools of various S.E.S., racial, and urban-rural community types, can be predicted on the basis of the social-psychological school academic climate variables?

Hypotheses for Analysis

The hypotheses used as a basis for analysis in this study are the following:

1. The student social-psychological variables comprising elementary school normative academic climate will differ in relationship to the dependent variable, achievement, as measured by the Michigan State School Assessment Achievement Index, when the effects of mean student S.E.S., racial composition, and urban-rural community type are controlled.

2. The teacher social-psychological variables comprising elementary school normative academic climate will differ in relationship to the dependent variable, achievement, as measured by the Michigan State School Assessment Achievement Index, when the effects of mean student S.E.S., racial composition, and urban-rural community type are controlled.

3. The principal social psychological variables comprising elementary school normative academic climate will differ in relationship to the dependent variable, achievement, as measured by the Michigan State School Assessment Achievement Index, when the effects of mean student S.E.S., racial composition; and urban-rural community type are controlled.

4. There will be differences between predominantly white-urban, predominantly black-urban, and rural elementary schools, in the relationship between those student variables comprising school normative academic climate and the dependent variable, achievement, as measured by the Michigan State School Assessment Achievement Index.

5. There will be differences between predominantly white-urban predominantly black-urban, and rural elementary schools, in the relationship between those teacher variables comprising school normative academic climate and the dependent variable, achievement, as measured by the Michigan State School Assessment Achievement Index.

6. There will be differences between predominantly white-urban, predominantly black-urban, and rural elementary schools, in the relationship between those principal variables comprising school normative academic climate and the dependent variable, achievement, as measured by the Michigan State School Assessment Achievement Index.

Significance of the Problem

The significance of this area of investigation appears obvious to this researcher. In the United States, formal education functions as one of the "gatekeepers" of the social and economic fruits of "society." Through an apparent inability to deal effectively with students coming from environments where school achievement is not an internalized value, the educational institution has not only kept the gate locked but has served as a perpetuating force for the "societal" economic and social inequities and the preservation of the social stratification status quo.

It is the function of the current research to isolate and examine certain variables having an effect upon achievement beyond that of the social background of the student body. It is the task of schools to educate all students and not just those who come already possessing norms conducive to high academic achievement. This study thus seeks to investigate certain variables in a number of schools, of varying social types, that are not following the normal S.E.S. achievement patterns. This should greatly increase our knowledge of why schools have been failing to deal with the problem of social inequity. With this knowledge the opportunity for social change becomes greatly enhanced.

A suggested method of altering the school social environment of low S.E.S. students is to place them in classrooms with "others" where middle class norms, concerning educational importance, are both stressed and accepted. This, although possibly an effective tool is costly in terms of time, money, and the emotional animosity created by the need to "bus" students to create a balance which is middle-class oriented. This writer contends that children attending low achieving schools can not afford the time required for school districts, courts, and governments, to deal with matters on an educational rather than political basis. We must, therefore, study those schools which are experiencing success at educating varying types of students, hoping to transfer our findings to other schools with similar populations.

Delimitations of the Study

The State of Michigan Department of Education has provided data, from the Michigan State Assessment program, consisting of aggregate scores of the fourth grade students for every elementary school in the State of Michigan on both achievement, as measured by a state wide standarized achievement test and S.E.S, as measured by a questionnaire of family consumption patterns. The sample was stratified and schools were orginally placed into cells as shown in Table 1. Three questionnaires developed for this study, by Wilbur Brookover and Richard Gigliotti, were administered to all students in grades four, five, and six, teachers of those students who were surveyed, and the principal of each school involved. These

TABLE 1.--Original Design

Social Class and Racial Composition	Quality of School Performance: High Mean Level of Achievement	Quality of School Performance: Low Mean Level of Achievement
Predominantly[a] white high SES	2 Schools	2 Schools
Predominantly[a] white average SES	1 School	1 School
Predominantly[a] white low SES	2 Schools	2 Schools
Predominantly[a] black high SES	1 School	1 School
Predominantly[a] black average SES	1 School	1 School
Predominantly[a] black low SES	1 School	1 School
White rural and small town high SES	Number of schools will depend upon size of enrollment in selected schools	Number of schools will depend upon size of enrollment in selected schools
White rural and small town low SES	Number of schools will depend upon size of enrollment in selected schools	Number of schools will depend upon size of enrollment in selected schools

[a]Predominantly = 80% or more.

attempted to assess various structural and social-psychological characteristics which might effect school climate and relate to the dependent variable, achievement.

Most of the data was collected during the 1970-71 school year, using the previous year assessment information, making the fifth grade strata the population of greatest interest. One rural school closed early for the summer and was, therefore, surveyed during the 1971-72 school year. In this case, the sixth grade was appropriately selected from the sample frame. Whenever possible, the fourth, fifth, and sixth grades were included, in order that a wider sample of the student population could be obtained and so that our sample would consist of those students who had the greatest familiarity with the school, acting as reporters of the normative climate.

Because of sampling difficulties, and because in some cases these problems involved a sample (one school) which was, in fact, the entire population within the state for a particular cell, the data matrix cells are not complete and all of the S.E.S. categories were not used. Therefore, our final sample is that shown in Table 2, of twenty-four elementary schools chosen non-randomly on the basis of particular characteristics.

There is no desire to generalize to the population other than with the particular schools sampled, considering the sacrifice of generalizability. This sample enables us to maximize those differences leading to differential achievement. This study also does not claim to be an exhaustive examination of all variables

TABLE 2.--Current Design

Social Class and Racial Composition	Quality of School Performance: High Mean Level of Achievement	Quality of School Performance: Low Mean Level of Achievement
Predominantly[a] white high S.E.S.	3 Schools	3 Schools
Predominantly[a] white low S.E.S.	2.Schools	2 Schools
Predominantly[a] black high S.E.S.	1 School	2 Schools
Predominanty[a] black low S.E.S.	2 Schools	2 Schools
Rural and small town high S.E.S.	1 School	1 School
Rural and Small town low S.E.S.	3 Schools	2 Schools

[a]Predominantly = 70% or greater

having an effect upon school achievement. It is designed, rather, as a heuristic investigation of a number of characteristics of school social environment which may have an association with achievement beyond the affects of social class, race, and urban-rural community type. Viewed in this way, it is the hope of this researcher, to use the findings in two ways; first to eliminate certain variables from consideration in future investigation, and secondly, to lend support to further research within the area of the effects of normative climate upon school achievement, the general purpose of the current investigation being to generate rather than test hypotheses.

Overview

This study will attempt to differentiate on certain social-psychological normative academic climate variables between high and low achieving elementary schools while controlling for the effects of socio-economic status, race, and community type.

Chapter II of this dissertation will include the review of related research in the area of school social climate and its effects upon school achievement. In Chapter III, the methodology for the study will be presented. The analysis of the data and the findings of the study will be presented in Chapters IV, V, and VI. Chapter VII includes the summary and major conclusions, contributions and limitations, and recommendations of this study.

CHAPTER II

LITERATURE AND THEORY

Introduction

The current study concentrates upon the general normative academic climate of the elementary school, and its relationship with both school mean socio-economic status (S.E.S.), and mean student achievement.

To accomplish this task, with the limited literature available in the specific area of the relationship between elementary school normative academic climate and achievement, the following format will be employed. Section II reviews literature dealing with the close relationship between S.E.S. and academic achievement. Literature hypothesizing reasons for this relationship have been categorized into three general areas; heredity, early socialization, and school academic climate. Section III is a review of the theoretical foundations upon which the current research is based, with symbolic interaction theory, expectations, role theory, structural effects, and a social-psychological theory of learning being outlined. Section IV reviews the existing school climate literature related to colleges and secondary schools, as well as elementary school academic climates. Finally, section V reviews the current extent of our study findings on specific variables of interest; expectations, norms, feelings of futility/improvability, teacher satisfaction, and community-school integration.

Relationship Between S.E.S. and Achievement

There is substantial evidence leading to the conclusion that a strong connection exists, in the United States, between the level of educational achievement attained by students within a particular school, and the socio-economic backgrounds of their families. An informative indication of this relationship was exhibited by Sexton (1961), in her study of the Detroit Public Schools. Using a sample of 285,000 students, and 10,000 teachers in 300 schools, she found that elementary school achievement scores (based upon fourth, sixth, and eighth grade Iowa Test results) served to demonstrate the following about the Achievement-S.E.S. correlation:

> One: All schools above $7,000[1] income are achieving above grade level (with only one exception in the eighth grade). All schools below $7,000 income are achieving below grade level.
>
> Two: In general, achievement scores tend to go up as income levels go up.
>
> Three: In the fourth grade, group 1 (schools having a mean income of $3,500) is achieving at almost one whole year below grade level. At the same time, group 26 (schools having a mean income of $11,055) is achieving at more than a year above grade level. Thus the highest income group is achieving at a level two whole years above the lowest income group. (p. 27).

The generality of these findings has been demonstrated by Herriott and St. John (1966), by means of a comprehensive review of the literature concerning the association between differential types of education offered to students and the S.E.S. of student's family of origin. The authors make it plain that a consistent correlation exists between social class and academic achievement, with lower S.E.S. students having both significantly lower levels of achievement and significantly higher probabilities of becoming school dropouts.

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[1] Mean income using revised census data

More recent studies of the S.E.S.-achievement relationship have arrived at the same conclusions. Sewell and Shah (1967) conducted a seven year longitudinal study of a group of high school seniors, and found a strong relationship to exist between the S.E.S. of the student and his plans to attend and subsequent graduation or plans to graduate from college. Christopher Jencks (1968), in an article concerning social stratification and higher education, suggests that S.E.S. is a complex combination of three factors; money, environment, and motivation, all of which interact to reduce the probability of lower S.E.S. students attaining a college education.

In a study that must be regarded as one of the most significant educational and sociological research endeavors of recent years, the Equality of Educational Opportunity, by James Coleman et. al. (1966), the area of S.E.S. and achievement was cultivated in great depth. Using the student scores on a verbal achievement test as a measure of achievement, he concluded that much of the variation in achievement among individual pupils, during their entire educational career, resulted generally from family differences. Looking more closely, they found that the family differences, for both black and white students, most closely relating to achievement at the elementary school level, were level of parental education and family income. These two areas are generally considered to be, along with occupation, the major components of S.E.S.

That S.E.S. and achievement are highly interwoven was neither a very new nor a very controversial finding. Other Coleman findings, however, have significantly altered our understanding of

this relationship and have also been given an extremely mixed reception by educational researchers, as well as by school administrators and teachers. By calculating and comparing the average verbal achievement score of students within schools and between schools, he concluded that, for the entire study, differences between schools accounted for only 10-30% of the variance in individual achievement for sixth graders, and 5-31% of the variance in individual achievement for students who survive to the twelfth grade. This small amount of between school variance accounted for by such school factors as physical facilities, materials, curriculum, and staff has led some to the suggestion that further expenditure in time and/or in money will not achieve desired outcomes, and should be stopped. Instead, those who advocate this position call for a change in the social class composition of the entire school, which Coleman found to be more highly related to achievement, independent of the socio-economic standing of the individual students family.

These findings lead to Coleman's major conclusion in the area of the effects of schools upon achievement:

> . . . schools bring little influence to bear on a childs achievement that is independent of his background and general social context; and that this very lack of an independent effect means that the inequalities imposed on children by their home, neighborhood, and peer environment are carried along to become the inequalities with which they confront adult life at the end of school. For equality of educational opportunity through the schools must imply a strong effect of schools that is independent of the child's immediate social environment, and that strong independent effect is not present in American schools. (1966, p. 325)

The Coleman data were re-analyzed by Mayeske (1969) using the school, rather than the individual student, as a unit of analysis. His findings, for the greater part, concur with those of the earlier

analysis and resulted with Mayeske's concluding that in school achievement; (1) the influence of the school upon the student could not be separated from the student's social class background; (2) the common influence of the school together with student S.E.S. were more important than either factor when taken alone; (3) schools were able to exercise greater influence upon students who were higher S.E.S., white or oriental, and those living with both parents; (4) that racial isolation of personnel is a major factor; (5) the S.E.S. of students tells more over time; and (6) schools achieving well on one educational factor tend to achieve well on others.

Within the same general area of study, Alan B. Wilson (1969) researched the effect of social class segregation upon achievement. His subjects included 5,545 students in 11 junior and senior high schools in Richmond, California. Several rather interesting findings were derived, including one in which academic achievement in both integrated and segregated schools was found to be significantly affected by the social class composition of its students. The S.E.S. of schoolmates appears to be even more important than the S.E.S. of the student neighborhood peer group not attending the same school.

Attempts to arrive at the causal factors leading to the S.E.S.-achievement correlation have been made by a large number of researchers in sociology and education. This writer has classified the existing research under three general headings. The first heading is that of heredity, the genetic passing on of intelligence from one generation to the next. Second are the inadequacies of early socialization, with poor child rearing practices and/or the absence of language and sensory stimulation in lower class homes,

along with conflict between lower and middle-class cultures, stressing the irrelevancy of middle class education to lower class and/or ethnic values and life styles. The third area, being the one of greatest interest to this study, is the failure of predominantly lower S.E.S. and/or predominantly minority schools to provide an educational climate conducive to high achievement. The first two categories will be discussed briefly in the remainder of this section, and the third will be treated in greater depth in a later section of this chapter.

Heredity

There is nothing new about a theory of genetically transmitted intelligence. The nature-nurture controversy has a long history with large numbers of advocates on each side, who consequently look upon the hereditary transmission of intelligence as either educational fact or fiction. Genetic mental deficiency has long been applied to groups as well as to individuals as an explanation of the poorer educational records of certain racial, religious, ethnic and/or social groupings. Those who disagree with the theory of genetic group intelligence look upon it as merely an attempt by those in power to maintain the status quo. This is demonstrated by Richard J. Light (1972) through the use of two historic examples. This first example deals with the conclusions of Karl Pearson, British statistician, who in 1925 stated that on the average, Jewish immigrants were genetically inferior, both physically and mentally to the native population. As a second example, prior to 1960, the same thing was being said about

Catholics in the United States, and their ability to score high on intelligence tests. He concludes by pointing out the inaccuracy of these two beliefs, and how responsible a mistaken genetic explanation might be for helping to create group differences on intelligence measurements.

Most of the recent educational discussion concerning the question of genetic intelligence has revolved around the writings of Arthur Jensen (1969). The Jensen hypothesis is not a true genetic theory, in that he believes intelligence can be divided into separate components; heredity, environment, and the interaction of these two areas. His point is that environment acts as a "threshold variable" which under circumstances of extreme deprivation can hold a child back. However, to change the environment can do no more than bring academic ability up to the individuals genetic potential which is the most important predictor of intelligence. Environmental factors, Jensen contends, as measured by differences in socio-economic status ". . . are not a major independent source of variance in intelligence." (1969, p. 75) Finally, the article concluded that the IQ difference on standardized intelligence tests between black and white Americans, as groups, is one standard deviation (15 IQ points) and that, to date, no evidence has been produced to show that this gap in "intellectual ability" can be equalized ". . . through statistical control of environment and education."

Quite understandably, the Jensen article has created great controversy in both academic and social circles. Much of the criticism was reviewed by Silberman (1970) who concluded that the

hypothesis of genetic intelligence, as developed by Jensen, appears to be the clearest statement of this theory published to date. Because it has been conceded by Jensen that environment has a role in intelligence development and that genetic factors take effect only through interaction with the environment, it has been difficult, according to Silberman, for his critics to refute this section of the thesis. The problem, however, is that Jensen did not stop at this point. He continued by attempting to measure the amount of variation in intelligence accounted for by heredity and environment (environment accounting for 20% of variance and heredity accounting for 80%), and even further he attempted to assess social group differences in genetic terms. This reviewer, in agreement with the critics who argue that his evidence does not support his conclusion, further argues that any attempt to assign intelligence differences of genetic origin to social groups, is racist by its very nature.

Jensen's evidence of identical twins reared in different homes, having similar IQ scores, and unrelated children reared in the same homes, having much different scores on intelligence measurements adds credibility to his genetic argument. His study, however, covers few children, all of whom were white, and mostly from England. From these data, his critics contend, a precise measurement of the effects of environment and heredity is not possible nor do we know if different gene pools exist for blacks and whites, with respect to IQ.

Gage (1972) reviewed data from identical twin studies, finding that the high correlation (.85) between IQ's of identical

twins reared apart stems from similarity of environment. As the similarity of the environment decreased, so did the correlation, with differences of 15 IQ points and greater not uncommon. This can only be the result of environmental differences. Given the deprived conditions of certain social groups, in particular most black Americans, a mean difference for these groups of 15 IQ points may not be terribly meaningful.

Sandra Scarr-Salapatek (1971) would also question the usefulness of social group comparisons on the basis of the analysis conducted upon her study of 315 sets of black and 194 sets of white twins. It is her contention that "heritability" is a function of the population measured, and that the large proportion of relatively disadvantaged blacks living within highly isolated conditions in America, has resulted in less within group variation on intelligence measurements and less meaningful between group comparisons.

Although the theory of hereditary-intelligence does have its advocates, most modern researchers seriously question the validity of the theory of the importance of the genetic variable when compared with the environment and social circumstances. Many of those researchers who question the validity of genetic intelligence attempt to explain social class group achievement differences in terms of early socialization practices, which are discussed briefly in the next section.

Early Socialization

A good deal of research has been devoted to the area of pre-school relationships between a child and his family. Many of

these studies have been concerned with similarities and differences to be found in the socialization patterns of those persons who make up various socio-economic strata. Bronfenbrenner (1958) conducted a comprehensive review of the literature concerning child rearing practices in the United States, from 1930 until the mid-1950's, concluding that while there appears to be consistent patterns between social classes in such matters as permissiveness in feeding, weaning, and toilet training, that a definite reversal of positions has taken place since World War II, with middle class mothers becoming much more permissive than their working class counterparts. This most persistent difference which was discernible between the classes over the 25 year period studied was, according to Bronfenbrenner, that a middle class child is ". . . expected to learn to take care of himself earlier, to accept more reponsibility at home, and, above all to progress further in school."

More recent studies have arrived at similar conclusions. Boocock (1966) stated that socio-economic status is closely related to a number of family background variables which are also closely related to school performance. These variables include such things as, values, aspirations, child rearing practices, family size, and relationships between the family and the teacher. Rosen (1956) reported three achievement-oriented values which are highly related to academic success; (1) preference for manipulation of, rather than the acceptance of, environmental conditions, (2) an individualistic orientation, and (3) a preference for planning for the future and deferring gratification. Kohn (1969) reported that both working

class and middle class parents emphasize to their children those qualities which are important to their own lives. As a result, working-class parents tend to judge their children's behavior in terms of their immediate consequences, placing great emphasis on authority and external conformity. Middle-class parents appear to be more concerned with motives and attitudes, rather than with a particular act, and demand a great deal of "self-direction" to be demonstrated by their children. These conclusions were, in part, passed upon an earlier Kohn study (1959) where he compared the child rearing practices of 200 white-collar and 200 blue-collar workers, finding differences in their discipline practices with blue-collar workers tending to dictate their desires to their children, while white-collar parents appeared instead to attempt to develop in their children a sense of internal control.

The possibility of dissonance in the perceptions of educational goals between school personnel and parents, was researched by Roberts (1971). He found in his study of 30 principals, 154 teachers, and 241 parents, that a serious imbalance existed in the perceptions held between the three groups concerning the major problems facing schools. The widest difference existed between those views of the principal and those of parents. This raises the question of how children who are brought into this confused situation might react.

Gans (1962) also studied the question of differences in educational values. He used as his subjects, the lower class Italian immigrants and their schools in the West End of Boston.

He concluded that the inhabitants of the neighborhood perceived differences between the type of education which would reinforce the values of the group and those values which the public schools attempted to instill in their children. West Enders desired a "person" oriented education, teaching children the rules of adult society and stressing discipline as being more advantageous to the culture of the neighborhood, while the schools concentrated upon an "object" oriented education, teaching aspirations and skills in work and social relationships.

At the same time that parents of the West End realized the need for education to ensure secure blue-or white-collar employment for their children, they were fearful that it might also act to estrange their children from their families. This created a situation of ambivalence for the parents about the value of an education which, in turn, helped create a lack of educational motivation for the area children.

The effects of social class upon the verbal ability of children has been studied by a number of researchers. Nesbit (1961) reported that lower class children are likely to start school with a verbal disadvantage resulting from fewer opportunities to communicate with adults, possibly the result of large family size. Bernstein (1961) agreed that middle-class children have an advantage in school because of exposure to "correct" verbal language. He also (1965) differentiated between what he refers to as "restricted" and "elaborated" language forms. Elaborated language is concerned with the relationship between objects which are logical, temporal,

and spatial. Those who use it have a larger vocabulary, especially of adverbs and adjectives, and their grammatical structure is more accurate. Restricted language, on the other hand, is one of subjective observation rather than analytical observation. It is more egocentric, and used by the speaker with less awareness of the presence of his audience. Bernstein further claims that the type of language used affects the cognitive structure of individuals and, thus, their academic ability. It is, therefore, his hypothesis that the difference in achievement patterns between classes is the direct result of the language forms employed in the home. Morrison and McIntyre (1971), however, point out that while this theory is not inconsistent with much relevant available evidence, it is to date unsupported by empirical data. It should also be mentioned that Bernstein is an Englishman who did his research in Great Britain, and did not look directly at the American class structure. Thus, the effect of language patterns on values, behavior, or academic achievement remains a question for research.

Dealing indirectly with S.E.S. much research has been undertaken to determine the relationship between malnutrition and achievement. Much of the work which used animals as subjects concluded that a strong negative relationship exists between malnutrition and ability to learn (Winick, 1969 and Crowley, 1968).

Additional studies using human subjects reinforce much of the experimental findings in animals. The affects upon human learning resulting from malnutrition seem to be particularly important during infancy (Winick, 1969) and in the first year of

of life (Stoch and Smythe, 1968, and Moncheberg, 1969). Malnutrition appears to affect perception and impairs short term memory (Klein and Gilbert, 1967) related to child performance on psychological tests (Cavioto, 1966) and also had a strong relationship to several disorders of the nervous system of children.

In addition to the direct effects of malnutrition and illness on learning there are many more indirect effects. The malnourished child has been observed to be apathetic, irritable and unresponsive to stimulation (Cravioto and Robles, 1965).

On the basis of the evidence thus far presented this writer would conclude that many factors a child brings with him to school appear to have great importance in the prediction of academic success, and certain of these variables, such as the instability of homes, larger families, feelings of hopelessness, contradictory educational values, low parental expectations, and malnutrition all appear to be associated with both student social class, and academic success. It may, thus, be correct to attribute varying practices of socialization as reason, in some part, for the achievement differential between lower and higher socio-economic children.

This, however, does not explain the inability of schools to eliminate, or at least reduce, the achievement gap between groups of students. It also lacks explanation of why the gap actually becomes wider during the time spent in school. This study will accordingly concentrate upon the relationship between student learning and school factors, in an attempt to help answer

some of these questions. During the remainder of the present chapter, this writer will attempt to clarify the theoretical basis of this research, discuss the historic development of the research on school normative climate, and review the literature on the social-psychological variables of current interest.

Theoretical Foundations

Undergirding the present study on school normative climate, the major theoretical perspective is provided by George Herbert Mead (1934) in the form of his theories on symbolic interaction. Symbolic interaction is viewed, by the present researcher, as an individual's using his perceptions of the evaluations, expectations, and behavior of "others" as a basis upon which he forms beliefs, attitudes, and values about himself and any particular situation or set of situations with which he might come into contact. To the extent that the individual regards the "other" in question as "significant," he will tend to conform to his perception accordingly.

It becomes clear that within our theoretical framework, there are several important sub-theories with which we must deal; two of these being, expectations and role theory. This writer will attempt, in this section, to summarize and clarify how these constructs have been and are presently being employed in questions concerning school social-educational climate. The present theoretical analysis is an expansion of the earlier work of David Johnson (1970) who clearly articulated the literature of present interest.

Symbolic Interaction

George Herbert Mead (1934), generally referred to as the father of symbolic interaction, attempted to describe the development of the "self" as a phenomenon which:

> . . . arises in conduct, when the individual becomes a social object in experience to himself. This takes place when the individual assumes that attitude or uses the gesture which another individual would use and responds to it himself or tends to respond . . . . The child gradually becomes a social being in his own experience, and he acts toward himself in a manner analogous to that in which he acts toward others.

The question of self-other relationship had earlier been studied by Cooley (1902), who at that time developed the concept of "the looking-glass self."

> As we see our fact, figure, and dress in the glass, and are interested in them because they are ours, and pleased or otherwise with them. . . as in imagination we perceive in anothers mind some thought of our appearance, manners, aims, deeds, character, friends, and so on, and are variously affected by it. (p. 184).

Using this base, Kinch (1963) attempted to formalize the theory of symbolic interaction. Defining "self-concept" as the organization of qualities which an individual attributes to himself, Kinch proposed six basic propositions of symbolic interaction:

1. The individual's self-concept is based on his perception of the way others are responding to him.

2. The individual's self-concept functions to direct his behavior.

3. The individual's perception of the response of others toward him reflects the actual responses of others toward him.

4. The way an individual perceives the response of others toward him will reflect his behavior.

5. The actual response of others to the individual will determine the way he sees himself (his self-concept).

6. The actual response of others toward the individual will affect the behavior of the individual.

Johnson (1970) summarizes this formal theory with the following statement:

> The actual response of others to the individual will be important in determining how the individual will perceive himself; this perception will influence his self-conception which, in turn, will guide his behavior.

Deutsch and Krauss (1965) as well as Deutch and Soloman (1959) demonstrate that self-concept is not a unitary phenomenon, but rather consists of "symbolic representations" a person possesses of himself physically, mentally, ethically, socially, as well as his concept of "self" as measured by his actions, memberships, and possessions. Deutsch and Krauss (1965) also pointed out that the various "self-concepts' should be internally consistent. In those situations when an inconsistent element is introduced, Heider (1958) theorized that, the overall attitude would be altered only if the new information could not be either denied or ignored and then only altered to the smallest degree possible under the particular circumstances. A constant struggle, thus, exists in order to maintain a balanced relationship. It is the contention of Brown (1965) that an individual change of attitude toward a balanced relationship will emerge only when imbalance is a clearly recognizable phenomenon. Thus, once again the question of perceived vs. actual relationship continues to be an important theoretical issue. Some of the research on this question will be discussed later in this chapter.

Expectations

Clearly under the heading of symbolic interaction and of great importance to the present research, is expectation theory, and

the relationship between academic behavior and the student perceived academic expectations held by "others" who may be significant to his beliefs. Rosenthal and Jacobson (1968) call this phenomenon a "self-fulfilling prophecy" as coined by Merton (1957), and referred to by Myrdal (1944), as the "theory of vicious cycle." When such significant others as parents, school officials, teachers, and peers, are perceived by the individual as viewing his failure as an imminent reality, and he accepts those views, the chances are greatly enhanced that failure will follow. If any "significant other" is perceived by that individual, as having varying beliefs about the chances of academic success, the prospects of failure become diminishable.

While the Rosenthal and Jacobson study itself (to be reviewed later) is of great research and theoretical value, it appears obvious, to this reviewer, that we are merely dealing with symbolic interaction theory under another name. This theoretical perspective better explains their findings.

Earlier researchers described the same general phenomenon. Roethlisberger and Dickson (1939) coined the term "Hawthorne Effect" to explain why people who perceive that they have been singled out for some special trait, soon exhibit the characteristics which they perceive are being sought. Once again, this reviewer, would classify the "Hawthorne Effect" as an important contribution to sociological literature. It is, in actuality, another example of the significance of perceived expectations, and theoretically based upon symbolic interaction.

Expectation theory becomes extremely informative when we discuss the complementary construct of "aspirations." Individuals who experience consistent negative reinforcement within a particular area will also develop limited aspirations concerning their future plans within the area of endeavor. For example, a student who is expected by "others" to be a failure, and experiences some difficulty early in his education, will rarely attain a "self-concept of academic ability." His level of future educational aspiration will remain quite low.

Certain societal positions can follow the same pattern. Herriott (1963) points out that academic aspirations of boys are different than those of girls, and aspirations of children from high income families are different than those of children who come from low income homes. As Gigliotti (1972) summarized, ". . . certain aspirations may be out of the frame of legitimate reference for certain types of people. . . ."

Gross, Mason, and McEachern (1958) have studied the question of how certain aspirations are developed among groups of people, from the perspective of role theory. Their basic thesis is that individuals who hold certain social positions (for example, a low S.E.S. student) will develop complementary identities, behaviors, and aspirations on the basis of the perceived expectations of "others." We will, therefore, next concentrate on a discussion of role theory.

Role Theory

Remaining within the symbolic interactionist tradition of Cooley (1902) and Mead (1934), we find the construct of role theory. Krech, Crutchfield, and Ballachey (1962) define role as:

> The pattern of wants and goals, beliefs, feelings, attitudes, values and actions which members of a community expect should characterize the typical occupant of a position. Roles perscribe the behaviors expected of people in standard situations. The various roles of a group are interdependent. (p. 338)

Role behavior, according to these authors, like all other types of social behaviors, is a product of the interaction between those situational factors present, and such social-psychological factors as ". . . cognitions, wants, attitudes, and interpersonal response traits of the individual . . . ." Sarbin (1954) also formulated a role theory which largely stressed the blending of situational and psychological factors governing the role behavior of individuals.

This synthesis of the human organism with the social environment as the creating agent of "self" as a cognitive structure, appears according to Deutsch and Krauss to be employed more by role theorists than by those of any other theoretical persuasions. Keeping this characteristic in mind, they attempt to define the meaning of role by stating at the outset that it is composed of three operational definitions:

1. Prescribed role consists of the system of expectations which surround the occupant of a position and his behavior toward occupants of a complimentary position.

2. Subjective role consists of those particular expectations the occupant of a position perceives as applicable to his behavior when he interacts with the residents of some other position.

3. Enacted role consists of a particular overt behavior of the occupant of a position when he interacts with the occupant of some other position.

The authors continue by pointing out that prescribed, subjective and enacted roles actually depict the same underlying phenomenon and are empirically closely correlated. They hypothesize that members of a social system which is well-integrated would:

> . . . correctly perceive the social norms that govern their behavior: their subjective roles are similar to their prescribed roles. Similarly, peoples' actual behavior tends to correspond to what they believe is expected of them: the enacted roles and the subjective roles coincide.

Again it clearly appears that the interplay between an organism and its environment, referred to commonly as role theory, has its roots deeply embedded within a symbolic interactionist frame of reference and significantly contributes to the theoretical base of the current study. This helps us to understand the attitudes and behaviors of individuals in their relationship to their social system. In turn, this helps greatly in our understanding of the functioning of school social systems, with certain actors (students, teachers, administrators, parents, etc.) playing roles, which are based upon mutual expectations, complimentary to each other in the formulation of a particular school learning environment.

Structural Effects

Many authors (Blau, 1960; Selvin and Hagstrom, 1963; Blau and Scott, 1962; Blake and Davis, 1964) have discussed the concept that groups establish accepted patterns of normative behavior, beyond the attributes of individual members. Blake and Davis (1964), in an attempt to clarify their position, state:

> Human societies differ from animal societies in that the rules of behavior differ from group to group. For insects and animals, behavior tends to be nearly identicial, varying only with external conditions.

In what has become the classic work for those wishing to further study the possibility that individual behavior is influenced by the group values and norms held within a social environment, Blau (1960) refers to the phenomenon of "structural effects." This argument contends that within any social or complex organization, certain values and norms are generally accepted by groups as legitimate, with negative sanctions being placed upon those whom the membership perceives as having behaved in a deviant manner. In part, by having the ability to exercise informal control over the membership, the group is also better able to control the external environment (Blau and Scott, 1962). This situation generally results in a modification of the behavior and attitudes of the deviant member. In any event, any individual group member is greatly affected by the pre-existing norms and values of the "group climate."

The structural effect phenomenon was divided by Blau (1960) into six distinguishable types:

1. Direct Structural Effect of Common Value
   Conduct of an individual is motivated by his value system and the social pressures from members of the group.

2. Inverse Structural Effects of Common Values
   Group values precipitate normative constraints that counteract individual psychological reaction that are not commensurate with group values.

3. Contingency Effect of Common Values
   Correlation between individual value construct and a third value is influenced by value configuration in the group.

4. Direct Structural Effects of Relational Network
   Individuals' personal relationships or social status is separated from the abstract supportiveness or constraining forces exerted by the organization in regards to interplay between participant and subgroups in a collectivity.

5. Inverse Structural Effects of Relational Network
   Status hierarchy or network in a group may be quite unlike that of an individual social status or social relationships.

6. Contingency Effects of Rational Networks
   Relationship of individual social position and another variable depends on the distribution of social position or relation in the collectivity.

Blau contends that "structural effects" can be both isolated and examined. This can be accomplished by demonstrating the independence of various group patterns from the values of various group members, citing the following example:

> If we should find that, regardless of whether or not an individual has an authoritian disposition, he is more apt to discriminate against minorities if he lives in a community where authoritarian values prevail than if he lives in one where they do not, we would have evidence that the social value exerts external constraints upon the tendency to discriminate--structural effects that are independent of the internalized value orientation of individuals.

A Social-Psychological Theory of Learning

The four theoretical legs which have been presented; symbolic interaction, expectations, role theory, and structural effects, are the support undergirding the social-psychological theory of learning, advanced by Brookover and Erickson (1969) which, in turn is the theoretical base of the present study. This social-psychological position is a social interactionist theory dealing with the method by which individuals operating within various learning situations and perceiving varying expectations from "others" toward their actions, develop the "appropriate" behavior to their academic role

within their social system. The basic theory of "academic self" as stated by Brookover and Gottlieb (1964) is as follows:

> In this context, the self is the intervening variable between the normative patterns of the social group or the role expectations held by the significant others, on the one hand, and the learning of the individual, on the other. We hypothesize that, for the expectations of others to be functional in a particular individuals behavior, they must be interalized and become part of the person's conception of himself. Although we recognize the relevance of self in all aspects of human behavior, our interest at this point is in a particular aspect of self as it functions in the school learning situation. We postulate that the child acquires, by taking the role of the other, a perception of his ability as a learner of the various types of skills and subjects which constitute the school curriculum. If the child perceives that he is unable to learn mathematics or some other area of behavior, this self-concept of his ability becomes the functionally limiting factor of his school achievement. Functional limit is the term used to emphasize that we are speaking not of gneetic organic limits on learning but rather of those perceptions of what is appropirate, desirable, and possible for the individual to learn. We postulate the latter as the limits that actually operate, within broader organic limits, in determining the nature or extent of the particular behavior learned.

For the present research, this thoretical perspective has been expanded in an attempt to assess the extent to which it constitutes an effective base from which to analyze variations in school normative learning climates. We shall presently study the manner and extent to which these climates have a relationship to the mean achievement of the student body beyond the effect of such external variables as socio-economic status of the school population, racial composition of the school, or if the community type is urban or rural.

School Climate Literature

One is faced with a lack of systematic, scientific analysis in the literature, when attempting to review the topic of normative academic school climate. There exists a large body of literature

whose main thrust, while not a specific analysis of school normative climate, does certainly deal with the subject in an effective and revealing manner. Examples of this type of literature range from the analysis of the importance of certain prep school climates for the maintenance of a "societal" elite, in the classic Mills (1956) examination of The Power Elite; to the more recent popular works, designed to cast light on the poor learning conditions present in those schools whose student bodies are predominantly black and poor, Kozol (1967), Kahl (1967), and Stein (1971).

Academic interest in school social systems is by no means a new phenomenon, with even so reknown a scholar as Talcott Parsons (1959) theorizing on the classroom social system and discussing the roles of parents, peers, and teachers and the relative importance of value concensus among these groups for an increase in academic achievement. Still, Boocock (1966) commented that the one area where we find surprisingly little sociological research is in the study of those social factors leading to learning, or the kind of teacher and type of teaching which produce the best learning results. Within the same articule, Boocock stressed her belief that it is extremely difficult to measure the learning climate within any given classroom, because of the confounded nature of the classroom in the school. She concluded, however, that although the research evidence was very sparse and generally limited to high school and college situations, certain interesting findings were evident:

> On the level of the whole school . . . the research evidence indicates that certain types of environments, namely those in which intellectualism and academic achievement are positively

> valued, are productive of learning. The trick here is to understand just what combination of individual and system characteristics produce various intellectual climates . . . .

Boocock's criticism of school climate research appears to be an accurate assessment of much of the literature on the topic. We can find numerous examples (Wendel, 1970; Holland, 1969; Wallin, 1969) of education journal articles in which the author freely advocates various types of learning climates (democratic, free, open, etc.) with no empirical evidence presented that higher achievement or any other outcome will result. It has also become clear, however, that during the past decade ever increasing amounts of research time and energy have been devoted to determining the effects of various school climates on learning.

For the purposes of the present review, we will concentrate on that literature which directly purports to examine the connection between school normative climates and various educational outcomes. In this section we pay particular attention to that literature which characterizes the historic development of the general topic of school climate. To do this, we look at three related, but separate areas of research interest; (1) colleges and universities, (2) secondary schools, and (3) elementary school environments. Research dealing with the operationalization of our specific variables of interest will be reviewed and discussed.

Colleges

A number of studies have concentrated upon normative educational climates of colleges and universities. Davis (1963) looked at differences in the values held concerning intellectualism between

different types of colleges. Of 33,982 students at 135 colleges and universities, he found that high quality, private, small institutions have high proportions of their senior students endorsing intellectualism. At the same time, in lower quality, public, and larger institutions this value is endorsed by lower proportions of seniors. In addition, he found technical schools to score lower in student expressed intellectual values. While the Davis study is interesting, it does not attack the question of whether students chose the particular college for the intellectual climates which were present or if existing intellectual climates developed the value patterns in those students present within the environment. Basing their research upon a theory advocated by Murray (1938) in which he explains the outcomes of the relationship between an individuals internalized personality traits and environmental pressure in terms of "needs" and "wants," Pace (1964) and Stern (1964) developed three instruments used to measure these constructs within college environments. The first instrument, the Activity Index (AI), contains a group of 30, 10 item scales used to measure such student characteristics as dominance, nurturance, and achievement. The second instrument, the College Characteristics Index (CCI) is a measure of environmental press, and contains parallel scales to those found in the AI. The third instrument developed by Pace and Stern to measure the "need-want" relationship is the College Characteristics Analysis (CCA) used to analyze particular academic and student sub-cultures, in terms of both program objectives and environmental factors.

Through use of these instruments, Pace and Stern (1958) concluded that colleges tended to follow several basic patterns:

1. Intellectual-Humanism
2. Intellectual-Scientific
3. Practical and applied Humanities and Scientific emphasis, (practical-status)
4. Individual responsibility to fellow students and society, (group welfare).
5. Rebellion against conservatism, (rebellion).

Stern (1964) concludes his review of studies employing the "need-press" scales, by stating that colleges do differ systematically in both the type of student attracted and the experiences which were allowed those students who actually attended the colleges. It was further concluded that entering freshmen, in general, did not have a knowledge of the true academic climate, but rather possessed a stereotypic view of colleges, combining the academic characteristics of elite liberal arts schools with the community spirit and orderliness found in church run schools.

Along the same general line of inquiry, but with somewhat different results, Chickering (1966, and 1967) conducted a four year study of 13 small colleges (population of students under 1500) in an attempt to find any pattern of influence by college variables (curriculum, religious orientation and emphasis, supervision of students, as well as institutional objectives), over such student value systems as; atheism-agnosticism, developmental status, estheticism, theoretical orientation, originality, and liberalism. He concluded that students tend to attend those colleges which are most compatible to their personalities.

While Chickering may have accurately assessed the relationship between personality and college type with his small sample, it was a group of studies conducted at Bennington College by Newcomb and Flacks (1964), that attempted to find patterns of behavior for those students who were deviates from the norm. Using, among other measures, the Omnibus Personality Inventory (the same instrument as used by Chickering, 1966), they assessed the prevailing norms within the college environment and were able to isolate two possible types of deviant student behavior; (1) Collegiate - consisting of those deviant students who are involved in the college peer structure and belonging to identifiable sub-groups, and (2) Noncollegiate - membership including those deviant students who neither hold the norms of the institution nor belong to any identifiable sub-group. They found that those students who were classified as "Collegiate," were clearly identified as deviant, had more friends within the college environment, were less inclined to ever accept institutional norms, and were more inclined to stay in school than were the "non-collegiates," who having no "others" in the college community who were significant to them, tended either to move in the direction of the institutional norms or to drop out of school.

On the basis of such evidence concerning student subcultures as those previously reviewed, Clark and Trow (1966) devised an extremely informative taxonomy of college student group environments. This is based upon two major factors; (1) the extent to which the student identifies with the school, and (2) the extent to which the students are concerned with ideas. From these, four sub-cultures

emerge; (1) the Academic group who strongly identify with the college, usually through the faculty, and are involved with ideas, (2) the Collegiate group who also identify with the college, however, usually through such sub-cultures as fraternities and athletic teams, remaining uninvolved with ideas, (3) the Non-Conformist group, composed of those students who are highly involved with ideas, but not identifying with the college itself, and finally (4) the Vocational group which identifies neither with the college nor does it involve itself with ideas.

Skager (1966) attempted to relate changes in student self ratings on such dimensions as; scholarship, expressiveness, practical-mindedness, popularity, sensitivity to the needs of others, and academic self-confidence to the environments of the schools which they were attending. He concluded, on the basis of his research, that change found in students due to college experiences is highly related to both environmental and institutional characteristics.

Looking directly at the question of the effects upon student achievement of college normative climate, Austin (1965, and 1967) reported, in his study of 254,480 students at 307 colleges and universities, that he was able to identify 36 environmental variables. He was able to group them into four categories including; classroom environment, physical environment, peer environment, and administrative environment. Of these variables studied, he found 21 to have a significant relationship to college attrition, and he suggested that;

> Students are more likely to complete four years if they attend colleges where students peer relationships are characterized by

> friendliness, cooperativeness, and independence, where the students frequently participate in college activities, where there is a high level of personal involvement with and a concern for the individual student and where the administrative policies concerning student aggression are relatively permissive. (Austin, 1967, p. ii).

The college studies reviewed are of both great interest as well as significance in contributing to our knowledge of student sub-cultures, school normative climate differences, and educational outcomes. We find, however, that some basic questions remain unanswered by these studies. Any cause-affect relationship between academic climate and student personality is inconclusive. The research makes it appear likely that it is an interaction between the two which is affecting educational outcomes, but the extent of this interaction is not known and given. Furthermore, given the advanced age and wide range of experiences held within these samples of students, we are unlikely to come to any specific conclusions by concentrating on colleges and universities.

The use of college subjects is misleading in other ways. Not only is the generalizability of our results greatly limited, but by studying higher education, we are dealing, for the most part, with a population of students who have chosen, or whose parents have chosen to be part of their particular school environment, thus confounding any results which have been obtained. This writer asserts that results are further confounded by the nature of variables, to the extent that parents of elementary school children select a residential neighborhood with consideration to its specific school. Finding research on colleges to be both interesting and necessary, it appears

to insufficiently warrant any conclusions about the effects of school academic or social climates upon our sample of students.

Secondary Schools

When one is reporting the literature which concerns itself with secondary school normative climates, it seems fairly apparent that the place to begin is with the research by Coleman (1961) in his classic study of the adolescent sub-cultures in ten northern Illinois high schools. He concluded that similarities within value patterns did exist, but that individual schools had climates which were to some extent unique. Specifically, Coleman found that proficiency in athletics was considered an important attribute for boys, no matter where the school was located, as was social success for girls. Academic achievement, on the other hand, might either be rewarded or punished by the peer subculture, depending upon the specific environment. Punishment would result in those cases where the academic expectations for students were low and the students themselves perceived that higher achievement by a few would result in greater expectations being placed upon the rest. In schools where achievement was highly valued, the "elite" received higher grades. It was Coleman's contention that once the adolescent "society" was known and understood, it could also be controlled, the resulting outcome being higher achievement.

Several other studies have dealt with secondary school academic climates and concluded that they have a significant effect upon the educational achievement of students. Among these studies

were those of; Walberg (1968), Wilson (1969), Goff (1969), Jones (1971), and Rousseau (1971). Of great importance to the present research, McDill, Meyers, and Rigsby (1967) studied a non-random sample of 20 high schools, which included 20,345 students and 1,029 teachers, in an attempt to isolate and explain the relationship between various normative high school climates and achievement patterns. Using standardized aptitude and achievement tests, supplied by Project Talent and using schools from varying social and regional types, they hoped to find the contribution to achievement of normative climate beyond effect of the socio-economic composition of the student body.

By factor analyzing 39 school characteristic variables, from students and teachers, McDill, et. al., were able to interpret six factors of school climate:

1. Academic Emulation-Climate valuing academic excellence.
2. Student Perception of Intellectualism-Estheticism-----Climate stressing an intrinsic value on the acquisition of knowledge.
3. Cohesive and Egalitarian Estheticism----The extent to which academic excellence is a criterion for status.
4. Scientism-----Climate with a scientific emphasis
5. Humanistic Excellence----Climate press toward creation and maintenance of student interest in art, humanities, social science, and current social issues.
6. Academically Oriented Student Status System----Student Bodies socially reward Intellectualism and Academic performance.

Their results indicated that when S.E.S. composition and intelligence are controlled, the climate effect still maintains some explanatory power in which academic composition, achievement, intellectualism,

and subject matter competence are demonstrated and emphasized by faculty and other students. Students entering a school environment will tend to adopt these scholastic norms and will have higher achievement scores. They also concluded that socio-economic status does serve as an adequate indicator of a normative climate in those schools which are either very low or very high on the S.E.S. continuum. However, S.E.S. is a very poor indicator of climate for those schools which are not at the continuum's extremes.

We thus find that those researchers studying secondary school environments, as well as those who concentrated upon colleges and universities, have found the existence of clearly definable normative climates within the sub-cultures of schools studied. It is in the case of secondary schools, however, that we are more clearly able to see that the climate also had an impact upon achievement beyond those pertaining only to the student as an individual. We, therefore, move on to the literature concerned with elementary school social climates, in order to see if this concept can be expanded and our knowledge significantly increased.

Elementary Schools

One of the most neglected areas of research for sociology of education has been the study of normative academic climates within elementary schools. Until quite recently, those attempting to comprehensively review the literature on the effects of elementary school climates upon learning, have been unsuccessful (see Boocock 1966, and Johnson 1970). The current study is, therefore, an attempt to rectify this situation.

There have been a few attempts by researchers to study certain aspects of elementary climate within the past few years. An earlier attempt by Halpin and Croft (1962) to devise a method of researching school climates, refined their instrument, the Organizational Climate Description Questionnaire (OCDQ), for an elementary school population, an instrument often employed to study secondary school climates. The idea behind the scale's design is that organizational climates are similar to the personalities of individuals. Just as individuals can have "open" or "closed" personalities, so to can schools. The OCDQ which is administered to school personnel and not to students, contains two groups of scales, one to find the degree of disengagement, hindrance, espirit, or intimacy demonstrated by the staff, and others to measure the degree to which the leader demonstrates aloofness, production emphasis, trust, and consideration. From this, schools can then be placed upon a six step continuum,from "open," characterized by the membership demonstrating openness and concern for one another, to "closed" in which members feel no group commitment and are unwilling to exhibit openness with other group members.

While the Halpin and Croft technique is not completely suited to the thrust of the present investigation, it is still of great interest to those who study school climate. Researchers have often used the OCDQ to characterize staff climates with some (see Fascetti, 1971) reporting that elementary schools, in general, have more "open" climates than do secondary organizations.

Others have looked at differences between types of schools (Davis, 1969), finding significant differences on the OCDQ between

predominantly black and predominantly white high achieving schools. Kenney and Rentz (1970) attempted to replicate the Halpin and Croft procedure on an urgan sample, finding that different factors had emerged. These were; (1) Principal as authority figure, (2) Teacher qua Teacher, (3) Non-classroom teacher satisfaction, and (4) Work conditions. They concluded that it was impossible to separate the internal classroom climate from the environment external to the immediate classroom, which affect urban teacher perception of their schools. It is quite evident that much more research must be conducted, with special emphasis upon the effects of the "open-closed" continuum upon school achievement, before we can make any conclusive statements in this area.

Of greater interest to the present analysis is a study by Sinclair (1970), of 12,000 students from 100 elementary schools. By using factor analysis, he was able to articulare five school climate dimensions which, using Pace's terminology, were named; Practicality, Community, Awareness, Propriety, and Scholarship. Looking at schools, it was found that they tended to cluster around such categories as:

1. Practicality-Schools that are scholarly, yet rebellious
2. Practicality-Schools that are scholarly, warm, and accepting with a higher score on politeness
3. Schools characterized by emphasis on student conformity and politeness.
4. Schools which are academically rigorous and have little concern for practicality.
5. Schools low on Scholarship and Practicality
6. Rebellious schools which are also low on awareness
7. Schools which are cold and rebellious, somewhat like jails.

A follow-up study conducted by Sadker and Sinclair (1972) identified the emergence of six very interesting new factors. These new factors were named; Alienation, Humanism, Autonomy, Morale, Opportunism, and Resources.

We have thus far established that in the question of why certain schools are more academically successful than are others is a highly complex problem, containing many factors which must be considered. First we reviewed some of the large amounts of evidence showing a close relationship between achievement and the mean socio-economic status of the school student body. Sociological, psychological, and educational researchers have attempted to explain these differences in several ways, three of which were reviewed in this chapter; a genetic theory of intelligence, inadequacies of early socialization along with a confrontation of values between the home and the school and, finally, a third body of research has begun to suggest that normative educational climate may be an important causal factor in learning.

This current research endeavor is an attempt to look more closely at the question of an existing relationship between school climate and achievement within elementary school organizatons. The theoretical perspective, previously stated, places us within a framework of the social-psychological theory of learning, based upon symbolic interaction, role theory, and environmental structural effects. Our review of the current state of school climate literature has proven research to be spare, with the greatest concentration being placed upon college and secondary school environments. The

remainder of this chapter will be devoted to a presentation of the specific variables of interest which were used in conducting this research.

Variables of Interest

Although there are 13 primary attitudinal variables (to be discussed in Chapter III), upon which this study and our conception of school climate is based, they are merely refinements of five basic social-psychological constructs. These five basic variables are; (A) evaluations-expectations within the social system, (B) academic norms within the social system, (c) feelings of futility/improvability within the social system, (D) teacher satisfaction, and (E) sense of community involvement within the school.

Evaluations-Expectations

One of the most important aspects of the present research lies in the study of the effects of the evaluations and expectations of various significant individuals and groups within the school environment. Specifically this is an attempt to significantly increase our understanding of school climate and its relationship to achievement by studying the present and future evaluations and expectations of; (1) the student perception of his peers, (2) the student perception of his parents, (3) those perceived by the teachers as being held by members of the school social system as well as their actual evaluation-expectations of students, and (4) those perceived by the principal as being held by members of the school social system as well as his actual evaluations-expectations

of students. A somewhat different yet highly interwoven concept, placed under the heading of students expectations, is the reported present and future self-concept of academic ability.

Perceived Peer Evaluations and Expectations

There has been a good deal of research concerned with peer group influence upon individual students. Johnson (1970) cites the comprehensive review of the literature pertaining to college student peer group relationships, undertaken by Freedman (1967), who concluded that students influence over fellow students appeared to have greater impact than any other school influence, and the predominant student sub-culture transmitted academic goals from one generation to the next.

The importance of peers is maintained by many. Parsons (1959) pointed out that peers function as an important compensatory source of non-adult acceptance and approval. Coleman (1961), in a high school study, demonstrated that values concerning such school-related functions as academics, athletics, cars, and dating were all profoundly affected by the peer sub-culture. Coleman et. al. (1966) and Wilson (1969) showed that such factors as social class status, educational background, and the aspiration level of the student majority, have a strong association with increased achievement for disadvantaged minority students. This has led some (see Johnson, 1970) to speculate that peer influence might be an adequate substitute for those families that do not stress a great emphasis upon educational achievement.

Other studies have cautioned that we must use care in generalizing about the effects of peer groups upon student populations. Seashore (1954), studying an industrial situation, concluded that group cohesiveness is an important variable in understanding peer pressure upon levels of production. Schmuck (1966), studying schools, showed that the structure of the group, diffuse or hierarchical, had bearing upon students perceptions and acceptance of each other, as well as the group desire for academic achievement.

Perceived Parental Evaluations and Expectations

The amount of parental influence over students and the significance of their evaluations and expectations upon student academic achievement, has been studied by a number of researchers, producing some conflicting evidence. Coleman (1961) contended that we have seen the formation of an adolescent sub-society, separate and often conflicting with that of the adult members of the community. This would thus negate some of the significance that parents had over student lives.

It appears, when one looks at academic achievement apart from other student desires, that parents possibly exert greater influence. This, at least, is concluded in much of the current research, Erickson (1967) looked at this question as part of the analysis of Brookover's et. al. (1967) larger study of self-concept of academic ability. On the basis of Erickson's analysis of 942 students from 3 urban high schools; (1) parental concern over student achievement was greater than that of friends, (2) this applied to both males and females, (3) parents were perceived to hold higher expectations,

(4) parents were also perceived to place greater importance on the beliefs concerning their childs achievement than did friends, and (5) parents were perceived to hold students under greater surveillance than were friends. The author concluded that this study lent strong evidence to the view that although peers are important "significant others" in many respects, including academic achievement, parental evaluations and expectations concerning achievement appeared to be at least as important as those of the student peer group.

Lending support to the Erickson study, Thomas (1969), concerned with academic achievement for deaf students, reported that the counseling of parents about their children's work tended to raise both the student self-concept of academic ability as well as actual achievement. Also concluding that parents are still extremely important "significant others" to students in the area of achievement,is the more recent research by Coleman et. al. (1966), studying equal educational opportunity.

Perceived and Actual Teacher Evaluations and Expectations

As stated earlier, much of the early research in the area of expectations and learning is attributable to the work of Robert Rosenthal, both in his study of animals (1966) as well as his highly important collaborative study (Rosenthal and Jacobson, 1968), on elementary school achievement. In order to conduct these studies, naive subjects were told in random groups that certain subjects were either more intelligent or were about to make an educational spurt.

Laboratory technicians dealt with rats, and teachers dealt with students: in the case of both rats and students, those predicted higher achievers gained significantly more in achievement than did the control group. In the case of the students, this jump in achievement was much more pronounced in the earlier grades.

Thus, the Rosenthal and Jacobson (1968) study lends credence to the hypothesis that expectations have a symbiotic relationship with achievement (input result feedback input). Finn (1972), however, points out that this study has been attacked by a number of other researchers as being methodologically incorrect (Snow, 1969); overinterpreted (Elashoff and Snow, 1971); and inadequate at identifying the teacher behavior that produces high and low achieving results (Thorndike, 1968). There have also been a number of attempts at replication of the earlier findings which have failed (Jose and Cody, 1971; Fleming and Anttonen, 1971; Claiborn, 1969; and Rubovits and Maehr, 1971).

Other researchers, after reanalyzing the Rosenthal and Jacobson data, have concluded that the original conclusions were adequately reinforced (Gumpert, and Gumpert, 1968). Still others contend that teacher expectations are an important variable to student achievement, for both pre-school children (Breez, 1967) and Air Force trainees (Schrank, 1968). These conflicting findings are, in part, the result of the great difficulty which researchers face when they attempt replications. The studies can never be exactly the same, as knowledge of the expectation phenomenon has become so widespread within educational circles, that contamination of subjects is almost impossible to control. Finn (1972) has suggested that the reported

inability to achieve significant differences through the experimental manipulation of subjects, may be accounted for by the inability of the experimenter to make his predictions believable to the subject. A remarkable factor involved in the Rosenthal and Jacobson experiment might actually be that teachers accepted the experimenters as their "significant others."

What is safe to presume is that teachers have varying teaching styles which closely correlate with their beliefs about the achievement ability of the students in their classes, a phenomenon which has been observed by a number of researchers (Brophy and Good, 1970; Silberman, 1969; and Rothbart, Dalfen, and Barrett, 1971). This results in the high probability that certain learning activities and results will take place to the exclusion of others, the result being differential achievement (see Gigliotti, 1972), or at least, in teachers reacting to the responses of different students in different ways depending upon their differing expectations (see Cornbleth, Davis, and Button, 1972; or Finn, 1972). When these expectations and the accompanying teacher behavior are based upon some social stratification groupings, as race or socio-economic status, we find ourselves in the position that Brookover and Erickson (1969) describe, as expectations leading to discrimination (probably through some type of tracking). This situation will become increasingly stronger during the years the student remains in school, thus molding a life pattern most difficult to significantly alter.

That teacher expectations are the result of beliefs about student S.E.S. and/or race, is confirmed both by Howe (1970) and by Rist (1970). Howe studied 255 teachers of differing races and social classes from middle-class white schools, lower-class white schools, and lower-class black schools. He concluded that teacher age or race made little difference in their belief that middle-class white students had more ability than lower-class white students, and that lower-class white students had more ability than lower-class black students, especially in reading and math.

The Rist study attempted to answer the question of how and why teachers form expectations about students. Data for this analysis were based upon a three year period of observation of a single group of students (K-2), in a school in which both the entire student body and the entire teaching staff was black. This study demonstrates that during these early school years teacher expectations of "fast" and "slow" learners are not based upon any objective criteria, such as intelligence tests, but rather upon such subjective "middle-class" characteristics as neatness in appearance, overt signs of interest, necessity for adult interaction, and display of leadership in the class. Those groups of students whom teachers believed to be "slow" learners were characterized as, dirty, smelling of urine, or speaking in a dialect unfamiliar to that of the teacher or the other students who were considered "fast."

Perceived and Actual Principal Evaluations and Expectations

This reviewer was unable to find any research specifically studying the relationship between expectation patterns of principals

and the achievement of the students in their schools. We do, however, have information about the role and position of principals, which gives us a better understanding about their relationship to the rest of the school environment. While principals do not appear to be "significant others" to the students in the school (see Brookover et. al 1967), it has been demonstrated in a number of studies dealing with such school matters as innovation in education (see Eichholz and Rogers, 1964; Helfiker, 1969; and Mahan, 1970), that they are "significant" to the teaching staff. Thus, if principal expectations do influence achievement, it appears that they may do so through as mediating forces.

Self-Concept of Academic Ability

Expectations are not a direct determinant of an individual's academic achievement. First, the individual student must accurately perceive, accept, and internalize expectations held by this "significant others" concerning his ability. While there appears to be no evidence of what contributes "significant" characteristics to "others" (see Webster, 1969), research demonstrates that these persons can be identified by the subject. Within the area of school achievement, Brookover and his associates (1962, 1965, and 1957) have identified a student's "significant others" as those individuals occupying the roles of either parent, peer, or teacher. Once the student has finished the process of internalizing the expectations of his "significant others" and has a view of his own relationship to his academic environment, he has then formed his self-concept of academic ability (SCA).

The conception of SCA as well as the scale used in this research endeavor are modifications of the self-concept studies by Brookover. SCA, as used in this study, is a "threshold concept" to set a limit on attempted learning. While high self-concept of academic ability will not guarantee academic success, a low SCA will account for a large proportion of academic failure. In justification of this theory, Brookover, et. al. (1967) found a correlation was found between SCA and actual achievement to be from .48 to .63 and when measured intelligence and socio-economic status were partialed out, the relationship between achievement and self-concept was not affected.

Johnson (1970) cites many other correlational studies that verify SCA and actual achievement are related; Bodwin (1957), Shaw (1961), Shaw and Alvis (1963), and Bledsoe (1964). There have also been some studies showing white students to have higher SCA's than black students (see Morse, 1963), also that SCA is an extremely high correlate of achievement for both northern and southern black students (see Epps, 1969). A large amount of recent research evidence, however, including Soares and Soares (1969), Zirkel and Moses (1971), and Rosenberg and Simmons (1971) have concluded that black students SCA is not only higher than originally believed, but may potentially be higher than that of white students.

Academic Norms Within the Social System

As in the case of expectations, "norms" are the product of a number of variables having a relationship with school climate. These

variables are; (1) academic norms, (2) teacher and student press for individual competition along with the closely related phenomenon of teacher push, and (3) importance of the student role.

Academic Norms

Norms are present within the social system when there is common sanctioned agreement about expected behavior. Johnson (1970) cites Thibaut and Kelley's (1959) description of norms as being observable in three ways; (1) by regularity of behavior, (2) by group restoration of disturbed regularity by first appealing to the norm, or secondly by exercising the group power as enforcer of the norm, and (3) a person who regularly deviates from the norm will feel an obligation to conform through feelings of both inner conflict and guilt about his behavior.

That norms are powerful determinants of group behavior, has been demonstrated by a number of researchers (see Sherif, 1936, Festinger, 1950, and Ashe, 1952). That norms either encouraging or discouraging academic performance have a strong effect upon group achievement, has also been the conclusion of a number of studies. McDill, Meyers and Rigsby (1967) found that of the six factors which constituted their conception of "school climate" the academic norms factor ("academic emulation") by itself accounted for twice the explanatory power of S.E.S. when looking at achievement (see also Meyers and Rigsby, 1972). Coleman (1961) demonstrated the manner in which the negative academic norms among peers serve to work against the official policy of the school environment. Wilson (1969) also discussed the relationship between norms and achievement, attempting

to show how social class segregation helps in the creation of a normative environment encouraging the spread of delinquent behavior.

Existing evidence points to academic norms as a powerful achievement variable. This research work attempts to test this theory in elementary schools, as well as to further knowledge of the manner in which norms actually operate in a school situation.

Press for Individual Competition and Push

There is not an overwhelming amount of research evidence comparing academic performance in cooperative and competitive situations. It appears clear, however, from that research which is currently available, that in group climate of the two different conditions, cooperation creates a more pleasant environment.

Deutsch (1962) theorized that when a learning environment is cooperative, the goals of individuals are so linked that they reinforce each other, creating a high correlation between the goal attainment of group members. The outcome of this situation leads to higher group achievement.

Research concluding that a cooperative climate is more advantageous to group situations, was conducted upon college students by Deutsch (1949), and Haines and McKeachie (1967). While neither study was able to show that a cooperative learning situation had a significant impact upon academic achievement, they did find that cooperation produced friendlier discussion groups, the memberships of which were more satisfying, less anxious, less self-oriented, more respectful of others, and displayed more apparent security.

Johnson (1970) cites conflicting evidence concerning cooperation and achievement through Gurnee's (1968) findings that maze learning was significantly greater under instructions to cooperate and Julian and Perry's (1967) findings that group members were more motivated and productive under certain degrees of competition. The short duration of the Julian and Perry study (two hours), however, makes it unfair to generalize to cooperative groups where members know one another.

In cooperative situations, individuals have been found to imitate others in the group (see O'Connell, 1965). This would appear to be important to achievement and to grouping practices found within schools. Sexton (1961) attributes the success Soviet education entertains at producing higher achievement might be the result of using group cooperation rather than competition. Still, we must significantly increase our knowledge in the area of cooperative-competitive environments if we are to increase our knowledge of how students learn.

This conflicting evidence may, in part, be explained by the findings of French, Israel, and As (1960) in their attempted replication of the original Coch and French (1948) study, which had concluded that members involved in group democratic participation are more readily inclined to accept new group goals. The later study found that positive and negative attitudes of workers directly related to their own perceived legitimacy of involvement. Therefore, it is possible that achievement under conditions of cooperation and competition might be related, to the extent that students believe it is". . . right and proper to engage in the decision making process."

Importance of Student Role

This variable was based on the concept that an individual who had experience previous success, would continue his efforts as a means of self-esteem maintenance. This development of "self" role variable is, of course, tightly interwoven with both the expectations held by his "significant others" and the norms present within his environment.

The original construct was developed by Brookover et. al. (1965) as part of the longitudinal study of self-concept of academic ability. It was modified and placed into its present form by Gigliotti (1969, 1972) during the preliminary phase of the present research. Although this variable has not been the subject of extensive investigation, there is indication that the importance of student role identity is positively associated with the level of school achievement.

Feelings of Futility/Improvability

The basis of this school climate variable stems from the widely accepted variable employed by Colemen et. al. (1969) which has been referred to as "sense of control." The Equal Educational Opportunity study found that "sense of control" was an extremely important predictor of academic achievement, especially when the school was populated by members of minority groups.

A relationship between "sense of control" and social class was also found by Wilson (1969). He reported that middle-class students had both a higher "sense of control" and achieved higher than did students who had low socio-economic status. Heath (1970)

studied the expressed "sense of control" of black and white, junior and senior high school students, finding that white students had a significantly higher "sense of control" over their environment.

The concept of "sense of control" stems, in part from the work of Battle and Rotter (1963) who found that lower socio-economic children saw themselves as more externally controlled and less capable of determining their own destiny than did higher S.E.S. children. Similar findings were reported by Haggstrom (1964) and Clark (1965), that in conditions of poverty, minority group status may produce feelings of powerlessness and futility.

Feelings of futility/improvability are an extremely important variable to the present study. While knowledge of the effects of frustration upon such social-psychological constructs as self-esteem is not new (see Lewin, 1944), we are only beginning to understand its important relationship to achievement.

Teacher Satisfaction

As opposed as they were in other respects, both organizational theories, the Scientific Management and the Human Relations approach to management, assumed that the most satisfying organization would also be the most efficient (see Etzioni, 1964). When teachers belonging to educational organizations are dissatisfied, have low morale and high feelings of alienation, we can assume that they may react in a number of ways that are counterproductive to the academic success of their students. These reactions can become apparent in such forms as, placing blame on the students (see Ryan, 197 , or Brown, 1965),

searching for alternate sources of satisfaction (Mandler and Watson, 1966), or becoming more excited and disorganized (Mandler and Watson, 1966). Thus, it would appear likely that a positive relationship exists between teachers feelings of satisfaction and the academic achievement of students.

The research in this area seems to justify these conclusions. Several studies have concluded that teachers are more satisfied in high achieving environments. Anderson (1953) reported that pupil achievement is related to teacher morale. Herriott and St. John (1966) also found that teacher dissatisfaction with the "sub-standard academic performance" of their pupils, is a factor in the desire to resign from teaching. With the evidence of others who assert that teacher dissatisfaction is so widespread a phenomenon (see Mason, Dressel, and Bain, 1959), this writer suggests that achievement can be no more than one of a number of determining variables.

Community Integration into the School Environment

There has been a vast amount of literature, in recent years, discussing the positions for and against community involvement in schools, most of which is polemical rather than empirical in nature. It is a response to the poor educational conditions and consequent lack of achievement found in low socio-economic and/or minority schools (see Hamilton, 1968; Berube and Gittle, 1968; Levin, 1970). Undergirding this literature is the concept that the time has come for schools to adapt to the needs of their local community rather than

the community to meet the needs of the schools (Katz, 1971). This implies the presence of a value confrontation between school and community, with students placed in the center of conflict, thus seriously and negatively affecting the school academic climate (see Gans, 1962).

Systematic empirical research of this current situation has been almost entirely neglected for a long period of time, and researchers have only begun studies of school-community integration. Up to the present, we have had a number of studies linking parental interest to achievement (Coleman, 1966; Smith and Brahce, 1963; Willman, 1969). We also have the benefit of a few studies which have even begun to approach the question of the relationship between community-school integration and student achievement. Those which have attempted to systematically study this community variable have concentrated on such indicators as school millage defeats (Crane, 1971), community support for such school organizations as P.T.A., and community turn over (Sexton, 1961).

Thus, one of the objectives of the present study is to help fill this obvious gap in our knowledge of why some schools have higher achievement than do others. To meet this task, we have separated high and low achieving schools according to socio-economic status, race, and community type, with the hope of finding systematic differences in our variables of interest.

CHAPTER III

PROCEDURES AND METHODOLOGY

As previously stated, the aim of the present analysis has been to analyze, by use of certain social-psychological and social structural indices, the differences in school normative achievement climate for a sample of elementary schools which are as closely matched as possible on both mean socio-economic status and racial composition of student bodies, while differing significantly on the dependent variable, achievement. Underlying this attempt is: first, the acceptance of research (reviewed in Chapter II) demonstrating a high degree of relationship between S.E.S. and achievement; and secondly, the belief that if we could control, as much as possible in a non-experimental situation, for the effects of S.E.S. and race, we could with some accuracy conclude which of our variables best identify schools beyond the boundary of the S.E.S.-achievement regression line.

Research Design

Initially a national search was begun to find matched pairs of schools meeting the criteria of the present research project. This attempt proved futile, however, as school districts tend to employ too wide a variety of achievement measures as well as

insufficiently supplying an index of mean school socio-economic status beyond area income estimates.

Our situation was furnished considerable aid when the State of Michigan, Department of Education, began a State Wide Assessment Program for elementary schools, in 1970. Under this program, each elementary school in the state administered a battery of instruments to each of its students in the fourth grade, which included among its items, a standardized achievement test and an index of socio-economic status.

The State Department of Education allowed those of us connected with this research project to obtain mean school data from every elementary school in the state, on S.E.S., race (percent black), and achievement. In addition, they agreed to sponsor the project and aid in our attempts to gain entry into various school districts. Thus, the following design factors, based upon State Assessment Measurements, are very important to the current investigation.

Achievement Index

The standardized index of achievement, used for the selection of schools for the current study, was developed by a group of research psychologists from the Michigan State Assessment Board. The index is a composite score of three separate achievement tests; reading, English expression, and arithmetic. Identical tests were administered to every fourth grade student in the State. The school index range for the 1970-71 school year, upon which this

analysis is based, runs from approximately 37.0 to 63.0. Achievement differences for schools, which are part of an individual match-up, upon which a section of our analysis concentrated, are highly significant ($p = .001$).

S.E.S. Index

The index of socio-economic status, employed in this study for school selection, was also developed by the State Assessment Board, Michigan Department of Education (see Appendix D). Its purpose is to measure differences in life style and consumption patterns which, within the social structure of the United States, are generally associated with differing S.E.S. levels. Serious charges have been leveled against the State S.E.S. Index, by a number of school districts claiming that certain items of the index did not accurately discriminate between S.E.S. levels. The basis for these charges is that although the questions might accurately determine the amount of goods in the homes of students, they do not discriminate by the age of the products, condition of the products, or the means by which the products were acquired. To illustrate, a low S.E.S. family might receive a high S.E.S. rating on the basis of owning several automobiles, although none in operable condition.

It must also be pointed out, however, that consumption was only one facet of the State socio-economic index. Items measuring amount of family travel, parental educations, stability of the home, and the students educational aspirations were also included.

Thus, it was felt that this index constitutes the best check we currently have on school S.E.S., and the decision was made to employ it as our initial basis of selection.

Three methods were used to further check the S.E.S. in our sample schools. First, school district officials were asked to evaluate the S.E.S. ranking which the school in question had received on the State Assessment Evaluation. Secondly, this researcher, along with the other members of the research team, drove through the area encompassing the school attendance boundaries to determine if, in their opinion, the State S.E.S. Index was noticeably inaccurate. Thirdly, part of the student questionnaire (see Question 8 of student questionnaire, appendix A) concerning the occupation of either the father, or principle wage earner, was coded on the basis of the Duncan Socio-Economic Index for Occupations (Reiss, 1962, p. 263).

Those schools not satisfying the further check methods 1 and 2, were eliminated from the sample. The Duncan measurement, however, was a post hoc technique, which was not used for elimination, but only as an "index of confidence" for our State of Michigan data.

Those schools selected as "match-ups" for the final sample were not always as similar on the Duncan Index as they had been on the State data.[1] Two of the "match-ups" in particular, (schools 05-06 and 15-16) appeared to have Duncan S.E.S. differences which

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[1]For a school by school comparison of State and Duncan scores see Appendix E.

were fairly large. It was decided, however, to retain the State Assessment as the selection criteria for the following reasons. First, the wider range of Duncan scores (2-96), which was much greater than that of the State Index for 1969-1970, upon which selection was made (of approximately 39-69), would appear to make larger differences less significant. Secondly, the Duncan Scale is based upon the education and income of father, with occupation as an intervening variable. At the same time, the State index includes a direct measure of education for both parents and a measurement of income, using possessions and travel as intervening variables, thus, affording a broader base upon which to decide individual classification. Thirdly, the Duncan Index is based upon income and prestige figures current in 1950. During the ensuing years, persons in many occupations, especially those engaged in skilled "blue collar" employment, have gone through a tremendous transformation in most areas which are measures of "societal status." This is a problem which Duncan himself acknowledges (Reiss, 1962, 143-44). Fourth, the Duncan scale treats all persons engaged in a particular occupation as having equal S.E.S., which, of course, is simply not the case. Finally, elementary school students have greater knowledge about their household goods than they do about the particular type of work in which their father is involved. This would seem to be even more apparent in low socio-economic schools. It should also be acknowledged, however, that if the two indices are not exactly alike, that they do appear to attain similar results as demonstrated by a high correlation of $r = .74$.

Racial Composition

School racial composition information (percentage of black and white) was compiled from school records, and recorded along with other data by the State Assessment Board. Criteria designating a school as either black or white was based on a student body composition of at least 70% for either race. Final figures are presented in Table 3.

Sample

The sample for the current investigation consists of twenty-four elementary schools located throughout the State of Michigan. This sample, as previously indicated, was selected non-randomly, on the basis of S.E.S. and achievement, within three strata; predominately white schools (10), predominantly black schools (7), and rural schools (7) (see Table 2, Chapter I). Several separate analyses were applied to the data. In order to facilitate some of these, both S.E.S. and achievement were dichotimized into high and low scoring schools.

Those schools having a mean S.E.S. above 49.0 were considered to be high socio-economic schools and those below were designated as low S.E.S. schools. The cell placement for achievement, however, was somewhat more complicated. To restate our problem, the purpose of this study was not only to predict differences or differentiate between high and low achieving schools on certain variables of interest, but it was also our desire to increase our knowledge of what factors most clearly differentiate between schools which are referred to as "higher"

TABLE 3.--Characteristics of Schools Selected for Study: Race, S.E.S., Achievement Level, Urban - Rural Type, and Sample "N" of Students and Teachers

	School	S.E.S. Level	Achievement Level	Percent White	N Students	N Teachers
WHITE	01	Higher-55.1	Higher-59.6	85.0	140	6
	02	Higher-55.2	Lower -48.1	100.0	173	6
	03	Higher-58.2	Higher-54.4	100.0	224	9
	04	Higher-54.9	Lower -47.8	100.0	202	7
	05	Higher-50.1	Higher-58.0	100.0	88	3
	06	Higher-49.4	Lower -43.6	97.7	67	2
	07	Lower -43.2	Higher-56.7	100.0	104	4
	08	Lower -44.9	Lower -44.6	100.0	88	3
	09	Lower -46.6	Higher-55.1	97.7	151	6
	10	Lower -46.8	Lower -43.7	95.1	81	3
BLACK	11[a]	Higher-50.0	Higher-51.8			
	12	Higher-49.2	Lower -37.3	00.5	149	6
	13	Lower -43.8	Higher-47.2	00.8	116	6
	14	Lower -46.7	Lower -38.0	13.8	105	6
	15	Higher-61.3	Higher-55.1	30.0	276	6
	16	Higher-52.9	Lower -47.2	01.0	406	12
	17	Lower -47.0	Higher-49.6	09.5	105	4
	18	Lower -46.7	Lower -39.6	05.3	384	11
RURAL	19	Higher-53.2	Higher-58.1	100.0	16	2
	20	Lower -44.6	Higher-58.4	100.0	13	2
	21	Lower -42.9	Higher-58.2	100.0	18	1
	22	Lower -44.3	Higher-60.6	87.6	55	3
	23	Higher-50.7	Lower -50.2	100.0	62	3
	24	Lower -47.8	Lower -45.6	100.0	40	2
	25	Lower -37.8	Lower -42.5	100.0	9	1

[a]Chosen as part of the original sample, but we were not allowed to collect data.

and "lower" achieving when compared with the more usual S.E.S. achievement relationship. Thus, at times actual achievement scores are employed as the dependent variable. During other analyses, however, when we discuss "higher" and "lower" achievement, schools with lower actual achievement might have been assigned to a higher achieving strata than have some schools with higher actual achievement, but also having higher S.E.S. To clarify this, the following illustration is offered:

School	S.E.S.	Achievement
02	55.2	48.1
04	54.9	47.8
16	52.9	47.2
13	43.8	47.2

A comparison of the S.E.S.-achievement relationship for these, raised the distinct possibility that the similar achievement scores have different meanings in these schools, therefore, schools 02, 04, and 16 were categorized as "lower-achieving," while school 13 was categorized as "higher-achieving." With the exception of school 13, all "higher-achieving" subjects had a mean achievement score of at least 49.0.

As might be expected, finding low S.E.S.-high achieving or high S.E.S.-low achieving schools was not an easy task. This was particularly true in predominantly black schools, where only three, on the basis of fourth grade data, can be classified as "high-achieving." All three were included in the original sample drawn for the present study (11, 15, and 17). In one of these schools (11), we were refused permission to gather data.

Within some of our cells, the current sample, thus, encompasses the entire population of schools within the State of Michigan with these particular characteristics, a procedure deemed necessary in order to maximize and clarify differences in factors related to achievement. This, however, accounts for the relatively small sample size, tending to hamper investigation.

Data were eventually collected in 23 of the 24 schools, during the 1970-71 school year. Although this meant that the S.E.S. and achievement used for sample selection was based on the fourth grade data of the current fifth grade population, our final sample consisted of all students of each sampled school who were in the fourth, fifth, and sixth grades. This larger sample was required for several reasons. First, this gave us the ability to check if the fifth grade population was representative of the larger group within the school. Secondly, this wider sample constitutes the "upper grades," composed of those students in the school who could best read and understand the questionnaire, as well as those having the greatest familiarity with the school, thus better able to act as reporters of the normative climate.

One rural school closed early for the summer and was therefore, surveyed during the 1971-72 school year. Their selection was thus based on the fourth grade State Assessment results, which the sixth grade students had two years earlier. Their inclusion was allowed only after a check that the most recently available

State achievement results had revealed no significant change to have taken place from one year to the next.[1]

Data were also collected from every fourth, fifth, and sixth grade teacher in each school. In addition, the principal of each sampled school was interviewed. Sample sizes are included in Table 3.

Instrumentation

The instruments employed for the current analysis consisted of three separate but "interrelated" questionnaires, one each for students, teachers, and principals. These were originally developed in 1969, for use in the study of school social environments, by W. B. Brookover and Richard Gigliotti. All three questionnaires are interrelated in that they contain a core of similar questions designed to elicit attitudes and beliefs or perceptions of attitudes and beliefs of those individuals sampled. The original instruments were pre-tested in a moderate size industrial city, which culminated in the elimination or rephrasing of several items upon which the subjects were jduged to have experienced difficulty in understanding the intended meaning. The three instruments can be found in Appendices A, B, and C.

Data Collection

Student data were collected through the use of a group administered questionnaire technique, with a trained staff of four

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[1] School 25 State Assessment Achievement results, 1969-70 = 42.5; 1970-71 - 43.0.

persons administering the instrument and collecting data on the basis of one administrater per classroom. Depending upon student literacy, the questionnaire may have been read to the students in its entirety or students were asked, after a period of short instruction, to complete the instrument on a self-administered basis. This method of data collection was found to be both inexpensive and efficient.

The teacher questionnaire was strictly self-administered. It was completed by the subject during the same time period that his or her students were completing theirs. This not only allowed the research team maximum use out of time spent in the building, but also reinforced the guarantee of anonymity to the students by having their teacher out of the room.

The principal was asked to complete the instrument designed for that position, in a self-administered fashion. However, once the team completed its work with students and teachers, the principal was interviewed, asking that he explain those answers which were unclear to the research team, and requesting additional information concerning various factors about the school, which may have been noticed by a researcher, but not included in the questionnaire.

The research team itself was composed of a diversified group of individuals. The team had both black and white researchers, ranging in age from individuals in their middle twenties, to one in his early fifties. It included some with public teaching experience and some without. This method of study afforded the widest possible range in the researchers' selective perceptions of the school

environment, and the reactions of subjects toward the team. No women, perhaps regretfully, were included in the research team, on a regular basis.

Sadly, this researcher must report, that no records were kept on the Student non-response rate. We collected data from all fourth, fifth, and sixth grade students present in the school on the day we were in the building. Students, to the best of our understanding, did not have any prior knowledge that anything special was to take place on this day. Therefore, absence would seemingly be unconnected to the study and probably random in nature. However, if students who had the greatest absence rates were also the extreme members of the population that helped determine the unusual nature of the S.E.S.-achievement correlation, which was the basis of the school's selection, the absence may be significant.

There are a number of good reasons not to follow up on those students who were absent. First, the expense of having a member of the research team make a return visit to the school, to collect student data, would have been prohibitive, due to the size of our budget. Second, because of the youthful nature of our subjects, adult assistance is required for result reliability. We could not, however, have parents or school officials administer the questionnaires and still guarantee either anonymity or the validity of the results. Third, schools rather than individuals students were the research subjects of interest.

In the case of non-response of teachers and principals, an attempt was made to secure the data. A copy of the appropriate

questionnaire was left at the school, with the request that it be filled out by the missing subject and mailed to us as quickly as possible in an attached self-addressed stamped envelope. All missing teacher data were soon collected in this manner. One principal, from school 16, who failed to return the original instrument was sent another and was telephoned to serve as a reminder. Again, no response was received. This writer and another member of the research team visited his school whereupon they were told that he had mailed the previous questionnaire and did not have the time to be interviewed. A promise was made to fill out another questionnaire and mail it as soon as possible. This one also has not been received and a further telephone call has failed to produce any positive results. Thus, this school cannot be included in the principal section of this analysis.

Analysis

This study is a result of our desire to ascertain a greater understanding of those factors which are related to achievement in schools of various socio-economic, racial, and community types. The intent is to describe, as accurately as possible, similarities and differences of certain social-psychological attitudinal variables within this group of schools. There are a number of research questions and hypotheses which have been premised, for a systematic analysis of the current investigation. These are listed in Chapter I, but can be restated into the following more general forms:

Questions:

1. Which of a number of social-psychological school academic climate factors derived from the perceptions of students, teachers, and principals, best differentiate between higher and lower achieving schools, when the S.E.S., race, urban-rural community type have been controlled?

2. What part of the the variance, between high and low achieving schools of various S.E.S., racial, and urban-rural community types, can be predicted, on the basis of the social-psychological school academic climate factors?

Hypotheses:

1. Within our selected sample, the student, teacher, and principal variables, comprising school normative academic climate, will differ in relationship to the dependent variable, achievement, as measured by the Michigan State Assessment Achievement Index, when the effects of mean student S.E.S., racial composition, and urban-rural community type have been controlled.

2. Within our selected sample, there will be differences between predominantly white-urban schools, predominantly black-urban schools, and rural schools, in the relationship between those variables comprising school normative academic climate, as measured by the perceptions of students, teachers, and principals, and the dependent variable, achievement, as measured by the Michigan State Assessment Achievement Index.

The analysis of the present research is descriptive in design. The techniques of analysis allow this researcher to scrutinize the data in the most productive possible manner. After critical and numerous manners of data examination, this researcher attempted to study the relationship between school climate and achievement from the standpoint of individual school cases, in addition to finding those variables which are significant predictors of achievement for our entire sample, and those school climate variables which differentiate between higher and lower achieving schools within our predominantly white, predominantly

black, and rural stratified populations. To accomplish our goals, the analysis has been divided into four major headings; factor analysis, regression analysis, discriminate function analysis, and the analysis of individual cases and paired cases.

The first factor analysis employed was a varimax rotation type. This is a procedure based upon patterns of variable inter-correlations where on the basis of the response patterns of subjects, the variables are given a weighted leading score within a number of "factors," which in turn are judged by the researcher as to their theoretical sense. For the present analysis, three separate varimax rotation factor analyses were performed. One used all student subjects as individual respondents and 63 items from the student questionnaire. A second analysis used all teachers, also treated as individuals, having their responses to 49 attitudinal items analyzed. The third factor analysis was performed on 13 items from the principal questionnaire, this one, however, proved to be unsuccessful.[1]

The use of individual rather than school mean scores, to form the factors, added much greater stability and reliability to the results. The decision to proceed in this manner, it must be pointed out, did give much greater weight to the larger schools. All individual subjects, from all schools, that had completely answered all items analyzed, were given equal weight in the factor analysis.

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[1]See analysis Chapter IV for the operationalization of our current variable of interest, as formed by the factor analysis.

School factor scores were derived by first multiplying each respondent's score on each item, by the items leading score within the factor, which were then added together to attain a mean score for the school. The factor scores arrived at within a single analysis, using a varimax factor analysis, are non-correlated prior to placement in schools. This, of course, is not the case for factors arrived at through two separate analysis, such as those based on student responses and those arrived at through teacher responses.

The second procedure was that of a multiple regression analysis. This researcher used this analysis on the entire sample of 24 schools, placing into consideration, the mean score on each of the 10 student and teacher factors, after first eliminating that portion of the variance accounted for by the design factors of S.E.S., race, and urban-rural community type. The dependent variable was the sampled schools actual achievement score on the State of Michigan School Assessment Achievement Index.

The specific procedure used was a least square add analysis. This analysis performed two functions after accounting for the variation in the prediction of achievement of our design factors. It reported both the independent contribution to the variance in the prediction of the dependent variable, actual achievement, as well as reporting the level of significance of each successive variable, placed into the regression equation which fell within the limits of "significant" prediction as set by this researcher ($p \leq .10$).

Further use was made of the regression analysis to clarify the interaction of variables. It was believed possible that predictive powers of certain variables might overshadow the effects of other variables. This researcher, therefore, both attempted to predict actual achievement without consideration of certain variables and also attempted to predict certain school achievement climate variables as a dependent variable by using other climate variables as independent variables.

A second multi-variate technique, discriminate function analysis, was employed to analyze the data within the separate strata of predominantly white-urban schools, predominantly black-urban schools, and rural schools. Our desire, in this case, is to combine our present variables, in such fashion, that they form a new variable, which most highly distinguishes between two groups of subjects, higher and lower achieving schools. Keeping the three strata of schools separate, enables us to make the necessary comparisons to establish if differences exist in the manner in which the school climate variables relate to relative achievement in different types of schools. Analyzing the three strata separately, however, also presents problems in the number of variables that can be placed into the analysis at any one time. It becomes necessary to analyze differences between strata by using separate, smaller numbers of student and teacher variables for each analysis, rather than all student and teacher factors simultaneously.

The final procedure is best described as an analysis of the normative academic climate effects upon achievement of individual cases, pairs of cases, and groups of cases. Within this chapter, we will use both our significant and non-significant factor scores to help explain achievement patterns of individual schools, as well as achievement differences for schools which have been matched on our three design variables. Within this chapter, we will also report the intuitive impressions of this researchers observations of the sampled schools, the informal and formal reports of those familiar with the climate of the sampled schools, and any other beliefs concerning the sample which have a relationship to normative achievement climate, but about which we do not have any systematic empirical data.

It should be obvious from the preceding discussion, that the present analysis is so designed, to examine study data, and the entire question of the relationship between school normative academic climate and achievement, in many productive ways. The study is intended to be an exploratory endeavor, in both design and analysis, in order to increase our current knowledge and open new avenues to further research in the nature and interactions of our study findings.

More will be said in Chapter VII, under the section, Limitations of the Study, however, the unusual nature of our sample should be noted in consideration of the analysis presented in Chapters IV, V and VI, as should the difficulties in finding

significant relationships within small sample analysis. It should also be understood that much of the analysis presented in Chapter VI, the analysis of individual cases, is of a highly speculative nature.

CHAPTER IV

FACTOR ANALYSIS

Chapters IV, V, and VI present the various analyses used to systematically examine the research questions posed in this study. Chapter IV reports our findings, using a varimax rotation factor analysis upon data gathered from our samples of students, teachers, and principals. It was upon the basis of these factor analyses that our variables of interest were operationalized. Chapter V deals with the statistical analyses in three sections. The first section contains the results of a least square add linear regression analysis, performed simultaneously upon all 24 sampled schools. All student and teacher factors were treated as independent variables and actual school achievement, as indexed by the State of Michigan School Assessment scores, was treated as a dependent variable while controlling for the effect of S.E.S., race, and urban-rural community type. Secondly, in section two the results of a least square add linear regression analysis, using certain climate factors to predict others, is also reported. Finally, section three reports upon our findings of a discriminate function analysis which was used as a further check of our student and teacher climate variables upon achievement. This time,

however, we are looking for factors which differentiate between relatively higher and relatively lower achieving schools within three separate strata; predominantly white schools, predominantly black schools, and rural schools. Chapter VI attempts to examine school normative academic climates found in individual cases or pairs of cases which have similar S.E.S., racial, and community types, but significantly different achievement.

Student Factors

As reported in Chapter III, three separate varimax rotation factor analyses were run on our data. The first was run using 63 attitudinal items from the student questionnaire, forming factors on the basis of the responses of students considered as individuals, rather than treating students as nested within certain schools. Only those students who had no missing data had their responses factor analyzed, thus dropping the actual number of subjects upon whom factors were based from 3073 to 2188. The four factors which emerged from the student data were: (1) student perceptions of the present evaluations-expectations of "others" in their school social system; (2) student perceptions of the future evaluations-expectations of "others" in their school social system; (3) student perceptions about the level of feelings of futility permeating the social system of the school; and (4) student perceptions of those academic norms stressing academic achievement which exist in their school and social system.

Factor I[1]- Student Perceived Present Evaluations-Expectations (S.P.P.E.E.)

The evaluations-expectations variable of interest which was discussed in Chapter II, is divided into two separate school climate factors, on the basis of the four factor varimax factor analysis. High loading into the first of these variables were those items which concentrated upon the expectations and evaluations of "others" (parents, teachers, friends), as well as the students own "self-concept of academic ability" from the present through the completion of high school. The items which were loaded highly on this factor and their loading scores are below.

Proportion of Variance = .1117

Question #		Factor Loading Score
67.	Would your mother and father say that your grades would be with the best, same as most, or below most of the students when you finish high school?	-.6700
44.	Would your best friend say that your grades would be with the best, same as most, or below most of the students when you graduate from high school?	-.6405
60.	Would your teacher say that your grades would be with the best, same as most, or below most of the students when you graduate from high school?	-.6378
65.	How good of a student do your parents expect you to be in school?	-.6297
59.	Think of your teacher. Would your teacher say you can do school work better, the same, or poorer than other people your age?	-.6130
37.	Forget how your teachers mark your work. How good do <u>you</u> think your own work is?	-.6028
58.	How good of a student does <u>the teacher you like the best</u> expect you to be in school?	-.5979

[1]Refer to Appendix A, Student Questionnaire for response alternatives.

33.	When you finish high school, do you think you will be one of the best students, about the same as most of the students, or below most of the students?	-.5904
66.	Think of your mother and father. Do your mother and father say you can do you school work better, the same, or poorer than your friends?	-.5781
43.	Think of your best friend. Would your best friend say you can do school work better, the same, or poorer than other people your age?	-.5723
35.	If you went to college, do you think you would be one of the best students, about the same as most of the students, or below most of the students?	-.5481
32.	Think of the students in your class. Do you think you can do school work better, the same, or poorer than the other students in your class?	-.5407
38.	What marks do you think you <u>really can</u> get if you try?	-.5272
42.	How good of a student does your best friend <u>expect</u> you to be in school?	-.5218
31.	Think of your friends. Do you think you can do school work better, the same, or poorer than your friends?	-.5200
63.	What grades does your teacher think you can get?	-.5139
47.	What grades does your best friend think you can get?	-.5031
70.	What grades do your mother and father think you <u>can</u> get?	-.4535

Operationally defined, S.P.P.E.E., is the mean of the summed factor scores for the students within each of the sampled schools. Within the original questionnaire, a lower total score was indicative of a more positive response. However, for clarity of interpretation, a transformation was done on all of the resulting mean school factor scores, thus allowing a higher S.P.P.E.E. score to mean a more positive present evaluation-expection. School factor scores for S.P.P.E.E. are shown in Table 4.

TABLE 4.--Mean School Factor Scores for Student Perceived Present Evaluations-Expectations

		Ach.	Score	Match High-Low	Rank Strata	Rank Sample	Standard Deviation
WHITE	H. SES	01-high	0.30531859	+	1	3	0.870780
		02-low	-0.34907146	-	10	20	0.928063
		03-high	0.11724079	-	4	7	0.928013
		04-low[a]	0.16715715	+	3	6	0.880834
	L. SES	05-high	0.11648906	+	5	8	0.842136
		06-low	-0.05306332	-	9	15	1.022954
		07-high	0.20983262	+	2	4	1.017824
		08-low	0.05673731	-	7	11	0.925299
		09-high	0.10258272	-	6	9	0.939203
		10-low	0.00938668	-	8	13	0.898545
BLACK	H. SES	15-high	-0.41525058	-	6	23	0.902543
		16-low[a]	-0.37914961	-	5	22	0.998344
		12-low	-0.19143907		1	16	1.072251
	L. SES	13-high	-0.20997296	+	2	17	0.969081
		14-low	-0.41751724	-	7	24	0.977974
		17-high	-0.24100206	+	3	19	1.112676
		18-low	-0.35601647	-	4	21	0.977552
RURAL	H.SES	19-high	0.19988027		3	5	0.880629
		24-low[a]	0.30929335		2	2	0.951676
	L.SES	20-high	0.05583412		5	12	0.475124
		21-high	0.06845720		4	10	1.036396
		22-high	-0.03631221		6	14	0.979889
		23-low[a]	0.31492059		1	1	1.220018
		25-low	-0.21966332		7	18	1.132985

Note: Higher score denotes a more positive student perception of the present evaluations-expectations held within the social system of the school.

[a]Lower achieving school with a more positive present evaluations-expectations.

Factor 2[1]- Student Perceived Future Evaluations-Expectations (S.P.F.E.E.)

The second factor related to our evaluations-expectations variable of interest dealt with student perceptions of the beliefs of "others" (parents, teachers, friends) concerning the subject's chances of future academic accomplishments. Also loading highly on this factor were items related to the student's future "self-concept of academic ability" and self-evaluation. More specifically, the high load items within this factor are those items related to the reported beliefs and perceptions of beliefs about college attendance and success. The items which loaded highly on this variable follow.

Proportion of Variance = .0733

Question #		Factor Loading Scores
41.	How far do you think your best friend believes you will go in school?	-.6367
68.	Do they think you could finish college (mother and father)?	.6103
45.	Does your best friend think you could finish college?	.6064
69.	Remember you need more than four years of college to be a teacher or doctor. Do your mother and father think you could do that?	.5978
46.	Remember you need more than four years of college to be a teacher or doctor. Does your best friend think you could do that?	.5865
64.	How far do you think your parents believe you will go in school?	-.5789
9.	If you could go as far as you wanted in school, how far would you like to go?	.5476

[1]Refer to Appendix A, Student Questionnaire for response alternatives.

57.	How far do you think the teacher you like best believes you will go in school?	-.5428
62.	Remember you need more than four years of college to be a teacher or doctor. Does you teacher think you could do that?	.5242
61.	Does your teacher think you could finish college?	.5237
36.	If you want to be a doctor or a teacher you need more than four years of college. Do you think you could do that?	.4234
34.	Do you think you could finish college?	.4108
14.	If most of the students here could go as far as they wanted in school how far would they go?	-.3939

Operationally defined, S.P.F.E.E. is the mean of the summed factor scores for the students within each of the sampled schools. Within the original questionnaire, a lower total score on these items was indicative of a more positive response. However, for clarity of interpretation, a transformation was done on all of the resulting mean school factor scores, thus allowing a higher S.P.F.E.E. score to mean a more positive future evaluation-expectation. School factor scores for S.P.F.E.E. are shown in Table 5.

Factor 3[1] - Student Perceived Sense of Futility (S.P.S.O.F.)

The most important items within this factor are those which were referred to in Chapter II as a modification of the "sense of control" questions used by Coleman (1966). There are several additional items, however, which highly intercorrelated and thus, loaded highly on S.P.S.O.F. These items dealt with student

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[1]Refer to Appendix A, Student Questionnaire for response alternatives.

TABLE 5.--Mean School Factor Scores for Student Perceived Future Evaluations-Expectations

		Ach.	Score	Match High-Low	Rank Strata	Rank Sample	Standard Deviation
WHITE	H.SES	01-high	0.29803626	+	3	5	0.845496
		02-low	0.05537891	-	6	11	1.066728
		03-high	0.41092891	-	1	2	0.927898
		04-low	0.26647819	-	4	6	0.965846
	L.SES	05-high	0.36963399	-	2	4	1.004134
		06-low	-0.28618813	-	10	21	1.073251
		07-high	0.10148822	+	5	9	0.934496
		08-low	-0.00682743	-	7	15	0.981963
		09-high	-0.17745390	-	8	19	1.042200
		10-low	-0.25081607	-	9	20	1.086380
BLACK	H.SES	15-high	0.48670769	+	1	1	0.784465
		16-low	0.26195179	-	3	7	0.945558
		12-low	-0.13185563		6	17	1.141045
	L.SES	13-high	-0.11669975	+	5	16	0.943229
		14-low	-0.31990246	-	7	22	1.098908
		17-high	0.38482227	+	2	3	1.063943
		18-low	0.07781838	-	4	10	0.940151
RURAL	H.SES	19-high	0.23677040		1	8	0.881040
		24-low	0.02781378		4	14	0.724016
	L.SES	20-high [a]	-0.15327576		5	18	1.017324
		21-high[a]	-0.35702191		7	24	1.057244
		22-high	0.04010356		2	12	1.130119
		23-low	-0.32158663		6	23	1.130519
		25-low[a]	0.03920245		3	13	1.363097

Note: Higher score denotes a more positive student perception of the future evaluations-expectations held within the social system of the school.

[a]Lower achieving school with a more positive future evaluation-expectation, and higher achieving school with a more negative evaluation-expectation for future.

perceptions of teachers, and to a lesser extent of other students, feelings of hopelessness or lack of caring about academic achievement, as an existing factor of school climate. The following are the high load items for this factor.

Proportion of Variance = .0549

Question#		Factor Loading Score
30.	You have to be lucky to get good grades in this school.	.5650
27.	People like me will never do well in school even though we try hard.	.5347
53.	Of the teachers that you know in this school how many don't care how hard the student works as long as he passes?	.5332
50.	Of the teachers that you know in this school how many don't care if the students get bad grades?	.5215
52.	Of the teachers that you know in this school how many make the students work too hard?	.4831
29.	In this school students like me don't have any luck.	.4258
49.	How many teachers in this school tell students to try and get better grades than their classmates?	.4067
26.	People like me will not have much of a chance to do what we want to in life.	.3789
28.	I can do well in school if I work hard.	-.3390
12.	How many students in this school don't care if they get bad grades?	.3279
54.	If the teachers in this school think a student can't do good work, how many will try to make him work hard anyway?	.2568
55.	Of the teachers that you know in this school, how many think it is not good to ask more work from a student than he is able to do?	.2340

Operationally defined, S.P.S.O.F. is the mean of the summed factor scores for the students within each of the sampled schools. Within the original questionnaire, a lower total score on these items was indicative of a higher S.P.S.O.F. However, for clarity of interpretation, a transformation was done on all of the resulting mean school factor scores, thus, allowing a lower S.P.S.O.F. score to indicate less feelings of futility permeating the school academic climate environment. School factor scores for S.P.S.O.F. are shown in Table 6,

Factor 4[1] - Student Perception of School Academic Norms (S.P.S.A.N.)

Items high loading, within the last student factor, were those assessing the student perceptions about the amount of pressure placed upon achievement by members of the school social system and school bureaucracy. Within this factor, the student perception concerning the evaluations-expections of their principal, appear to be intricately interwoven into the general normative academic push of the school environment. Other variables which have combined to form S.P.S.A.N. were items designed to measure the amount of student perceived competition-cooperation within the environment, as well as the reported and perceived importance of the student role, all of which were discussed in Chapter II, within variables of interest. The following questions were the high load items for the S.P.S.A.N. factor.

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[1]Refer to Appendix A, Student Questionnaire for response alternatives.

TABLE 6--Mean School Factor Scores for Student Reported Sense of Futility

		Ach.	Score	Match High-Low	Rank Strata	Rank Sample	Standard Deviation
WHITE	H. SES	01-high	-0.62019910	-	6	17	0.812212
		02-low	-0.23728543	+	4	9	1.047918
		03-high	-0.64211503	-	7	18	0.749989
		04-low	-0.50780024	-	5	16	0.745208
	L. SES	05-high	-0.89842529	-	10	23	0.762867
		06-low	-0.16376390	+	1	7	1.000770
		07-high	-0.87527320	-	9	22	0.671110
		08-low	-0.22147609	+	2	8	1.131169
		09-high	-0.72494195	-	8	19	0.830495
		10-low	-0.24329433	+	3	10	1.050999
BLACK	H. SES	15-high	-0.28768347	-	6	12	0.949259
		16-low	-0.02319064	-	5	6	0.968904
		12-low	0.73460769		1	1	0.928284
	L. SES	13-high	0.06953242	-	4	5	1.109394
		14-low	0.67366694	+	2	2	0.931151
		17-high	-0.31253803	-	7	13	1.041882
		18-low	0.11351697	+	3	4	0.993447
RURAL	H.SES	19-high	-1.00046869		7	24	0.536151
		24-low[a]	-0.75975700		5	20	0.742945
	L. SES	20-high	-0.82664562		6	21	1.129554
		21-high	-0.40013792		4	15	0.891716
		22-high	-0.37334322		3	14	0.745248
		23-low	-0.25139548		2	11	0.902460
		25-low	0.49827233		1	3	1.466133

Note: Higher score denotes a greater student reported sense of futility in the social system of the school.

[a]Lower achieving school with a lower student reported sense of futility.

Proportion of Variance = .0682

Question #		Factor Loading Score
23.	How important do you think most of the students in this school feel it is to do well in school work?	-.5446
22.	How important do most of the students in this class feel it is to do well in school work?	-.5310
74.	How many of the students in this school do you think the principal believes will go to college?	-.5067
71.	How many students in this school do you think the principal believes can get high grades?	-.4935
75.	How many students in this school do you think the principal believes will finish college?	-.4901
73.	How many students in this school do you think the principal believes will finish high school?	-.4799
18.	If your best friend told you that you were a poor student, how would you feel?	-.4667
19.	How do you think most of the students in this school react when one of you does a bad job on school work?	-.4609
15.	If the teacher you like the best told you that you were a poor student, how would you feel?	-.4554
17.	If your parents told you that you were a poor student, how would you feel?	-.4499
10.	How many students in this school try hard to get a good grade on their weekly tests?	-.4393
11.	How many students in this school will work hard to get a better grade on their weekly tests than their friends do?	-.4362
13.	How many students in this school do more studying for weekly tests than they have to?	-.4022
72.	How do you think your principal would grade the work of the students in this school, compared to other schools?	-.3952
16.	How important is it to you to be a good student?	-.3843

48.	Of the teachers that you know in this school, how many tell students to try hard to do better on tests?	-.3643
51.	Of the teachers that you know in this school, how many tell students to do extra work so that they can get better grades?	-.3524
24.	Think about the boys and girls you play with at recess or after school. How often do they read in their free time?	-.2750
56.	Of the teachers that you know in this school, how many believe that students should be asked to do only work which they are able to do?	-.2705
25.	When you and your friends are together after school or on weekends, how often do you talk about your school work?	-.1879

Operationally defined, S.P.S.A.N. is the mean of the summed factor scores for the students within each of the sampled schools. Within the original questionnaire, a higher total score on the items comprising this factor also meant a higher student perceived evaluation of the school academic norm environment. This allowed for clear interpretation of findings and was, thus, left unaltered. School mean factor scores for S.P.S.A.N. are shown in Table 7.

Teacher Factors

A second varimax rotation factor analysis was run on the basis of the inner correlations of 49 items from the teacher questionnaire. The procedure employed was exactly the same as that used in the analysis of the student data. The subjects (teachers) were treated as individual respondents, rather than using school mean scores of items as a basis for factoring. This

TABLE 7.--Mean School Factor Scores of Student Perceived School Academic Norms

		Ach.	Score	Match High-Low	Rank Strata	Rank Sample	Standard Deviation
WHITE	H. SES	01-high	0.01221810	+	7	12	0.851117
		02-low	-0.04398397	-	8	13	1.023701
		03-high	-0.12814408	-	9	17	0.903671
		04-low[a]	0.09200696	+	5	8	0.836193
	L. SES	05-high	0.38798929	+	1	3	0.726971
		06-low	0.10461594	-	4	7	0.888170
		07-high	-0.21523780	-	10	22	0.793085
		08-low[a]	0.18999434	+	3	6	0.930436
		09-high	0.27614048	+	2	4	0.830925
		10-low	0.05882963	-	6	10	1.190013
BLACK	H. SES	15-high	-0.23409775	-	7	23	1.092645
		16-low[a]	-0.17120988	+	6	19	1.014009
		12-low	-0.16069394		5	18	1.312951
	L. SES	13-high	-0.10202500	+	3	15	1.120225
		14-low	-0.11235000	-	4	16	1.020740
		17-high	0.53895811	+	1	2	0.974389
		18-low	0.03327930	-	2	11	1.115538
RURAL	H.SES	19-high	0.25964615		2	5	0.938701
		24-low	0.08734000		3	9	0.783614
	L. SES	20-high	-0.07395385		5	14	0.624751
		21-high	-0.40541538		7	24	0.696963
		22-high	0.71915556		1	1	0.736133
		23-low	-0.17881034		5	20	0.875651
		25-low	-0.20271667		6	21	1.004780

Note: Higher score denotes higher student perceived emphasis placed upon academic achievement norms within the social system of the school.

[a]Lower achieving schools with more positive student perceived academic norms.

was again done in order to gain greater factor stability, but again schools which had greater numbers of teachers had greater weight than did the smaller schools in the sample. Only those teachers who had no missing data were considered for analysis, thus, decreasing the number of subjects from 114 to 98.

From our responses, six interpretable factors eventually emerged. These factors were: (1) teacher present evaluations-expectations; (2) teacher future evaluations-expectations; (3) teacher perceptions of parent-student push for education achievement; (4) teacher reported push of individual students; (5) teacher satisfaction; and (6) teacher perceptions of the social system belief in student improvability.

Factor 5[1]- Teacher Present Evaluation-Expectation of Students in their School (T.P.E.E.)

Just as in the case of the student factor analysis, the analysis performed on teacher data revealed the emergence of two separate evaluation-expectation factors; those items having a more present and those having a more future orientation. More specifically, items forming T.P.E.E. are those which pertain to teacher evaluations-expectations of students from the immediate present and continuing through high school. The following questions were the high load items for the T.P.E.E. factor.

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[1]Refer to Appendix B, Teacher Questionnaire for response alternatives.

Proportion of Variance = .1938

Question #		Factor Loading Score
16.	What percent of the students in this school do you expect to complete high school?	.7537
33.	What percent of the students in this school do you think the principal expects to complete high school?	.7387
25.	What percent of the students in this school would you say want to complete high school?	.6745
61.	How many parents in this school service area expect their children to complete high school?	.6310
26.	What percent of the students in your class would you say want to complete high school?	.5969
38.	Completion of high school is a realistic goal which you set for what percentage of your students?	.5916
17.	What percent of the students in your class do you expect to complete high school?	.5828
14.	On the average what level of achievement can be expected of the students in this school?	.5012
15.	On the average what level of achievement can be expected of the students in your class?	.4168
43.	How many teachers in this school aren't concerned how hard most students work as long as they pass?	-.3124

Not High Load (but .3500 or higher)

24.	How would you rate the academic ability of the students in this school compared to other schools?	.4970
49.	How many students in this school try hard to improve on previous work?	.3705

Operationally defined, T.P.E.E. is the mean of the summed factor scores for the teachers within each of the sampled schools. Within the original questionnaire, a lower total score on the items comprising this factor was indicative of a more positive

response. However, for clarity of interpretation, a transformation was done on all of the resulting mean factor scores, thus allowing a higher T.P.E.E. to also represent a more positive teacher's present evaluation-expectation. School mean factor scores for T.P.E.E. are shown in Table 8.

Factor 6[1] - Teacher Future Evaluation-Expectation of the Students in their School (T.F.E.E.)

Factor 6 appears to be the future of factor 5, with most items dealing in teachers evaluations and expectations about their students and more specifically in the possiblity of the students gaining entrance into and finding success in college. The remaining high load items are of a more general evaluations-expectations nature, with the teacher both reporting for himself, and giving his perceptions of the beliefs held by the school principal.

Proportion of Variance = .1690

Question #		Factor Loading Score
20.	What percent of the students in this school do you expect to complete college?	.8427
21.	What percent of the students in your class do you expect to complete college?	.8014
35.	What percent of the students in this school do you think the principal expects to complete college?	.7946
34.	What percent of the students in this school do you think the principal expects to attend college?	.7925

[1]Refer to Appendix B, Teacher Questionnaire for response alternatives.

TABLE 8.--Mean School Factor Scores for Teacher Present Evaluations-Expectations

		Ach.	Score	Match High-low	Rank Strata	Rank Sample	Standard Deviation
WHITE	H. SES	01-high	-0.00259167	+	5	12	0.786157
		02-low	-0.20301668	-	6	15	0.785913
		03-high	0.69654583	+	2	4	0.843330
		04-low	-0.61818667	-	8	19	0.416136
	L. SES	05-high	1.10103333	+	1	2	0.284116
		06-low	-1.08416667	-	10	23	1.717585
		07-high	0.09166666	+	4	11	0.824991
		08-low	-0.30536667	-	7	17	1.646737
		09-high	0.39995000	+	3	9	0.493972
		10-low	-1.08380000	-	9	22	0.859416
BLACK	H. SES	15-high	0.43373333	+	1	8	0.322393
		16-low	-0.19706667	-	3	14	1.095569
		12-low	-1.20560000		7	24	0.860237
	L. SES	13-high	-0.85885000	+	5	20	0.564901
		14-low	-1.07266667	-	6	21	1.595785
		17-high	-0.43706667	-	4	18	0.596786
		18-low[a]	-0.13277778	+	2	13	0.536169
RURAL	H.SES	19-high	0.20428333		6	10	0.666448
		24-low	0.57276666		3	5	1.552743
	L. SES	20-high	0.84959333		2	3	0.553743
		21-high	1.11063333		1	1	0.000000
		22-high	0.43443333		5	7	0.907218
		23-low[a]	0.44203333		4	6	1.676409
		25-low	-0.21716667		7	16	0.000000

Note: Higher score (higher rank) denotes a more positive teacher perception of the present evaluation-expectations held within the social system of the school.

[a]Lower achieving school with a more positive present evaluation-expectation and higher achieving schools with a more negative present evaluation-expectation.

18.	What percent of the students in this school do you expect to attend college?	.7900
19.	What percent of the students in your class do you expect to attend college?	.7765
39.	Completion of college is a realistic goal which you set for what percentage of your students?	.6933
22.	How many of the students in this school are capable of getting mostly A's and B's?	.6650
62.	How many parents in this school service area expect their children to complete college?	.6147
36.	How many students in this school do you think the principal believes are capable of getting mostly A's and B's?	.7946
37.	How do you think the principal rates the academic ability of students in this school, compared with other schools?	.6062
23.	How many students in your class are capable of getting mostly A's and B's?	.5912
24.	How would you rate the academic ability of the students in this school compared to other schools?	.5259
28.	What percent of the students in your class would you say want to go to college?	.5223
27.	What percent of the students in this school would you say want to go to college?	.5175

Not High Load (but .3500 or higher)

14.	On the average what level of achievement can be expected of the students in this school?	.4345
16.	What percent of the students in this school do you expect to complete high school?	.3549
17.	What percent of the students in your class do you expect to complete high school?	.3641
38.	Completion of high school is a realistic goal which you set for what percentage of your students?	.3661

Operationally defined, T.F.E.E. is the mean of the summed factor scores for the teachers within each of the sampled schools. Within the original questionnaire, a lower total score on the items comprising this factor was indicative of a more positive response. However, again for clarity of interpretation, a transformation was done on all of the mean factor scores, thus, allowing a higher T.F.E.E. to also stand for a more positive teacher's future evaluation-expectation. School mean factor scores for T.F.E.E. are shown in Table 9.

Factor 7[1]- Teacher Perception of Parent-Student Push for Educational Achievement (T.P.P.S.P.)

Those items which loaded highly this factor were those which pertained to the amount of academic push which the teachers perceived to be coming from sources other than school personnel. This, of course, appears to be closely interwoven with those questions designed to assess the perceptions of teachers about the educational values which were held within the homes of the students attending their schools. Also important high loading items on this factor are items dealing with student norms, stressing the desire for individual competition. The following questions are the items which high load on the T.P.P.S.P. factor.

Proportion of Variance = .1012

Question #	Factor Loading Score
57. How many students in this school don't care when other students do much better than they do?	-.8286

[1]Refer to Appendix B, Teacher Questionnaire, for response alternatives.

TABLE 9.--Mean School Factor Scores for Teacher Future Evaluations-Expectations

		Ach.	Score	Match High-Low	Rank Strata	Rank Sample	Deviation
WHITE	H. SES	01-high	1.50420000	+	1	1	1.268997
		02-low	0.07337400	-	7	13	0.194384
		03-high	0.89955000	+	4	8	0.682302
		04-low	0.59471000	-	5	9	0.342074
	L. SES	05-high	0.41610000	+	6	11	0.097227
		06-low	-0.73288333	-	9	23	0.231147
		07-high	0.92735000	+	3	7	0.556772
		08-low	-0.66485000	-	8	21	1.159188
		09-high	0.94825000	+	2	6	0.622175
		10-low	-1.08455000	-	10	24	0.438091
BLACK	H. SES	15-high	1.28567857	+	2	3	0.721990
		16-low	0.46161667	-	4	10	0.810660
		12-low[a]	1.18541667		3	4	1.414844
	L. SES	13-high	0.30006667	+	5	12	0.668956
		14-low	-0.08840000	-	7	17	0.572044
		17-high	1.34951667	+	1	2	0.971269
		18-low	-0.00910556	-	6	15	1.398623
RURAL	H.SES	19-high	-0.03430000		3	16	0.082378
		24-low[a]	0.00628333		2	14	1.591184
	L. SES	20-high[a]	-0.52725000		6	20	1.591184
		21-high[a]	-0.70475000		7	22	0.000000
		22-high[a]	1.05975000		1	5	0.392727
		23-low[a]	-0.27545000		4	18	0.027436
		25-low	-0.48015000		5	19	0.000000

Note: Higher score denotes a more positive teacher perception of the future evaluations-expectations held within the social system of the school.

[a]Lower achieving school with a more positive future evaluation-expectation, and higher achieving schools with a more negative evaluation-expectation for the future.

58. How many students in your class don't care when other students do much better than they do? .7493

63. How many of the parents in this school service area don't care if their children obtain low grades? -.6708

60. The parents of this school service area are deeply concerned that their children receive a top quality education. -.6199

53. How many students in this school are content to do less than they should? -.5728

54. How many students in your class are content to do less than they should? .5648

59. The parents in this school service area regard this school primarily as a "baby-sitting" agency. -.4985

64. How many of the parents in this school service area like feedback from the principal and teachers on how their children are doing in school? -.4339

Not High Load (but .3500 or higher)

51. How many students in this school will try hard to do better on tests than their friends do? -.4929

52. How many students in your class will try hard to do better on tests than their classmates do? -.5848

61. How many of the parents in this school service area expect their children to complete high school? -.3749

Operationally defined, T.P.P.S.P. is the mean of the summed factor scores for the teachers within each of the sampled schools. Within the original questionnaire, a higher total score on the items indicated a more positive T.P.P.S.P. This was judged to allow easy interpretation of the results. Therefore, the mean factor scores for schools were left unaltered. School mean factor scores for T.P.P.S.P. are shown in Table 10.

TABLE 10--Mean School Factor Scores for Teacher Perceived Parent Student Push for Educational Achievement

	Ach.	Score	Match High-Low	Rank Strata	Rank Sample	Standard Deviation
WHITE H. SES	01-high	-0.39652500	+	8	19	0.695990
	02-low	-0.67242500	-	9	20	0.532191
WHITE L. SES	03-high	0.21697500	-	3	10	0.568426
	04-low[a]	0.26760000	+	2	8	0.915565
	05-high	-0.18460000	+	7	17	0.335027
	06-low	-0.87286667	-	10	22	1.131568
	07-high	0.08736667	-	5	13	1.034206
	08-low[a]	0.46186667	+	1	7	0.694474
	09-high	0.09770000	+	4	12	0.615545
	10-low	-0.14253333	-	6	16	2.568311
BLACK H. SES	15-high	0.25070000	+	3	9	0.420643
	16-low	-0.10820833	-	6	15	1.081128
BLACK L. SES	12-low	0.17583333		4	11	1.076698
	13-high	-0.74325000	-	7	21	1.091740
	14-low[a]	-0.05420000	+	5	14	1.632926
	17-high	1.06756667	+	1	2	0.251991
	18-low	0.53056667	-	2	6	0.885619
RURAL H.SES	19-high	1.10315000		1	1	1.184050
	24-low	-1.35263333		7	23	0.463563
RURAL L. SES	20-high	0.60750000		2	3	0.080610
	21-high	0.60560000		3	4	0.000000
	22-high	-0.23435000		5	18	0.991152
	23-low	-0.99245000		6	23	1.447235
	25-low[a]	0.58210000		4	5	0.000000

Note: Higher score denotes a more positive teacher perceived parent-student push for educational achievement.

[a]Lower achieving school with a more positive teacher perceived parents and students desire for educational achievement.

Factor 8[1] - Teachers Reported Push of Individual Students (T.R.P.I.S.)

T.R.P.I.S. emerged as a factor with less highly loaded items than the others which we have discussed thus far. The items comprising this factor were those which were designed to measure the amount of push that teachers were willing to exert upon individual students in order to encourage performance greater than the teacher expectations. The following questions are the ones which highly loaded within the T.R.P.I.S. factor.

Proportion of Variance = .0586

Question #		Factor Loading Score
44.	It is unfair to demand more work from a student than he is capable of giving.	.7569
45.	If you think a student is not able to do some of the school work you won't try to push him very hard.	.7076
46.	For most students you are careful not to push them to their frustration level.	.6906
41.	For those students who do not have the resources which will allow them to go to college, you are careful not to promote aspirations in them which probably cannot be fulfilled.	.6117

Not High Load (but. 3500 or higher)

15.	On the average what level of achievement can be expected of the students in your class?	.3549

Operationally defined, T.R.P.I.S. is the mean of the summed factor scores for the teachers within each of the sampled schools. Within the original questionnaire, a higher total score on the weighted factor items indicated that push was being exerted upon students in order to achieve beyond the expectations held by their

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[1]Refer to Appendix B, Teacher Questionnaire for response alternatives.

teachers. This was judged to allow clear interpretation of the results. Therefore, the mean factor scores were left unaltered. School mean factor scores for T.R.P.I.S. are shown in Table 11.

Factor 9[1] - Teacher Reported Feelings of Job Satisfaction (T.R.F.J.S.)

Another small factor, as measured by the number of high load items emerging from our factor analysis, consisted of three highly load items, designed to assess degree of teacher satisfaction with his present school, and with teaching in general. The following items are those high loading within this factor.

Proportion of Variance = .0670

Question #		Factor Loading Score
30.	If someone were to offer you an interesting and secure non-teaching job for $1,000 more a year, how seriously would you consider taking the job?	-.7182
31.	If someone were to offer you an interesting and secure non-teaching job for $3,000 more a year, how seriously would you consider taking the job?	-.6769
29.	How much do you enjoy your teaching responsibilities in this school?	.5405

Not High Load (but .3500 or higher)

27.	What percent of the students in this school would you say want to go to college?	.4537
28.	What percent of the students in your class would you say want to go to college?	.4537
59.	The parents in this school service area regard this school primarily as a "baby-setting" agency.	.3520
64.	How many of the parents in this school service area like feedback from the principal and teachers on how their children are doing in school?	.4013

[1]Refer to Appendix B, Teacher Questionnaire for response alternatives.

TABLE 11.--Mean School Factor Scores for Teacher Reported Push of Individual Students

		Ach.	Score	Match High-low	Rank Strata	Rank Sample	Standard Deviation
WHITE	H. SES	01-high	-0.16175000	-	3	13	1.358140
		02-low	0.32082500	+	1	5	0.556434
		03-high	-0.63567500	-	6	16	0.500162
		04-low	-0.41466000	+	5	15	0.783348
	L. SES	05-high	-1.09960000	-	9	20	0.240841
		06-low	-0.18760000	+	4	14	0.390176
		07-high	-1.17130000	-	10	22	1.371315
		08-low	-0.23526667	+	7	17	0.996576
		09-high	-0.67023333	-	8	18	0.722221
		10-low	-0.66873333	+	7	17	0.996576
BLACK	H. SES	15-high	0.10400000	-	7	12	0.659424
		16-low	0.49640833	+	4	4	0.866063
		12-low	0.50786667		3	3	0.780008
	L. SES	13-high	0.30886667	+	5	6	0.589202
		14-low[a]	0.11577500	-	6	11	0.723583
		17-high	0.72436667	-	2	2	0.498157
		18-low	1.21187778	+	1	1	1.269075
RURAL	H. SES	19-high	-0.85395000		4	19	0.229315
		24-low	0.12240000		5	10	0.593545
	L. SES	20-high	0.25010000		1	7	0.272493
		21-high	-1.42395000		7	24	0.410334
		22-high	-1.26610000		6	23	0.000000
		23-low	0.22550000		2	9	0.752079
		25-low[a]	-1.10880000		5	21	0.000000

Note: Higher Score denotes more perceived teacher reported push of individual students.

[a]Lower achieving school with less perceived teacher need to push students.

Operationally defined, T.R.F.J.S. is the mean of the summed factor scores for the teachers within each of the sampled schools. Within the original questionnaire, a lower total score on the weighted factor items comprising this factor, represented a more positive response. However, for clarity of interpretation, a transformation was performed on all of the mean factor scores, thus allowing a higher T.R.F.J.S. to also represent a higher teacher satisfaction with their school and the teaching profession. School factor scores for T.R.F.J.S. are shown in Table 12.

Factor 10[1] - Teacher Perception of Student Academic Improvability (T.P.S.A.I.)

The last factor to emerge was based upon items which were designed to report teacher perceptions of individuals belonging to the school social system and their beliefs (negative or positive) that past academic failure could be overcome. Specifically, this factor attempts to assess the belief, within the school social system, that hard work will result in improved student academic performance. The following items are those with high load in the T.P.S.A.I. factor.

Proportion of Variance = .0765

Question #		Factor Loading Score
55.	How many students in this school will seek extra work so that they can get better grades.	.6305
52.	How many students in your class will try hard to do better on tests than their classmates do?	.6238

[1]Refer to Appendix B, Teacher Questionnaire for response alternatives.

TABLE 12--Mean School Factor Scores for Teacher Reported Feelings of Job Satisfaction

		Ach.	Score	Match High-low	Rank Strata	Rank Sample	Standard Deviation
WHITE	H. SES	01-high	0.79086667	+	3	6	0.475346
		02-low	0.57154167	-	5	8	0.444558
		03-high	0.46991667	-	6	9	0.429900
		04-low[a]	0.64390667	+	4	7	1.347633
	L. SES	05-high	1.39246667	-	2	3	0.453680
		06-low[a]	1.60960000	+	1	1	0.308015
		07-high	-0.06060000	-	9	17	1.103096
		08-low[a]	0.01796667	+	8	15	0.425664
		09-high	0.30313334	+	7	12	0.615008
		10-low	-0.46996666	-	10	20	1.542970
BLACK	H. SES	15-high	0.30430953	+	4	11	0.470030
		16-low	-0.23369166	-	6	19	0.685754
		12-low	-.00553334		5	16	0.834894
	L. SES	13-high	-0.57123333	-	7	21	1.120243
		14-low[a]	1.24131667	+	1	4	1.371877
		17-high	0.96053334	+	2	5	0.563878
		18-low	0.31178889	-	3	10	1.124375
RURAL	H.SES	19-high	1.55021667		1	2	0.685540
		24-low	-1.07890000		6	23	0.262275
		20-high[a]	-0.14668333		4	18	2.136947
		21-high	0.15256667		2	13	0.000000
	L. SES	22-high[a]	-1.06513333		5	22	1.403748
		23-low	0.05566667		3	14	0.083580
		25-low	-1.37263333		7	24	0.000000

Note: Higher score denotes higher reported teacher satisfaction with school and teaching.

[a]Lower achieving school with a higher reported teacher sense of satisfaction with teaching, or a high achieving school with low teacher satisfaction.

51.	How many students in this school will try hard to do better on tests then their friends do?	.6027
56.	How many students in your class will seek extra work so that they can get better grades?	.5997
48.	How many teachers encourage students to seek extra work so that the students can get better grades?	.5785
50.	How many students in your class try hard to improve on previous work?	.5561
40.	How often do you stress to your students the necessity of a post high school education for a good job and/or a comfortable life?	.5125
49.	How many students in this school try hard to improve on previous work?	.4777
47.	How many teachers in this school encourage students to try hard to improve on previous test scores?	.3951

Operationally defined, T.P.S.A.I. is the mean of the summed factor scores for the teachers within each of the sampled schools. Within the original questionnaire, a lower total score on the weighted factor items comprising this factor, represented a more positive response. However, for clarity of interpretation, a transformation was performed on all of the mean factor scores. Therefore, a higher T.P.S.A.I. now also represents a more positive teacher perception that students are not bound by the past and can show academic improvement in school. School factor scores for T.P.S.A.I. are shown in Table 13.

Principal Factors

This researcher found the preceding ten factors to be the only ones interpretable for further analysis within the present study. The limited number of principal subjects (23), made the

TABLE 13.--Mean School Factor Scores for Teacher Perception of Student Academic Improvability

		Ach.	Score	Match High-low	Rank Strata	Rank Sample	Standard Deviation
WHITE	H. SES	01-high	-0.55945000	+	6	17	1.032729
		02-low	-0.70070000	-	7	19	0.742370
		03-high	-0.85606250	-	9	21	0.738001
		04-low[a]	-0.46115500	+	5	15	0.563861
	L. SES	05-high	-0.89297500	-	10	23	0.154856
		06-low[a]	-0.85224167	+	8	20	0.812435
		07-high	-0.16904167	-	3	11	0.281426
		08-low[a]	-0.10960833	+	2	10	1.029831
		09-high	-0.10599167	+	1	9	0.686005
		10-low	-0.38224167	-	4	14	0.622914
BLACK	H. SES	15-high	0.05455357	+	2	6	0.349668
		16-low	-1.37070000	-	7	24	0.808881
		12-low[a]	0.04169167		3	7	0.589057
	L. SES	13-high	-0.25034167	+	5	12	1.129803
		14-low	-0.87682500	-	6	22	2.760540
		17-high	0.59069167	+	1	3	0.802456
		18-low	0.02002500	-	4	8	1.061096
RURAL	H.SES	19-high	0.05612500		4	5	0.798889
		24-low[a]	0.81532500		2	2	0.060819
	L. SES	20-high	0.42752500		3	4	0.460751
		21-high	0.98152500		1	1	0.000000
		22-high	-0.51507500		6	16	0.450710
		23-low[a]	-0.32997500		5	13	0.877661
		25-low	-0.68917500		7	18	0.000000

Note: Higher score denotes the perception of teachers that students and their teachers believe that student background does not determine future academic success.

[a]Lower achieving school where teachers perceive that students and teachers believe that it will be more difficult for students to improve upon previous work.

task of finding stable interpretable factors, from the thirteen principal attitudinal items, a difficult task. Those factors which did emerge appeared to be divided among three areas: present evaluations - expectations, future evaluations-expectations, and parent-school contact.[1] It was in the opinion of this researcher, however, that this observed trend did not progress to the point where factors could be named and employed as independent variables. While the thirteen principal items were not used as "factors" in subsequent analysis, the principal questions and combination of questions were still employed as part of our case analysis. This is reported in Chapter VI.

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[1]For the readers information, high load items which were not used from a three factor varimax factor analysis are reported in Appendix F.

CHAPTER V

THE STATISTICAL ANALYSES

Linear Regression Analysis on Achievement

On the basis of the varimax rotation factor analyses performed on the attitudinal responses of our three groups of subjects, we were able to identify ten factors subsequently employed as independent variables in analyzing the variation in achievement between sampled schools. These variables were operationally defined in Chapter V. They were named and numbered to compose the independent variables which were placed in our least square add linear regression analysis. Also employed within this analysis were the design variables discussed in Chapter III. Our desire was to control for their effects upon achievement, prior to our consideration of the significance of climate factors upon mean achievement of our sampled schools.

Linear regression analysis, as employed in the current study, is a descriptive statistic used to predict achievement only within our selected sample of schools. Because this analysis is performed within a study which is exploratory and descriptive, having a small sample size and thus a low number of degrees of freedom, the decision was made to use $\alpha = .10$ as the level of significance.

Given the objectives of this study, it was this researcher's contention that commission of a type one error, accepting a variable as a significant predictor of achievement when it was not, was preferrable to making a type two error and mistakingly eliminating any of our independent variables from consideration in subsequent studies.

Also given the exploratory nature and multi-staged analysis performed within the current study, the testing of specific hypotheses is not viewed as essential to our purposes. We will, therefore, state those general questions and/or general hypotheses of interest for the particular analysis being performed only when this procedure seems appropriate. It must be remembered that our purpose was to generate, rather than test, hypotheses.

Question 2 and Hypothesis 1 are so stated in Chapter III:

Question 2:

> What part of the variance, between high and low achieving schools of various S.E.S., racial, and urban-rural community types, can be predicted on the basis of the social-psychological school academic climate factors?

Hypothesis 1:

> Within our selected sample, the student and teacher variables, comprising school normative academic climate, will differ in relationship to the dependent variable, achievement, as measured by the Michigan State School Assessment Achievement Index, when the effects of mean school S.E.S., racial composition, and urban-rural community type have been controlled.

In order to effectively deal with each of these, a least square add linear regression analysis was employed on the basis of correlation coefficients presented in Table 14. Several interesting points should be noted on the basis of this correlation matrix. The most

TABLE 14.--Matrix of Correlation Coefficients of Variables within Total Sample

		A.	B.	C.	D.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
A.	S.E.S.	1.000000													
B.	Race	-0.03833	1.000000												
C.	Urb-ru	-0.22231	-0.41176	1.00000											
D.	Achieve.	0.13179	-0.47010	0.29575	1.00000										
1.	S.P.P.E.E.	0.07413	-0.76011	0.36177	0.49549	1.00000									
2.	S.P.F.E.E.	0.51964	0.13451	-0.27661	0.39671	-0.04976	1.00000								
3.	S.R.S.O.F.	-0.19209	0.60872	-0.19496	-0.82225	-0.69654	-0.34691	1.00000							
4.	S.P.O.A.N.	-0.14383	-0.17406	-0.02602	0.32383	0.21741	0.31291	-0.31291	1.00000						
5.	T.P.E.E.	0.02367	-0.42302	0.49771	0.77377	0.42349	0.25833	-0.66724	0.09909	1.00000					
6.	T.F.E.E.	0.30688	0.32323	-0.34922	0.34164	-0.04579	0.63176	-0.12270	0.34478	0.09198	1.00000				
7.	T.P.P.S.P.	-0.23343	0.15427	0.03459	0.14125	0.18525	0.28919	-0.02632	0.14071	0.09848	0.07910	1.00000			
8.	T.R.P.I.S.	0.10345	0.67685	-0.32639	-0.52669	-0.49738	0.09780	0.48842	0.04834	0.43182	0.29099	-0.26838	1.00000		
9.	T.R.F.J.S.	0.37776	0.05221	-0.40434	0.06183	0.00899	0.18340	-0.19436	0.07491	-0.08246	0.10379	0.18687	-0.01110	1.00000	
10.	T.P.S.A.I.	-0.38387	-0.00029	0.41218	0.18588	0.23264	-0.16117	-0.24021	0.03214	0.29580	0.05654	0.27159	0.06061	-0.17027	1.000000

Variables:

A. Socio-Economic Status: 1=Low, 2=High (S.E.S.)
B. Predominant Race of the School: 1=White, 2=Black (Race)
C. Urban-Rural Community Type: 1=Urban, 2=Rural
D. Achievement on Michigan State Assessment Index (Achieve.)

1. Students' Perception of Present Evaluations-Expectations (S.P.P.E.E.)
2. Students' Perception of Future Evaluations-Expectations (S.P.F.E.E.)
3. Students Reported Sense of Futility (S.R.S.O.F.)
4. Students' Perception of Schools Academic Norms (S.P.S.A.N.)

5. Teacher Present Evaluations-Expectations (T.P.E.E.)
6. Teacher Future Evaluations-Expectations (T.F.E.E.)
7. Teacher Perception of Parent-Student Achievement Push (T.P.P.S.P.)
8. Teacher Reported Push of Individual Students (T.R.P.I.S.)
9. Teacher Reported Feelings of Job Satisfaction (T.R.F.J.S.)
10. Teacher Perception of Student Academic Improvability (T.P.S.A.I.)

noticeable findings are the extremely strong simple correlation between mean school achievement and three of our school climate factors: a low sense of futility (r = .82), high teacher perceptions of present evaluations-expectations (r = .66), and a low teacher reported perceived need to push individual students (r = .53). A reported strong teacher need to push individual students also appears more prevalent in predominantly black schools (r = .67). There is also a high correlation between a school being predominantly black and the presence within the environment of a high student perceived sense of futility (r = .61). Predominantly white schools, on the other hand, relate much more positively to higher teacher present evaluation-expectation (r = .41).

The correlational relationship between our school climate factors will be discussed further in the summary of the present chapter as well as in Chapter VII. In addition, separate correlation matrices representing student variables and teacher variables will be presented for our three design strata: predominantly white, predominantly black, and rural schools. These will be presented and discussed in section three of this chapter within the report of our discriminant function analysis.

Our least squares add linear regression analysis used each of our sampled school's actual mean achievement scores as dependent variables. The independent variables were the 10 student and teacher school climate factors. The effects of S.E.S., race, and urban-rural community type were controlled by first placing them into the regression equation. This allowed the researcher to

analyze the amount of variation in achievement which could be predicted by our ten school normative academic climate factors, beyond the amount of variation predicted by the design variables.

TABLE 15.--Findings of Least Square Add Linear Regression Analysis for Achievement

Variable	R	R^2	Prob.	% Added to the Prediction of Achievement	Significance of β
S.E.S. Race Urban-Rural Interaction	0.5056	0.2556	0.109		
S.R.S.O.F.	0.8395	0.7048	<0.0005	.4492	<0.0005
T.P.F.E.E.	0.8962	0.8031	0.008	.0983	<0.0005
T.R.P.I.S.	0.9225	0.8559	0.023	.0528	<0.0005
S.P.P.E.E.	0.9418	0.8995	0.052	.0336	<0.0005
T.P.P.E.E.			0.191		

Thus we can observe that our method of sample selection is fairly successful in limiting the effects of our design variables (S.E.S., race, and urban-rural) upon achievement. They account for less of the variance in achievement than is normally the case. This analysis also clearly demonstrates that by far the most important climate variable within our sample of schools is student reported sense of futility ($p < 0.0005$), of which that part of S.P.S.O.F. not in common with the design variables accounts for 44.9% of the prediction of the variance in achievement. Other variables significantly contributing to the prediction of the variance in school

achievement were: higher teacher perceived future evaluation-expectations (p = .008), less teacher reported need to push individual students (p = .023), and higher student perceived present evaluations-expectations (p = .052). These four school climate variables predicted slightly over 63% of the achievement variation in our sampled schools. Thus, this researcher accepts Hypothesis 1, that school normative academic climate differences do exist between high and low achieving schools when the effects of S.E.S., race, and urban-rural community type are controlled.

Linear Regression Analysis on Sense of Futility

As a consequence of the observed strength of the achievement predictive ability of student perceived sense of futility, this research decided to use this factor as a dependent variable in an attempt to predict the amount of variation beyond the effects of S.E.S., race, and urban-rural community type which were accounted for by the remaining nine school climate factors. Table 16 represents our findings:

TABLE 16.--Findings of Least Square Add Linear Regression Analysis for Sense of Futility

Variable	R	R^2	Prob.	% Added to the Prediction of Achievement	Significance of β
S.E.S. Race Urban-Rural Interaction	0.6320	0.3994	0.015		
T.P.P.E.E.	0.8069	0.6511	0.002	.2517	0.0005
S.P.S.A.N.	0.8569	0.7343	0.029	.0832	0.0005
S.P.P.E.E.	0.8906	0.8147	0.042	.0804	0.0005
T.P.S.A.I.			0.192		

It would appear, according to our findings, that we can predict 41.53% of the variation in sense of futility for our sampled schools on the basis of three significant normative academic climate variables. First, a low sense of futility appears to be found in those schools which also have a high teacher present evaluation-expectation ($p = .002$). Secondly, there exists in low S.P.S.O.F. schools a more positive student perception, of the presence within the school environment, of norms stressing academic achievement ($p = .029$). And thirdly, there exists high student perceptions of the present evaluations-expectations of the probability of student achievement ($p = .042$). All of these variables, thus, exercise an important indirect relationship to our original dependent variable, achievement. Two of the three (teacher present evaluation-expectations and student perceived academic norms) did not significantly add to the prediction of the variation in achievement. Although not significant, it is worth noting that for the first time there is evidence of the possible importance of teacher perceptions about the belief held within the school social system that student academic achievement can be improved. More will be said concerning this variable in subsequent analysis.

This analysis adds further weight to our earlier conclusion that high and low achieving schools can be differentiated by certain socio-psychological factors related to the school normative academic achievement environment. It also increases our understanding of the patterns of relationships existing between these variables.

Discriminant Function Analysis

The next stage of our study utilizes a discriminant function analysis which determines which of our school climate factors best differentiate between higher and lower achieving schools within our design strata. As in the case of the least square add linear regression analysis, the independent variables employed for the discriminant function analysis consited of those student and teacher factors arrived at through the use of a varimax rotation factor analysis, reported in Chapter IV. In the discriminant function analysis, actual achievement was not the dependent variable. Schools were assigned to higher and lower achieving categories on the basis of the relationship existing between their students mean achievement and their mean S.E.S. index scores. Their placement into higher and lower achieving categories was also dependent upon the design strata in which they were placed. The three design strata were: predominantly white urban schools, predominantly black urban schools, and schools located within rural communities.

The three strata were analyzed separately allowing for both control of their effect and strata comparisons in the relationships of the independent variables to the dependent variable, achievement. The small numbers of subjects made it impossible to control for school mean S.E.S. within any given strata or consider our independent variables accumulatively, at any one time. Therefore, the four student climate factors were analyzed as one group, while the six teacher factors were divided into two groups

of three factors each. The two divisions of teacher factors were determined on the basis of their strength of correlation to achievement within a previously run correlation coefficient matrix, reported in Table 14 in section one of the present chapter. The three factors having the highest correlation with achievement formed one group while those having the lowest correlation formed the other. The three groups of variables forming the basis of our attempts to discriminate between high and low achieving groups of schools were:

Group 1:

1.	Students' Present Evaluations-Expectations	(S.P.P.E.E.)
2.	Students' Future Evaluations-Expectations	(S.P.F.E.E.)
3.	Students' Perceived Sense of Futility	(S.P.S.O.F.)
4.	Students' Perceptions of Academic Norms	(S.P.S.A.N.)

Group 2:

1.	Teacher Present Evaluations-Expectations	(T.P.E.E.)
2.	Teacher Future Evaluations-Expectations	(T.F.E.E.)
3.	Teacher Reported Push Individual Students	(T.R.P.I.S.)

Group 3:

1.	Teacher Perceptions of Parent-Student Push for achievement	(T.P.P.S.P.)
2.	Teacher Reported Job Satisfaction	(T.R.F.J.S.)
3.	Teacher Perceptions of Student Improvability	(T.P.S.A.I.)

A discriminate function analysis evolved from the correlational relationship between the factors. Matrices of simple within cell correlations of our independent student and teacher variables were thus developed and represented in Tables 17 and 18.

There are a number of very interesting correlational patterns observable in these tables. Following are several noticeable pattern examples:

TABLE 17.--Separate within Cell Simple Correlation Matrices of Student Variables for White, Black, and Rural Schools

	S.P.P.E.E.	S.P.F.E.E.	S.R.S.O.F.	S.P.S.A.N.
Predominantly White-Urban Schools				
S.P.P.E.E.	1.000000			
S.P.F.E.E.	0.158115	1.000000		
S.R.S.O.F.	-0.262210	-0.349942	1.000000	
S.P.S.A.N.	0.155800	-0.130372	-0.625740	1.000000
Predominantly Black-Urban Schools				
S.P.P.E.E.	1.000000			
S.P.F.E.E.	-0.395245	1.000000		
S.R.S.O.F.	0.451046	-0.868724	1.000000	
S.P.S.A.N.	0.282368	0.150282	-0.234520	1.000000
Rural Schools				
S.P.P.E.E.	1.000000			
S.P.F.E.E.	-0.151533	1.000000		
S.R.S.O.F.	-0.877112	-0.177929	1.000000	
S.P.S.A.N.	0.032022	0.663966	-0.169491	1.000000

TABLE 18.--Separate within Cell Simple Correlation Matrices of Teacher Variables for White, Black and Rural Schools

	T.P.E.E.	T.F.E.E.	T.P.P.S.P.	T.W.P.I.S.	T.R.F.J.S.	T.P.S.A.I.
Predominantly White-Urban Schools						
T.P.E.E.	1.000000					
T.F.E.E.	-0.003709	1.000000				
T.P.P.S.P.	0.243410	0.057363	1.000000			
T.W.P.I.S.	0.067826	0.515248	-0.418273	1.000000		
T.R.F.J.S.	0.195272	0.103120	-0.595109	0.269760	1.000000	
T.P.S.A.I.	-0.265377	0.042777	0.591376	-0.226556	-0.736109	1.000000
Predominantly Black-Urban Schools						
T.P.E.E.	1.000000					
T.F.E.E.	0.078939	1.000000				
T.P.P.S.P.	0.320685	0.512293	1.000000			
T.W.P.I.S.	0.256449	-0.001836	0.564416	1.000000		
T.R.F.J.S.	-0.031994	0.053925	0.622205	-0.053560	1.000000	
T.P.S.A.I.	-0.095139	0.422402	0.681429	0.607132	0.284262	1.000000
Rural Schools						
T.P.E.E.	1.000000					
T.F.E.E.	-0.349242	1.000000				
T.P.P.S.P.	-0.565025	-0.558782	1.000000			
T.W.P.I.S.	0.091510	0.839555	-0.844677	1.000000		
T.R.F.J.S.	-0.039298	-0.375409	0.240288	-0.073743	1.000000	
T.P.S.A.I.	0.797649	-0.471408	-0.277727	-0.117860	0.146168	1.000000

Student Variables:

1. In predominantly white-urban schools, we find a low but positive correlation to exist between student perceived present and perceived future evaluations-expectations ($r = 0.158$). This is not the case in predominantly black-urban schools ($r = -0.395$) or schools located within rural communities ($r = -0.151$).

2. In rural schools, we find an extremely strong relationship to exist between a low student sense of futility and a high student perceived present evaluations-expectations ($r = -0.877$). This relationship exists, although to a lesser degree, between variables within our predominantly white-urban sample ($r = -0.26$). In predominantly black-urban schools, however, there appears to exist a fairly strong relationship between higher student perceived present evaluations-expectations and a higher sense of futility within the school social system ($r = 0.45$).

3. A low sense of futility has a much higher correlation with high student perceived future evaluations-expectations in predominantly black-urban schools ($r = -0.868$) than we find in schools which are predominantly white-urban ($r = -0.349$) or rural ($r = -0.177$).

4. Examining again a low student perceived sense of futility, within the school social system, this time with more positive perceived student academic norms, one can see a stronger correlation to exist in predominantly white-urban ($r = -0.625$) than in black-urban ($r = -0.237$) or rural ($r = -0.169$) schools.

Teacher Variables:

1. We find a rather high positive relationship to exist between teacher future evaluations-expectations and teacher willingness to push individual students in predominantly white-urban schools ($r = 0.51$), an even stronger positive correlation between these variables in rural schools ($r = 0.839$), but almost no relationship between these variables in predominantly black-urban schools ($r = -0.001$).

2. A teacher's greater willingness to push individual students has a strong negative correlation with the greater degree of teacher perceived parent-student push for educational achievement, in predominantly white-urban schools ($r = -0.41$) and rural schools ($r = -0.84$), while the correlation between these variables is strongly positive in predominantly black-urban schools ($r = 0.56$).

3. While not quite so dramatically, this same sort of relationship is found to exist between teacher reported willingness to push individual students and more positive beliefs about student improvability. Once again, for both predominantly white-urban schools and rural schools, we find these variables to be negatively correlated ($r = -.226$ and $-.117$ respectively), while for predominantly black schools, we again find a fairly high positive relationship ($r = .607$).

4. We find a highly positive relationship to exist between teachers job satisfaction and amount of parent-student push for educational achievement in predominantly black-urban schools ($r = .62$) and a similarly negative correlation in predominantly white-urban schools ($r = -.595$).

Within the context of these relationships, the within strata maximum discriminate function analysis on our three separate groups of independent variables can now be examined. This analysis was employed to help us deal with question one and hypothesis two, as presented in Chapter III.

Question 1:

Which of a number of social-psychological school academic climate factors derived from the perceptions of students, teachers, and principals, best differentiate between higher and lower achieving schools, when S.E.S., race, and urban-rural community type have been controlled?

Hypothesis 2:

Within our selected sample, there will be differences between predominantly white-urban schools, predominantly black-urban schools, and rural schools, in the relationship between those variables comprising school normative academic climate, as measured by the perceptions of students, teachers, and principals, and the dependent variable, achievement, as measured by the Michigan State Assessment Achievement Index.

It must be stated initially that due to several circumstances, an exact testing of hypothesis 2 or answer to question 1 is not possible through the present analysis. First, the varimax factor analysis on principal data did not produce sufficient interpretable

factors. Secondly, by using the three separate strata, this researcher was able to control for their effects, although as a result of the small sample size, it was possible to analyze the data by achievement only, and impossible to separate strata by high and low S.E.S. We do, however, possess substantial evidence that S.E.S. does not have a great effect upon achievement. First, the least square add regression analysis found the effect of S.E.S. upon our current sample to be fairly small, as all of the design variables together, including S.E.S., accounted for only 25.5% of the variation in achievement. Secondly, the design of our sample within our three strata, S.E.S. is fairly evenly divided between higher and lower achieving schools, as shown in the following Table.

TABLE 19.--Placement of High and Low S.E.S. Schools by Achievement within Strata

		High Ach.	Low Ach.
Predominantly White-Urban	High S.E.S.	3	3
	Low S.E.S.	2	2
Total Number of Schools in Strata = 10			
Predominantly Black-Urban	High S.E.S.	1	2
	Low S.E.S.	2	2
Total Number of Schools in Strata = 7			
Rural Schools	High S.E.S.	1	1
	Low S.E.S.	3	2
Total Number of Schools in Strata = 7			

In light of these reservations, our desire in this analysis was to gauge the relative amount of discriminatory power possessed by each of our 10 independent variables, within the three groupings, for each of the strata, between higher and lower achieving schools. To accomplish this, a single vector of standardized scores was produced which weighted the contribution of each of our variables to differences in mean student achievement. Bartlett's chi square test for significance was calculated for each variable group within each of the strata. Findings are reported in Tables 20 - 25.

TABLE 20.--Discriminant Function Analysis of Student Variables Predominantly White-Urban Schools

Independent Variable	Standardized Score
1. S.P.S.O.F.	-1.4380
2. S.P.S.A.N.	-0.8161
3. S.P.F.E.E.	-0.3931
4. S.P.P.E.E.	0.1201

Bartlett's X^2 = 11.7547 with 4 d.f. P < 0.0193

Thus, we find that our grouping of student variables do significantly distinguish between higher and lower achieving schools within the predominantly white-urban school strata. Although no arbitrary figure was decided upon to determine if a particular variable was or was not differentiating between the two achievement groups, by looking at the absolute values of the standardized scores, we can easily see that student perceived sense of futility and student perceived academic norms appear to have a much higher differentiating power than do student future or student present

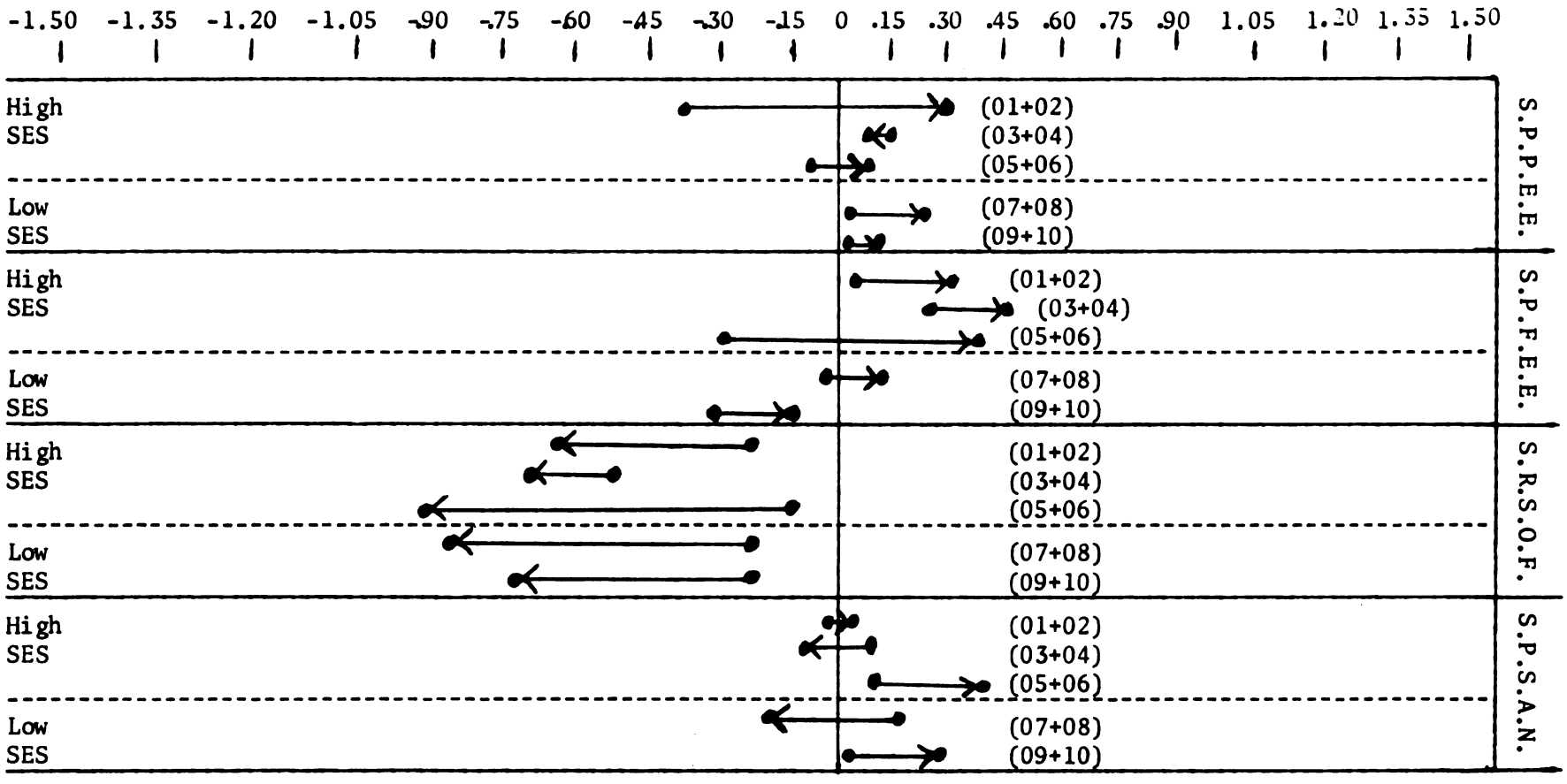
evaluations-expectations. For graphic representation of the manner in which these student variables differentiate higher and lower achievement in predominantly white-urban schools, matched on S.E.S., see Figure 1.

TABLE 21.--Discriminant Function Analysis of Student Variables Predominantly Black-Urban Schools

Independent Variable	Standardized Schools
1. S.P.S.O.F.	-1.8251
2. S.P.F.E.E.	-0.8427
3. S.P.P.E.E.	0.7493
4. S.P.S.A.N.	-0.2537

Bartlett's X^2 = 3.3035 with 4 d.f. P < 0.5084

A significant discriminatory power for this group of variables was not found within these strata. This may have been the result of: (1) our small sample size within the two achievement groups in predominantly black-urban schools, (2) there may not have been a large enough range for independent variables within predominantly black-urban schools to differentiate achievement groups, or (3) there may be no actual significance for these variables within the strata. Assuming that the variable order does have some meaning, and remaining cautious in interpretation, we again find by looking at absolute values that student perceived sense of futility is by far the most important discriminator of achievement differences, with student future and present expectation, discriminating at a much lower level. Unlike the case of predominantly white-urban schools, student perceived school academic norms do not appear to



Note: Arrows point toward higher achieving school.

Figure 1.--Mean School Student Factor Scores of Matched Pairs of School for Predominantly White-Urban Schools

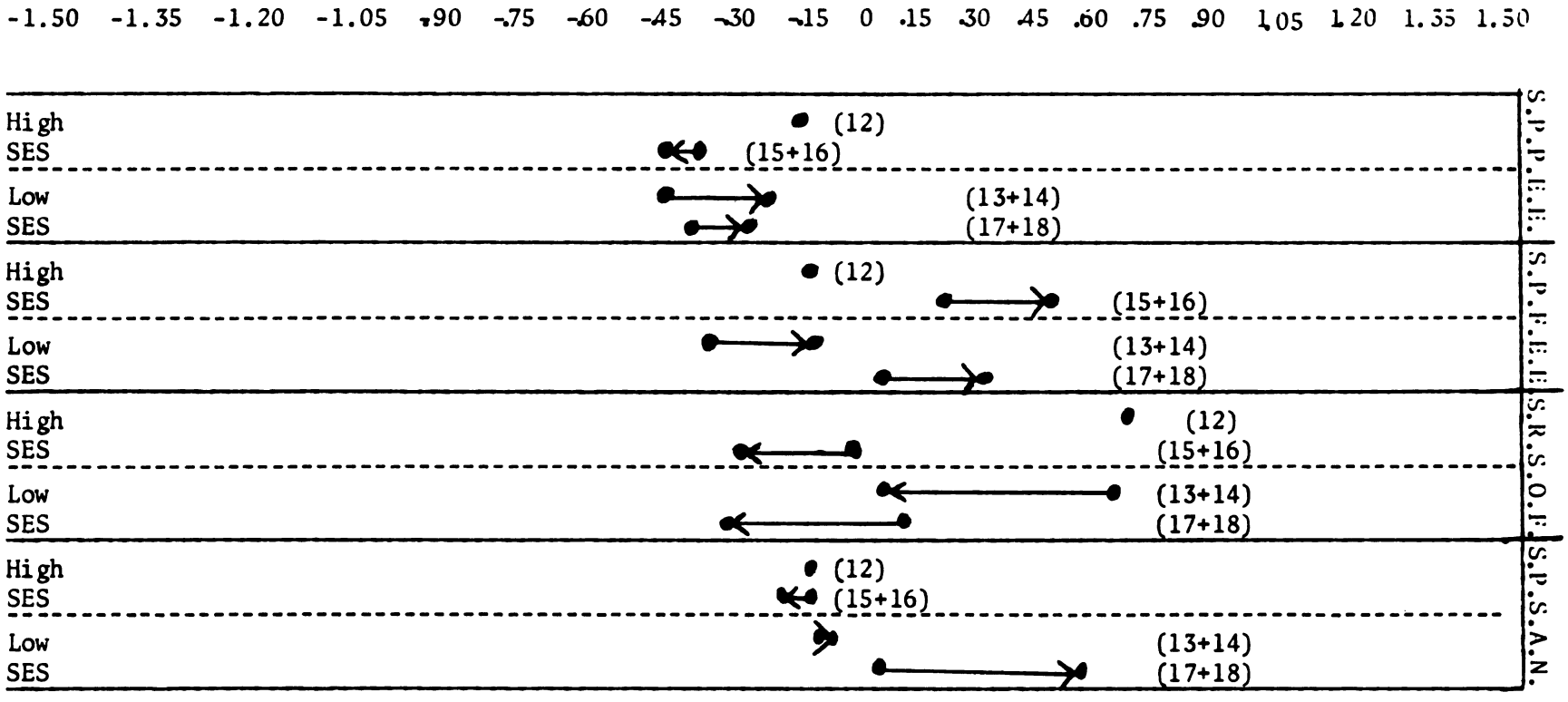
be an important discriminating factor. For a graphic representation of these variables, differentiating higher and lower achieving predominantly black-urban schools matched on S.E.S., see Figure 2.

TABLE 22.--Discriminant Function Analysis of Student Variables Rural Schools

Independent Variable	Standardized Score
1. S.P.S.O.F.	2.7984
2. S.P.P.E.E.	2.7488
3. S.P.F.E.E.	1.3009
4. S.P.S.A.N.	-0.6251

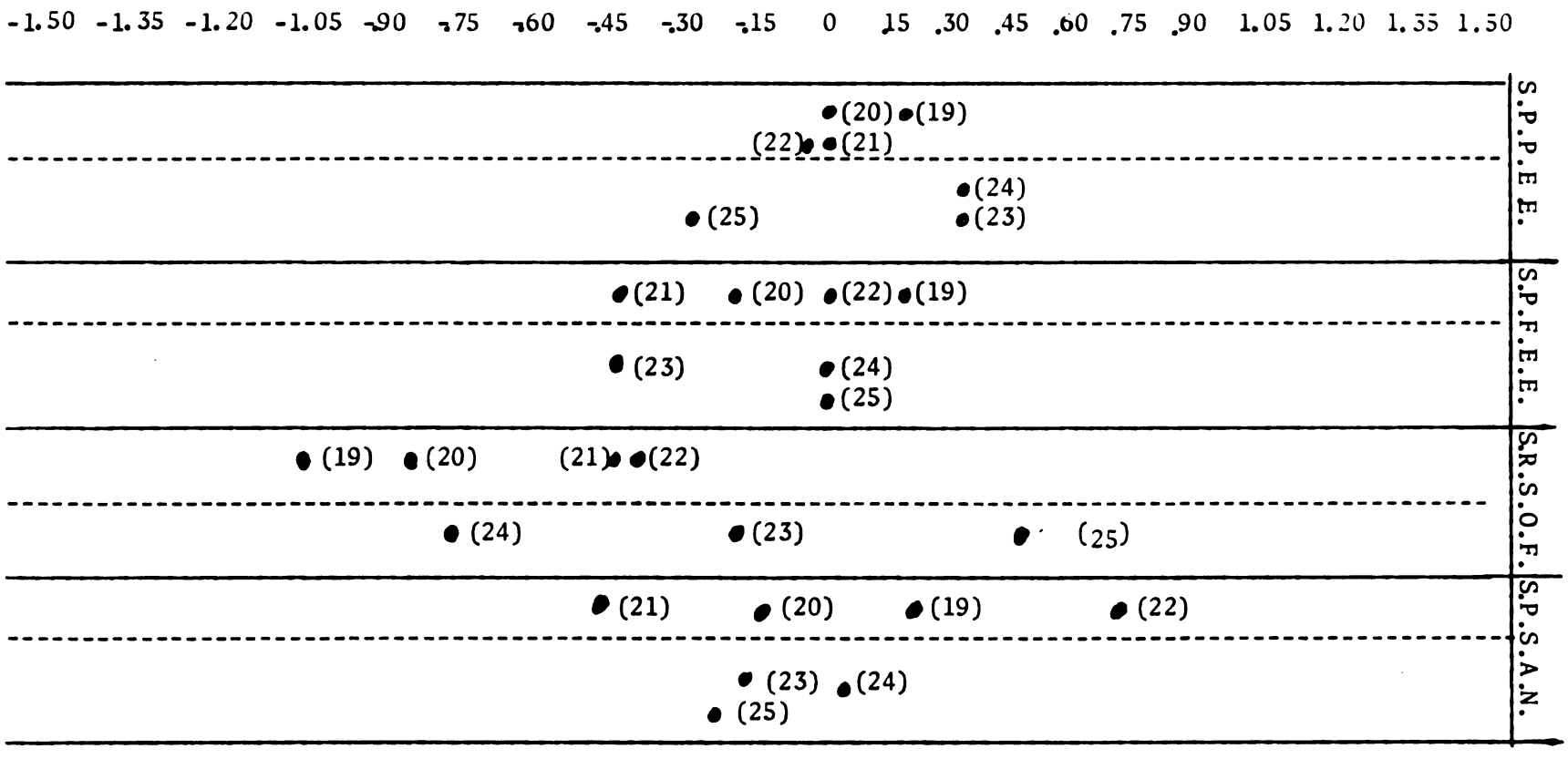
Bartlett's X^2 = 5.4964 with 4 d.f. P < 0.2401

Again we fail to find group significance and the reasons stated for our failure to find significance in predominantly black-urban schools might once again apply to the rural sample. A comparison of the absolute scores with the other two strata, however, present some interesting results. Again we find student perceived sense of futility to be the most important discriminator of the group, but not by nearly so wide a margin as the other strata. Student perceived present evaluations-expectations were almost as strong in differentiating achievement. For graphic representation of these variables differentiating higher and lower achievement in rural schools, see Figure 3.



Note: Arrows point toward higher achieving school.

Figure 2.--Mean School Student Factor Scores of Matched Pairs of Schools for Predominantly Black-Urban Schools



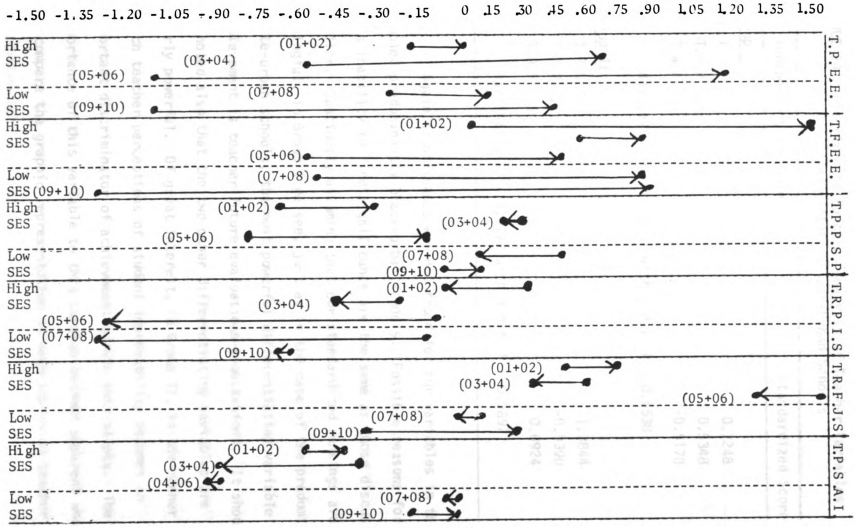
Note: Broken line separates higher and lower achieving schools.

Figure 3.--Mean School Student Factor Scores for Rural Schools

TABLE 23.--Discriminant Function Analysis of Teacher Variables Predominantly White-Urban Schools

Independent Variables	Standardized Scores
Group I:	
1. T.P.F.E.E.	0.9072
2. T.P.W.P.S.	-0.7882
3. T.P.P.E.E.	0.6007
Bartlett's X^2 = 13.4731 with 3 d.f. P < 0.0038	
Group II:	
1. T.P.P.S.P.	-1.2284
2. T.R.F.J.S.	-0.8868
3. T.P.S.A.I.	0.1550
Bartlett's X^2 = 0.6392 with 3 d.f. P < 0.8875	

The teacher variable analysis was designed so that the variables having the highest correlation with achievement were assigned to Group I, while the remaining variables were assigned to Group II. Therefore, it is not surprising that we find strong significance to Group I and very low significance in Group II. It appears also that in Group I while teacher future evaluations-expectations is the most powerful discriminator of achievement, followed by teacher willingness to push individual students and teachers present evaluations - expectations, that all three variables do differentiate higher and lower achieving schools. In Group II, on the other hand, it appears that the only variable which might deserve further consideration is the teacher perceived, parent-student push for educational achievement. For graphic representation of the teacher variables differentiating lower and higher achieving, predominantly white-urban schools, matched on S.E.S., see Figure 4.



Note: Arrows Point toward higher achieving school.

Figure 4.--Mean School Teacher Factor Scores of Matched Pairs of Schools for Predominantly White-Urban Schools

TABLE 24.--Discriminate Function Analysis of Teacher Variables Predominantly Black-Urban Schools

Independent Variable	Standardized Score
Group I:	
1. T.P.F.E.E.	0.7248
2. T.P.P.E.E.	0.5348
3. T.W.P.I.S.	-0.5178
Bartlett's X^2 = 1.6251 with 3 d.f. P < 0.6538	
Group II:	
1. T.P.S.A.I.	1.3844
2. T.P.P.S.P.	-0.9390
3. T.R.F.J.S.	0.0924
Bartlett's X^2 = 1.9177 with 3 d.f. P < 0.5897	

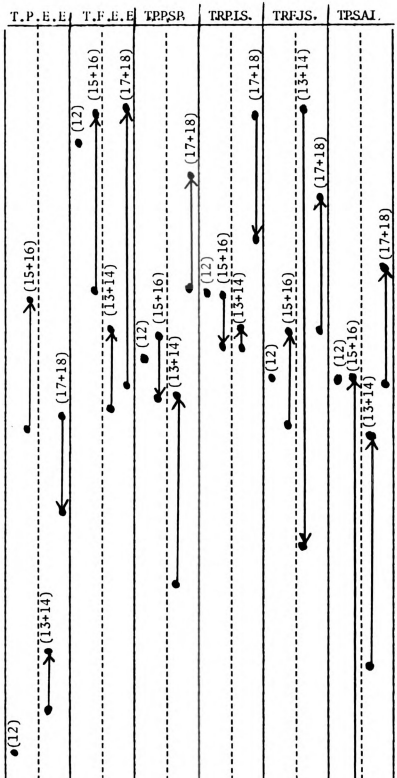
Again significance was not found for our variables in the sampled predominantly black-urban schools. Possible reasons for this inability to find significance are the same as those discussed earlier. Cautiously assuming that our standardized rankings are meaingful, in Group I we see, just as in the case of the predominantly white-urban schools, the most powerful differentiating variable for achievement is teacher future evaluations-expectations. It should be noted also that the two other differentiating variables are fairly powerful. Of great interest, in Group II, is the manner in which teacher perceptions of student improvability becomes an important discriminator of achievement within this strata. The importance of this variable to this stratum becomes apparent when we compare the graphic representation of mean scores on teacher

variables for schools, matched on S.E.S., in white-urban (Figure 4) and Black-urban (Figure 5) samples.

TABLE 25.--Discriminate Function Analysis of Teacher Variables in Rural Schools

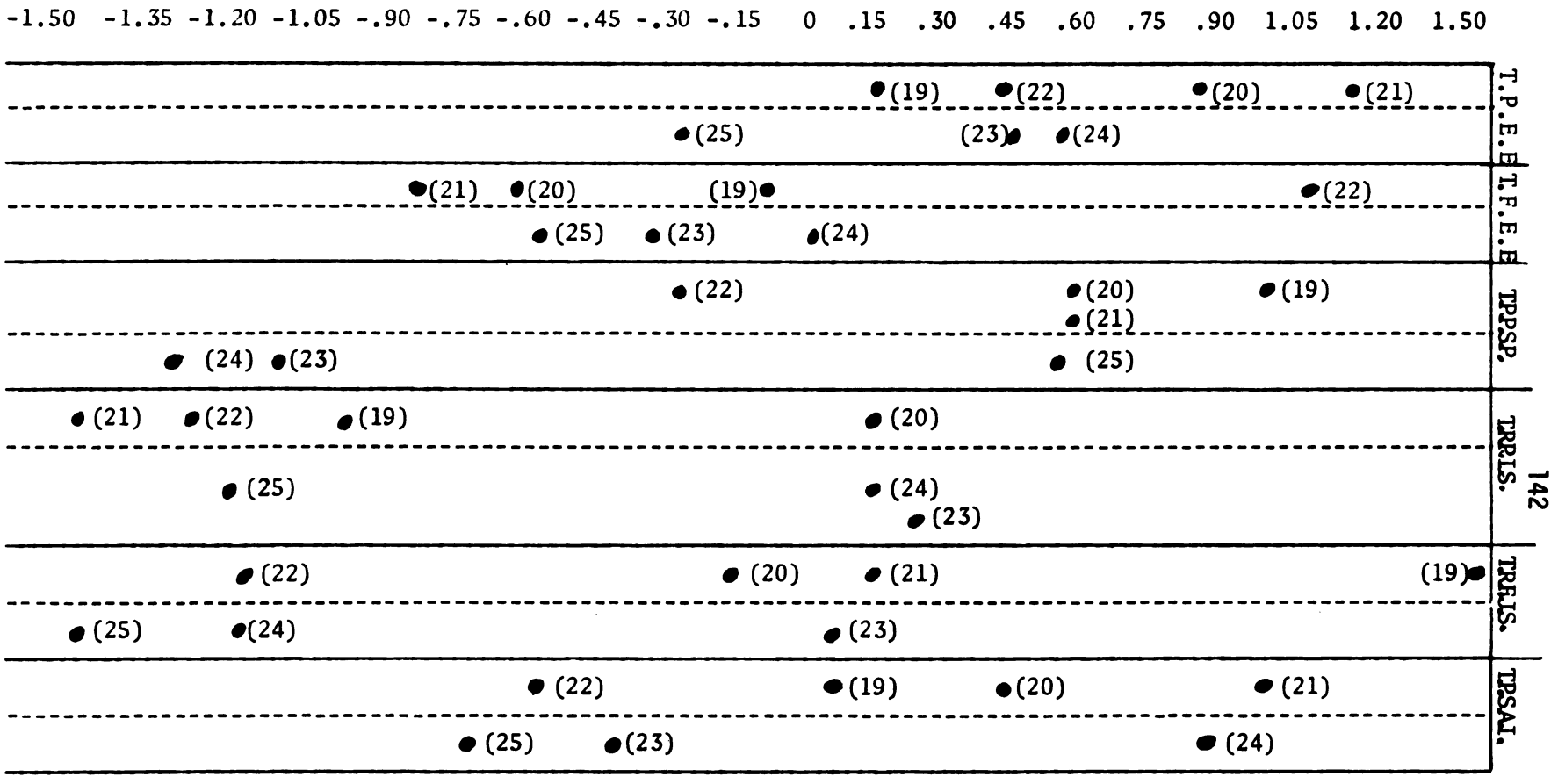
Independent Variables	Standardized Scores
Group I:	
1. T.P.F.E.E.	2.8591
2. T.W.P.I.S.	-2.7232
3. T.P.P.E.E.	1.4475
Bartlett's X^2 = 7.4465 with 3 d.f. P < 0.0590	
Group II:	
1. T.P.P.S.P.	1.3844
2. T.P.S.A.I.	-0.9390
3. T.R.F.J.S.	0.0924
Bartlett's X^2 = 2.4575 with 3 d.f. P < 0.4831	

Thus in the rural sample, as in the white-urban sample, only the first group of teacher variables significantly differentiate higher and lower achievement. The most powerful variables of these groups are, teacher perceived, future evaluations-expectations, and their willingness to push individual students. Perceived present evaluations-expectations do discriminate achievement but apparently not as strongly as do the other two. Of the three variables in the second group, only perceived parent-teacher push for educational achievement, and to a lesser extent feelings of student improvability, should be given further consideration, and at that with only the greatest of caution. For a graphic representation of the teacher variables in lower and higher achieving rural schools see Figure 6.



Note: Arrows point toward high achieving school.

Figure 5.--Mean School Teacher Factor Scores of Matched Pairs of Schools for Predominantly Black-Urban Schools



Note: Above broken line is higher achieving school.

Figure 6.--Mean School Teacher Factor Scores for Rural Schools.

As a consequence of the results of the reported discriminate function analyses, several observations are made. First, in an attempt to answer question 1, this writer can generally conclude that the results of the discriminate function analysis accord with the conclusions of our least square add linear regression analysis. Student perceived sense of futility, teacher perceptions of future evaluations-expectations, and teacher willingness to push individual students are fairly consistent discriminators of achievement, within all three strata. The fourth significant variable within the linear regression analysis, student present evaluations-expectations, although not very powerful in white-urban schools, was extremely discriminating of higher and lower achievement in rural schools. Student perceived norms, insignificant in the regression analysis to achievement, was a more important predictor of sense of futility in white-urban than in black-urban or rural schools. All of this must, of course, be tempered by the probability of chance findings for the black-urban sample as well as for certain variables in the white-urban and rural samples.

Secondly, because of the lack of significant achievement differentiation of each variable group, within the predominantly black-urban sample, as well as the lack of significance found for some variable groups within predominantly white-urban and rural schools, we cannot accept our hypothesis that differences exist between the three strata on the amount of power possessed by our individual normative climate variables, in differentiating higher and lower achieving schools. We did, however, find that the order

of variable importance changed between strata. If we had sampled enough cases and were thus able to analyze the ten student and teacher variables simultaneously within strata, we may have found differences in the degree of discrimination by any given variable between different types of schools. Finding significant probabilities may also have been possible.

Looking at achievement with our present results, two obvious observations can be made. First, student perceptions of present evaluations-expectations appears to be a powerful achievement discriminator in rural schools, although not nearly so important in the predominantly white-urban schools. Secondly, it appears that teacher beliefs in student improvability might be more important in predominantly black-urban schools than in schools categorized within the other two strata.

We have learned from our least square add linear regression analyses and the discriminate function analysis that certain social psychological climate variables significantly, predict achievement, differentiate between higher and lower achieving schools within certain stratum, and that the interaction between the climate variables and higher and lower achievement might differ between predominantly white-urban, predominantly black-urban, and rural schools.

CHAPTER VI

THE CASE STUDIES

In this chapter the attempt is made to describe the sampled population in as many ways as possible, in order that our understanding of the formation of positive learning climates and the "reality" of existing situational relationships, between various factors of school climate, can better explain consequent achievement within our schools. The contextual framework of the following discussion and consequential findings will be highly speculative. No definitive conclusions can or will be rendered.

The following are included in this chapter: (1) tables of factor scores, showing school rankings within their match, their strata, and the entire sample; (2) graphs, representing school mean climate factor scores within each strata; and (3) an observational case comparison of five pairs of schools matched on S.E.S., race, and urban-rural community type, with significant differences in achievement.

The five types of schools include: one pair of high S.E.S. predominantly white-urban schools, one pair of low S.E.S. predominantly white-urban schools, one pair of high S.E.S. predominantly black-urban schools, one pair of low S.E.S. predominantly black-urban schools, and one pair of rural schools.

Tables and Graphs of Mean School Factor Scores and School Rankings

Tables 4 -13 and Figures 1 - 6 show where individual sampled schools rank, within matches, and strata of each climate factor. A few of this researcher's observations should first be noted:

1. Student perceptions of future evaluations-expectations are more positive for higher achieving schools within the individual school match-ups, for both black and white-urban samples, although not for our sampled rural schools.

2. Student perceived sense of futility is lower for higher achieving schools in the white-urban, black-urban, and rural samples.

3. Teacher present evaluations-expectations are more positive in all higher achieving schools, within the white-urban pairs and all but one of the black-urban pairs.

4. The teacher present evaluations-expectations factor is generally more positive in our rural sample than in those schools classified as urban.

5. The teacher future evaluations-expectations factor is generally lower in our rural sample than in our urban sample.

6. Teacher future evaluations-expectations of students is consistently more positive, within the matches, for higher achieving white-urban schools; the same thing being found for those black schools which were matched on S.E.S.

7. Teacher willingness (or need) to push individual students is consistently lower in the higher achieving schools within the white-urban matched pairs, and all but one of the black-urban matched pairs.

8. Job satisfaction appears to have little relationship to achievement, but it does appear to have a relationship to S.E.S. among white and black-urban schools. Interestingly enough, teachers express higher satisfaction in lower S.E.S. black schools than they do in higher S.E.S. black schools, while at the same time, teachers express greater job satisfaction in higher S.E.S. white schools than they do in lower S.E.S. white schools.

9. Teacher perceptions of student improvability does not appear to differentiate the higher achieving schools, but it does appear to differentiate high achievement within black-urban schools.

CASES:

High S.E.S. Predominantly White-Urban Schools 01 and 02.

School 01

This is a high S.E.S. (55.1), high achieving (59.6), predominantly white-urban school, located in a medium sized city, in the western part of Michigan. Most of the students come from "professional, upper middle class" homes. Many parents hold advanced university degrees, with several teaching at a nearby, large state university. Within one group of 13 students, members of a single classroom, to whom the questionnaire was administered, three had fathers holding Ph.D. degrees and another father held both a Ph.D. and an M.D. degree. These 13 students were part of a split section of third and fourth graders, especially chosen for their ability to work alone. According to the school principal, however, this particular group although atypical, was by no means unusual with respect to the total parental school level of occupation or education. The principal identified the parents as being extremely supportive of the goals and educational desires advanced by the school.

When sampled, the school was thirteen years old. It had carpeted, spacious hallways and a glassed in courtyard, all conveying a comfortable, spacious atmosphere. The library was in the main hallway and students were encouraged to stop on their way

through the school, pick up a book, take a seat or lie on the floor to read. The courtyard was being used by the students to raise one goat and an ever expanding family of rabbits. Students took turns taking the animals home on weekends and during vacation breaks. In several rooms, this researcher noticed signs over various displays which stated "please touch."

The principal, a very impressive woman, held her position since the building first opened. She held very definite ideas about education, defining a "good teacher" as someone who dared to try anything, but would admit to failure. She rated the students at approximately the national norm in achievement, a rather conservative estimate compared to their State Assessment results.

The school had for some time been racially integrated, but during the school year in which they were sampled, a large group of black children from a welfare project composed mainly of mothers receiving Aid to Dependent Children, had been bused into the school. According to the principal, any problems presented as a result of this situation at the start of the school year, were due to a lack of advanced preparation. Most problems were apparently resolved at the time of data collection. When asked if she anticipated a slip in achievement ranking, she replied that "in the short run this was possible," but that "in the long run, children learn what they are expected to learn," and that all of the students in her school were "expected to achieve."

It appears that in this school we have a social system operating to expose students to an intentional, non-traditional

education. Even though it is the feeling that these students come from a home environment that will most likely insure their future success, we find that the teachers are willing to push those individuals whom they believe are not performing up to the standards set by the school.

To compare this school with others in the white-urban strata and the entire sample, see Table 4 -13 and Figures 1 - 6.

School 02

This school was chosen as the high S.E.S. (55.2), low achieving (48.1) match of school 01. It is located in an older, fairly affluent community which has, in recent years, absorbed a large "spill over" from a nearby urban industrial city. It also services, within its boundaries, a good deal of expensive housing subdivisions at various stages of development, and a nearby lower S.E.S. area. As the school's boundaries cover a large area of land, students are bused to and from school each day. According to the principal, busing is an extremely complicated task that creates great confusion in the school's schedule.

The school was constructed three years previously, and designed then to encourage team teaching. Clusters of classrooms surround a large commons area where larger group instruction could take place. According to the principal, the staff had thus far made a limited attempt at team teaching because they did not feel "comfortable" in dealing with this method of instruction. She did, however, envision more participation in the future.

Ability grouping was practiced through the school: between grades, within grades, and within classrooms. Teachers were encouraged, by the principal, to carefully study "ability" test results and to compare their perceptions with where the students "should be." Just prior to our visit, the school had, according to the principal, ". . . enlisted the aid of a language and learning specialist, to help us (make a) more accurate diagnoses (of readiness)."

Prior to accepting her first administrative position, when the building opened, the principal had been teaching for 5 1/2 years and had recently received a Ph.D. degree. She rated her students' achievement level at the national norm and although she believed most of her students would complete high school, she expected few to attend college and less than 30% to obtain a college degree.

It appeared to this researcher that the low achievement might have been attributable to the newness of the school, servicing a large geographic area which has not yet become a community, and employing a staff which was not yet comfortable with their own positions in this confusing and unstable situation. This researcher would speculate that integration of community and school behavior, educational goals and desires had not yet developed. Looking at the school mean factor scores, we find low student perception of school academic norms, a fairly high sense of futility, and low teacher perceptions of parent-student academic push. To compare this school with others in the predominantly white-urban strata and the entire sample, on mean factor loading scores, see Table 4-13 and Figures 1 - 6.

Low S.E.S. Predominantly White-Urban Schools 07 and 08:

School 07

This low S.E.S. (43.2), high achieving (56.7), predominantly white-urban school is located on the outskirts of a small city in the upper peninsula of Michigan. The surrounding neighborhood is composed of well maintained old homes, lining unpaved roads. The school itself was initially constructed in the early 1900's.

The total school environment appeared neat and extremely well ordered. This writer would describe the observed teacher classroom behavior as "traditional." Classes were conducted in self-contained rooms of about 30 students each, and the curriculum encompassed such subjects as: arithmetic, spelling, grammar, reading, and geography.

The principal, who had held his present position for eight years, taught a class himself. At the time of his interview, he was just completing his 39th year as a teacher and during the last 24 of these years, he had been a teaching principal. Only one teacher in the building had been there for less than 5 years, replacing another who had recently retired.

When this researcher asked the principal if a good relationship existed between the school and the community, he replied positively. Then the principal was asked what type of reaction might be expected from the school administration if there was ever a complaint, by parents with respect to the type of job that a particular teacher was doing. He replied emphatically, "the teacher would be fired!".

This researcher contends that this school has long been a highly integrated segment of the surrounding community. The school personnel were members of the immediate community and reacted favorably to the will of the local citizenry.

Compared to other schools, some school mean factor scores of interest are: high student present evaluations-expectations, very low sense of futility, very low student emphasis placed upon norms of academic achievement, low teacher perceived need to push students, and low teacher satisfaction. To compare this school with others in the white-urban strata or the entire sample, see Table 4-13 and Figure 1 - 6.

School 08

This school was chosen as the low S.E.S. (44.9), low achieving (44.6), match for school 07. It is located on the outskirts of a medium size city in western lower Michigan. The surrounding area is composed of small, older homes which appear to have been constructed by the individual owners. Automobiles were parked on front lawns, automobile parts were scattered across the lots, and many garages stored snowmobiles.

The school itself was approximately ten years old and "traditional" in design. Classrooms were built to accommodate about 30 pupils each. The student population was fairly small, with 90 students in the 4th, 5th, and 6th grades. Classrooms were neatly equipped with straight rows of desks and the subjects stressed were of the same "traditional" type as found in school 07: arithmetic, spelling, grammar, etc. The students in school 08,

however, were not as orderly as were those in school 07. When one teacher walked out of the room to complete her questionnaire, her students immediately became quite restless.

The principal had held his present position for three years, and was concurrently principal of two other schools, at one of which he had taught for three years prior to accepting the current job. He explained to the research team that this particular building had a high rate of staff turnover and that not a single teacher remained of those who were there when he became principal. Four of his current classroom teachers had less than three years of teaching experience and were not yet permanantly certified. He felt now, however, that for the first time, he had a staff upon which he could build a "strong" educational program.

The principal explained that much of the community population was on welfare, and that those who did work, drove long distances daily to and from the industrial section of the nearby city. He stated that although parents expressed a desire for their children to have a "good" education, many would take their children out of school for prolonged periods of time, to go on hunting trips and such, neglecting to inform the school first. Some parents would apparently hide in their homes when school officials would visit.

This researcher notes a lack of continuity both within the school itself and between the school and the community. Compared to other schools, some school mean factor scores of interest are: low present and future evaluations-expections by both students and teachers, a high student perceived sense of futility, high

student perceived emphasis on academic norms, high teacher perceived parent-student push for educational achievement, high teacher push, and a strong teacher perception that members of the school social system believe that background does not alone determine academic success. To compare this school with other schools in the white-urban strata or the entire sample, see Table 4 -13 and Figures 1 - 6.

High S.E.S. Predominantly Black-Urban Schools 15-16:

School 15:

This is a high S.E.S. (61.3), high achieving (55.1) school, located in one of the most affluent sections of a large industrial city of Michigan. The surrounding neighborhood is composed of large, expensive, well kept homes, most of which are between 40 and 50 years in age. Ten years ago this section of the city was almost entirely white and is now almost entirely black. Before this shift in population, this specific neighborhood was considered to be one of the wealthiest and most prestigious in the entire metropolitan area. In recent years, although property values have decreased, the area remains highly prestigious. A fairly large white student population that remains in the neighborhood, attend a nearby Catholic elementary school. The parents, both black and white, who do send their children to school 15, have a high S.E.S., and include several university professors, symphony musicians, school administrators, and local politicians. They have chosen to live in this neighborhood because they receive more housing value for their money, they have a commitment to remain within the city, and/or some other personal desire to remain.

The school itself is as old as the neighborhood, is rather large in both physical size and student population (276 students were sampled from grades 4, 5, and 6), but the surroundings are pleasant and the building is obviously well maintained. Classes are located in self-contained rooms of about 30 students each and the curriculum appeared to be fairly "traditional" and structured in both student-teacher relationship and course content. Ability grouping was prevalent, both within classrooms and between grade sections. The principal expected her teachers to use individual ability test scores in making judgments about student placement and ". . . individual strengths and weaknesses."

This was the principal's first year in her current position, having had 8 1/2 years previous teaching experience and one years experience as assistant principal in the same building. She was the school's first black principal. The principal, appearing to be well organized herself, also defined a "good" teacher as someone who both "challenges" and is organized. She was aware that the school was the highest achieving predominantly black school in the state of Michigan and expressed the hope that this ranking would not "slip".

The teaching staff is very stable, with a slow rate of turnover (there had been no teacher turnover in two years prior to our visit and none were anticipated for the next year) and twenty of twenty-five teachers are permanently certified. School 15 has a reputation throughout the city as a "good" school and teachers appear anxious to accept placement there.

The principal referred to the parents' extreme interest in the school, reporting that parents both initiate and carry out many volunteer projects (tutoring, extended school day, summer school programs, and much in the way of fund raising activities).

This researcher would characterize this school as an island of stability, within a slowly changing neighborhood. The people in this neighborhood have in the past and continue, to identify themselves as living "in the_____school community," a community uniquely resembling in climate, that of influential suburban peer groups.

Compared to other schools, some of the mean factor scores of interest for school 15 are: a very low student present evaluations-expectations, but an extremely high student future and teacher present and future evaluations-expectations (refer to comment of community uniqueness in relation to suburban influences), a low student-perceived emphasis placed upon academic norms, a relatively low teacher reported need to push students, and high teacher perceptions that the school social system dictates that the student's past does not determine future achievement. To compare this school with others in both the black-urban strata and the entire sample, see Tables 4-13 and Figures 1 - 6.

School 16:

This school was chosen as the high S.E.S. (52.9), low achieving (47.2) match of school 15. Considering the wide discrepancy in S.E.S., between schools 15 and 16, they were chosen as a match for the following reasons: (1) no other predominantly black

school came closer to the S.E.S. level of school 15 than did school 16; and (2) school 16 is adjacently located to school 15 (with back yard fences determining which school certain students attend.

While school 16 is located in a neighborhood that does not share the high S.E.S. of school 15, it is still characterized by large, well-kept homes, most of which are 40-50 years old. Like School 15, this area has also undergone a racial shift in the past 10 years, but unlike that in the school 15 area, it has been less gradual and was just recently completed. The black families who had moved into this area were generally not as high an S.E.S. group as were the white families who had moved out.

The school itself, was approximately the same in size and physical appearance as school 15. There had, in recent years, been additions constructed on both schools, however, school 16's were necessarily larger to accommodate its greater student population (406 students were sampled in grades 4, 5, and 6). As in school 15, the self-contained classrooms, student-teacher interaction, and course content appeared to be fairly "traditional" and structured. Although straight rows of desks faced the front of the rooms, and a stress on such subjects as English grammar, arithmetic, spelling, etc., was prevalent, the orderliness reported as a characteristic of school 15 was not observed in school 16. Interestingly, only one door in the entire school could be opened from the outside, with a student guard stationed at that door.

Very little is known about school 16's principal. As was explained in Chapter III, he was too busy to either fill out our

questionnaire or be interviewed during our visit. He has not complied with our several requests to complete the instruments which have been both mailed and personally handed to him in self-addressed stamped envelopes. Although he has claimed to have returned at least two of our questionnaires, none has been received by our research office.

The teaching staff has apparently experienced a tremendous turnover in recent years. Six of the twelve teachers responding to our questionnaire, were new to the building that year. Only one teacher in our sample had been in this school for over five years.

Due to the principal's lack of cooperation, this researcher is unable to accurately assess the present relationship existing between the school and the surrounding community. However, given the impressions of school instability, coupled with the recent and drastic change of community, this researcher questions whether favorable relationship could exist.

Compared to other schools, the factor scores of interest for school 16 are: a very low student present evaluations-expectations, a fairly high sense of futility when compared to the whole sample, low student perceived emphasis placed upon academic norms, a high teacher perceived parent student push for educational achievement, low teacher satisfaction, and a very strong teacher perception that members of the school social system believe that the past experiences which a student has had, do determine his chances of academic success. To compare this school with others in both the black-urban strata and the entire sample, see Tables 4-13 and Figures 1 - 6.

Low S.E.S. Predominantly Black-Urban Schools 17-18

School 17:

This school is a low S.E.S. (47.0), high achieving (49.6), predominantly black school located in a small city which in recent years has lost much of its individual identity when it was absorbed into the metropolitan area of a large industrial city. The specific neighborhood surrounding the school is stable and small, characterized by well kept, "working class" homes.

The school itself is about 10 years old. It is a one story structure with large windows, surrounded by a well kept lawn and a large playground. Classrooms are self-contained to accommodate about 30 students, and are traditionally designed with straight rows of desks. The school program appears highly structured with students encouraged to raise their hands when they had something to say, and such basic subjects stressed as: reading, arithmetic, grammar, spelling, etc. A most appropriate phrase used to describe this school might be a "highly disciplined environment."

The principal had held this current position for eight years and fifteen years of prior teaching experience. The teaching staff was highly stable. Most of the teachers had been in this building for at least five years, many coming with prior experience. The principal and three of the teachers had all left the same school, located about 30 miles away, to come to school 17 together. Interestingly, the school which they had left was school 11 of our sample, in which we were not allowed entrance in order to collect data. School 11 is the second highest achieving predominantly

black school in the state, while school 17 is the third highest achieving predominantly black school. These teachers have, thus, been on the staff of the second and third highest achieving predominantly black schools in the state, both of which had a low S.E.S. This researcher does not mean to imply any causality in this finding. The same school factors which attracted them to school 11 may well have attracted them also to school 17. However, given the extremely small number of low S.E.S. - high achieving predominantly black schools, it might be worthwhile to more closely study this interesting situation.

The principal reported that the relationship with the community was excellent. He stated that many of the persons living in the community had moved there in order to escape "undesirable circumstances" and to make a better life for their children. According to the principal, parents work very closely with the school in everything from changing its name to choosing textbooks and recommending changes in the school's curriculum.

Other school factors of interest to compare with school 17 are: extremely high future evaluations-expectations by students and teachers, a very low sense of futility, very high student perceived emphasis on norms favoring academic achievement, an extremely high teacher-perceived parent-student push for educational achievement, very high teacher push of individual students, high teacher satisfaction, and very strong teacher perceptions that members of the school's social system do <u>not</u> believe that a

students past determines future achievement. To compare this school with other schools in the black-urban strata or the entire sample, see Tables 4-13 and Figures 1 - 6.

School 18:

This school was chosen as the low S.E.S. (46.7), low achieving (39.6) match of school 17. It is located in the center of a large industrial city, and services an area of high factory-industrial concentration. The residential district includes both single family dwellings and apartments. These are generally old, many are not well kept, and glass and debris cover many of the neighborhood streets. The area is densly populated and provides little space for recreation. The neighborhood recently became a test area for A.D.C. home purchases.

The school itself resembles a factory. It is quite large, physically as well as in numbers of students (384 students were sampled in grades 4, 5, and 6). Inside, the walls and hallways are dark and rather depressing. Many of the windows were broken, cracked, and temporarily repaired with tape. Classrooms were "traditionally" designed with seats bolted to the floor, in straight rows, facing the front of the rooms.

The principal had held his position for two years after having had 11 years of teaching experience. The staff was quite young, with 49 of 60 teachers in their first three years of experience. The school had been experiencing a very high rate of teacher turn-over, until the staff had recently been "frozen"

into the building. This policy temporarily restrained any teacher transfers within the school district. It was the principal's contention that this was the most expedient way to gather and retain a staff long enough to build a sound educational program.

The principal characterized the school-community relationship as exhibiting a lack of "cohesiveness" and "identity." Until the 1960's, the racial composition of the area was entirely white "working class." By the time of our visit (early 1971), the area was 90 percent black. In addition to this rapid racial transition, the neighborhood became extremely transient. With the new A.D.C. home buying program in operation, and staff freeze, it was his hope that stability might prevail to ensure higher achievement within the school.

Compared to other schools, some of the mean factor scores of interest for school 18 are: a very high student perceived sense of futility, high teacher perceived parent-student push for educational achievement and extremely high teacher push. To compare this school with the black-urban strata and the entire sample, see Tables 4 -13 and Figures 1 - 6.

Rural Schools 22 and 23:

School 22:

This low S.E.S. (44.3), high achieving (60.6) school is located in a small farming community, in the northwest portion of the lower peninsula of Michigan. The center of the area consists of the school, a church, a small grocery, and a gas station. The local people live on farmlands, although few families depend on

farming as a means of sole support. There is a powerplant, near a small city of about 8,000 inhabitants, located 15 miles away, where many of the men earn enough money to provide their livelihoods. In recent years, a substantial number of black families have moved into the community as a result of finding work in the powerplant. Their children now account for about 12-1/2 percent of the school population.

The school is a combination high school-elementary school. The main building is quite old, but the elementary classes are held in a new wing of several large, well lighted, self-contained classrooms. Even the new section of classrooms appeared to be rather "traditional" in design, with their straight rows of desks facing the front, and obviously orderly. The curriculum was heavily loaded with basic subjects such as: arithmetic, reading, grammar, geography, etc. There was no question that the teacher was in control, but at the same time, there was also no tension of the imposed discipline discernible in many of our schools.

The principal had held his position for twenty-three years and was also the present superintendent of schools. He took great pride in his school and the surrounding community. There had been several new teachers in the school that year, an occurrence the principal described as extremely rare. Although most of the teachers in the school had been there for over five years, very few actually lived in the community. This apparently did not hinder the excellent relationship that existed between the community and the school. For at least twenty-five years, the principal had experienced a community in strong support of education. According

to the principal, the families in the area are large, well disciplined, and total family participation is prevalent in school social and sporting events.

Compared to other schools, the mean factor scores of interest for school 22 are: high student and teacher evaluations-expectations, extremely high student perceived academic norms, low teacher push, and low teacher satisfaction. To compare this school with others in the rural sample, see Tables 4 - 13 and Figures 1 - 6.

School 23:

School 23 is the low S.E.S. (47.8), low achieving (45.6) match for school 22. This school is located in a small farming and residential community, in the center of the lower peninsula. As in the case of school 22, most of the fathers of students in school 23, cannot afford to support their families on a farm income, and therefore, work at various jobs in a city of slightly over 20,000 people, located about 20 miles away. Originally a Catholic settlement, large numbers of Protestants have recently begun to move into the community.

The school accommodates grades K-12 in two fairly new and large structures, separated by a common cafeteria. The curriculum in school 23 was not observed to be significantly different than that offered to students in school 22. The students in school 23 were not as attentive to this researchers instructions concerning the completion of our questionnaire, as were the students of school 22. Several of the school 23 students, in fact, engaged in a race

to see who could finish checking answers first, without bothering to read the questions.

There was a great deal of confusion as to exactly who was the principal in charge of the elementary school. The high school principal directed the research team to the superintendents office, declaring that he was responsible for only the high school section of the building. The superintendent, in turn, had us return to the office of the high school principal, informing us that he was the only principal that the building had. We, therefore, interviewed the high school principal who was at the school his second year in that position, after five years of teaching in a city located over 200 miles away. Neither the principal nor any of the elementary teachers in school 23 lived within the school community.

The relationship between the community and the school may best be categorized as "confused." As was mentioned, the town had originally been a Catholic settlement and consequently the population and present local leadership was, according to the principal, overwhelmingly Catholic. According to the principal, the Catholic families of the town sent their children to this public kindergarten, the Catholic elementary school next door, and then back to this public high school. The Catholic elementary and public high school, he claims, both had much higher standards than did the public elementary school. The only students who attended the public elementary school were apparently those who were either the children of the Protestant newcomers, those who were not part of the regional community, or those who the principal referred to as "dissonant

Catholics" who had for some reason (usually academic or disciplinary) decided to place their children in the public school. According to the principal, "dissonant Catholics" were not highly regarded by the town leadership.

Compared to other schools, some of the mean factor scores of interest for school 23 are: an extremely high student perceived future evaluations-expectations, but a very low student and teacher future evaluations-expectations; a high student perceived sense of futility; low student perceived academic norms; low teacher perceived parent-student academic push; and high teacher push of individual students. To compare this school with others in the rural strata, and the entire sample, see Table 4 - 13 and Figures 1 - 6.

Through the comparison of different types of schools on our charts, we again found that the relationship between our climate variables and achievement might be different for different school strata. By looking more closely at individual cases, within our sampled schools, it becomes apparent that the amount of "psychic integration" between schools and their community of service, along with school stability, might be important bases upon which a normative academic climate conducive to higher academic achievement is constructed. Although, as explained, this is very speculative in nature, the schools which we have case studied do appear typical of our entire sample. The results of the case studies and the findings of the three other analyses will be dealt with further in the next chapter. This researcher will present a summary of the study, with its limitations, conclusions, and recommendations.

CHAPTER VII

SUMMARY AND CONCLUSIONS: CONTRIBUTIONS AND LIMITATIONS: AND CONCLUSIONS

Summary and Conclusions

The purpose of this study was to compare a number of social-psychological variables in school normative academic climate, between high and low achieving elementary schools, while controlling, as much as possible, for the effects of school mean socio-economic status, race, and urban-rural community type. More specifically, our desire was to find which of several social-psychological environmental factors most strongly predict achievement as well as differentiate between high and low achieving predominantly white-urban, predominantly black-urban, and rural elementary schools.

The theoretical foundation for this research is derived from a social psychological theory of human behavior, as stated by Brookover and Erickson (1969);

1. The social norms and expectations of others define the appropriate behavior for persons in various social situations.
2. Each person learns the definitions of appropriate behavior through interaction with others who are important and significant to him.
3. The individual learns to behave in ways that he perceives are appropriate or proper for him.

4. The individual also acquires conceptions of his ability to learn various types of behavior through interaction with others whose evaluations are important to him.

Data were collected from a selected sample, composed of 10 predominantly white-urban elementary schools, 7 predominantly black-urban elementary schools, and 7 elementary schools located in rural areas. Schools within each stratum were selected on the basis of their mean student achievement, as measured by the Michigan State School Assessment Achievement Index, and mean student S.E.S., as measured by the Michigan State School Assessment S.E.S. Index. Pairs of schools were selected with similar S.E.S., racial composition, and urban-rural community types, but significantly different mean student achievement scores.

The instruments employed in the current research were designed to study certain social-psychological and structural variables constituting normative academic climate within each of the sampled schools. However, for the purposes of the present analysis, only the social-psychological variables were examined. The instruments used within each school consisted of a student questionnaire, a teacher questionnaire, and a principal questionnaire, all with overlapping value. These instruments were administered to fourth, fifth, and sixth graders, the teachers of the students, and the principal of the school, in the selected schools. All participants were requested to answer the questionnaires both for themselves and as expert observers of the school's environment. A standardized procedure of data collection and consequent coding of the material was done by the same research team.

In order to identify clusters of variables which combined to form meaningful factors, and through this to reduce the number of factors to managable numbers, we applied a Varimax Rotation Factor Analysis.[1]

Analysis I - Varimax Rotation Factor Analysis

Student Factors:

Four factors emerged from the Varimax Rotation Factor Analysis on student data and were labeled:

1. Student Perceived Present Evaluations-Expectations (S.P.P.E.E.)
2. Student Perceived Future Evaluations-Expectations (S.P.F.E.E.)
3. Student Perceived Sense of Futility (S.R.S.O.F.)
4. Student Perceived Schools Academic Norms (S.P.S.A.N.)

Teacher Factors:

Six factors emerged from the Varimax Rotation Factor Analysis on teacher data and were labeled:

1. Teacher Present Evaluations-Expectations (T.P.E.E.)
2. Teacher Future Evaluations-Expectations (T.F.E.E.)
3. Teacher Perceptions of Parent-Student Academic Push (T.P.P.S.P.)
4. Teacher Reported Push of Individual Students (T.P.P.I.S.)
5. Teacher Reported Feelings of Job Satisfaction (T.R.F.J.S.)
6. Teacher Perception of Social System Belief in Student Academic Improvability (T.P.S.A.I.)

Principal Factors:

Clearly definable principal factors did not emerge from our Varimax Rotation Factor Analysis and, therefore, principal data were not used for further statistical analysis.

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[1]A full explanation and listing of items upon which this factor was derived can be found in Chapter IV, Factor Analysis. For a general description of factor content and findings, see Contributions and Limitations in the present chapter.

Analysis II - Least Square Add Linear Regression Analysis

In this analysis the dependent variable was actual achievement, as measured by the Michigan State School Assessment Achievement Index. The effects of S.E.S., race, and urban-rural type were controlled by placing them into our regression analysis prior to the introduction of our variables of interest. Their inclusion in the regression equation accounted for 25.56% of the variation in achievement. The following climate variables were found to be significant predictors of the higher achieving schools:

1. less S.R.S.O.F.: $p = <0.0005$, predicting an additional 44.92% of the variance in achievement
2. greater T.F.E.E.; $p = 0.008$; predicting an additional 9.83% of the variance in achievement
3. less T.R.P.I.S.; $p = 0.023$; predicting an additional 5.28% of the variance in achievement
4. greater S.P.P.E.E.; $p = 0.052$; predicting an additional 3.36% of the variance in achievement

Because of the high predictive power of S.R.S.O.F., another least squares add linear regression analysis was run, this time using it as the dependent variable in an attempt to predict its presence or absence within a school environment, while the other nine school factor scores were used as independent variables. Once again S.E.S., race, and urban-rural community type were controlled by placing them into our regression analysis prior to the introduction of our variables of interest. Their inclusion into the regression equation accounted for 39.94% of the variation in S.R.S.O.F. The following factors significantly predicted a lower sense of futility in our samples schools:

1. Higher T.P.E.E.; p = 0.002; predicting an additional 25.17% of the variance in futility

2. Higher S.P.S.A.N.; p = 0.029; predicting an additional 8.32% of the variance in futility

3. Higher S.P.P.E.E.; p = 0.042; predicting an additional 8.04% of the variance in futility

Analysis III- Discriminant Function Analysis

For this analysis the dependent variables were higher and lower achievement relative to both the strata analyzed and the S.E.S. of the sampled school. The strata were; predominantly white-urban, predominantly black-urban, and rural schools. The effects of strata were controlled by analyzing them separately. The effects of S.E.S. although not controlled, were minimized by our study design and sample selection. Because of our small sample size, the 10 variables used as independent variables were divided into three groups: the student factors (S.P.P.E.E., S.P.F.E.E., S.P.S.O.F., and S.P.S.A.N.), group 1 - teacher factors (T.P.E.E., T.F.E.E., and T.R.P.I.S.), and group 2 - teacher factors (T.P.P.S.P., T.R.F.J.S., and T.P.S.A.I.). On the basis of this analysis, the following conclusions were reached:

1. Within the sample of predominantly white-urban schools, the 4 student variables significantly (p = <0.019) differentiate higher and lower achieving groups of schools. The most powerful variable was S.R.S.O.F. followed by S.P.S.A.N., a much less powerful predictor. S.P.F.E.E. and S.P.P.E.E. did not appear to be very powerful discriminators of achievement within this group of variables, for this stratum.

2. Within our sample of predominantly black-urban schools, the 4 student variables did not significantly (p = <0.5084) differentiate higher and lower achieving groups of schools. Of the four factors, the most powerful predictor was

S.R.S.O.F. followed by S.P.F.E.E. and S.P.P.E.E., much less powerful precitors. S.P.S.A.N. did not appear to be a very powerful discriminator of achievement within this group of variables, for this stratum.

3. Within the samples of rural schools, the 4 student variables did not significantly ($p =< 0.2401$) discriminate higher and lower achieving groups of schools. Of the four factors the most powerful predictor was S.R.S.O.F. followed by S.P.P.E.E., almost as powerful a predictor, and S.P.F.E.E., which was much less powerful. S.P.S.A.N. appeared to have very little power in discriminating achievement within this group of variables, for this stratum.

4. Within our sample of predominantly white-urban schools, teacher group 1 variables significantly ($p = <0.003$) differentiate higher and lower achieving schools. The range of predictive power between variables is not great, the order of importance being: T.F.E.E., T.R.P.I.S., and T.P.E.E. For this stratum, the three group 2-teacher variables did not significantly ($p = <0.8875$) discriminate between higher and lower achieving groups of schools. Of the three factors the most powerful was T.P.P.S.P., followed by T.R.F.J.S., a much less powerful predictor and T.P.S.A.I., a very weak discriminator of higher and lower academic achievement within this group of variables, for this stratum.

5. Within our sample of predominantly black-urban schools, teacher group - 1 variables did not significantly ($p = <0.6538$) differentiate higher and lower achieving schools. The range of predictive power between variables was also not great, the order of importance being T.F.E.E., T.P.E.E., and T.R.P.I.S. For this stratum, the three group 2 - teacher variables also do not significantly ($p = < 0.5897$) discriminate between higher and lower achieving groups of schools. Of the three factors, the most powerful was T.P.S.A.I. followed by T.P.S.P., much less powerful and T.R.F.J.S., a very weak discriminator of higher and lower academic achievement within this group of variables, for this stratum.

6. Within our sample of rural schools, group - 1 teacher variables significantly ($p = < 0.0590$) differentiate higher and lower achieving schools. The most powerful discriminator is T.F.E.E., followed closely by T.R.P.I.S., and finally by T.P.E.E., although nowhere as powerful a variable as others still appears to differentiate achievement groups. Group 2 - teacher variables are not significant ($p = 0.4831$) discriminators of achievement, but the most powerful variable of the group is T.P.P.S.P., followed by T.P.S.A.I., less powerful and T.R.F.J.S., a weak discriminator of achievement, for this stratum.

Analysis IV - Case Studies

Employed within this analysis were: (1) tables of factor scores showing school rankings within individual matches, within stratum and within the entire sample; (2) graphs representing school mean factor scores within each stratum and (3) an observational case comparison of five pairs of schools matched on S.E.S., race, and urban-rural community type, but significantly differing in achievement as measured by the Michigan State School Assessment Achievement Index. This analysis was of a highly speculative nature attempting to relate the personal observations of this researcher with respect to: (1) the community, (2) the building, (3) the curriculum, (4) the principal, and (5) the relationship between the community and the school.

With the inclusion of this final analysis, this researcher was able to arrive at several conclusions. First, by comparison of the relationship between our climate vairables and achievement in, individual "match-ups," strata, and total sample:

1. Student perceptions of future evaluations-expectations are more positive for higher achieving schools within the individual school match-ups, for both black-and white-urban samples, although not for our sampled rural schools.

2. Student reported sense of futility is lower for higher achieving schools in the white-urban, black-urban, and rural samples.

3. Teacher present evaluations-expectations are more positive in all higher achieving schools, within the white-urban pairs and all but one of the black-urban pairs.

4. The teacher present evaluations-expectations factor is generally more positive in our rural sample than in those schools classified as urban.

5. The teacher future evaluations-expectations factor is generally lower in our rural sample than in our urban sample.

6. Teacher future evaluations-expectations of students is consistently more positive, within the matches, for higher achieving white-urban schools; the same thing being found for those black schools which were matched on S.E.S.

7. Teacher reported willingness (or need) to push individual students is consistently lower in the higher achieving schools within the white-urban matched pairs, and all but one of the black-urban matched pairs.

8. Job satisfaction appears to have little relationship to achievement, but it does appear to have a relationship to S.E.S. among white and black-urban schools. Interestingly enough, teachers express higher satisfaction in lower S.E.S. black schools than they do in higher S.E.S. black schools, while at the same time, teachers express greater job satisfaction in higher S.E.S. white schools than they do in lower S.E.S. white schools.

9. Teacher perceptions of student improvability does not appear to differentiate the higher achieving white schools, but it does appear to differentiate high achievement within black-urban schools.

By the observational comparison of the five pairs of schools, we were able to speculate the amount of psychic-integration between the school and the community and that a staff sharing certain common beliefs, might be important in the creation of a social-psychological normative climate that encourages high academic achievement.

Contributions and Limitations

This study was substantively increased our understanding of the relationship between variables of school climate and achievement, within our three design strata. Our ability to derive and define, compare and contrast 10 student-teacher factors composing school normative academic climate has greatly enhanced the existing state of knowledge we have pertaining to elementary school achievement.

Specifically, the main thrust of the current analysis is to generate rather than test hypotheses, with the intent to determine which of our variables deserve further study in elementary schools. The following is a listing of our normative climate variables, some initial findings concerning their relationship to academic achievement, and hypotheses to be used as a guide to further study of the topic.

1. Student Perceived Present Evaluations-Expectations (S.P.P.E.E.)

This factor was composed of those items dealing with the evaluations of "others," as well as the students own "self-concept of academic ability," from the present through the completion of high school. In the present study, a high S.P.P.E.E. was found to be a significant predictor of higher achievement ($p = 0.052$),[1] and a lower sense of futility ($p = 0.042$).[2] We also found that S.P.P.E.E. might have greater power to discriminate between higher and lower achieving schools classified as rural, rather than those classified as urban. S.P.P.E.E. scores are higher for significantly higher achieving schools in 4 of 5 pairs of white-urban schools matched on S.E.S., and 2 of 3 pairs of black-urban schools matched on S.E.S. Both reversals were matched high S.E.S. and in each case, differences between the paired schools were minimal. Thus, this researcher finds the S.P.P.E.E. factor potentially important to further research on the effects of school climate on elementary school achievement.

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[1] See Chapter V within Least Square Add Linear Regression Analysis on Achievement or Summary section of this Chapter for context in which this was found.

[2] Ibid.

Hypothesis 1:

There is a significant positive relationship between S.P.P.E.E., as defined by this study, and higher achievement, as measured by the Michigan State School Assessment Achievement Index (M.S.S.A.A.I.), in white-urban, black-urban, and rural schools, when the effects of S.E.S. are controlled.

2. Student Perceived Future Evaluations-Expectations (S.P.F.E.E.)

This factor was composed of those items which elicit the students perceptions of "others" expectations as well as the students own "self-concept of academic ability" in college. It was not found to be a significant predictor of the variance in school achievement, nor was it significant to the prediction of variance in sense of futility, however, a visual comparison of pairs of schools matched on S.E.S. but differing significantly on achievement, demonstrates that a higher S.P.F.E.E. is held by the higher achieving school in every match for both the white-urban and black-urban samples. Thus, we find it, too, a potentially important factor to future research.

Hypothesis 2:

There is a significant positive relationship between S.P.F.E.E., as defined by this study, and higher achievement, as measured by the M.S.S.A.A.I., in white-urban, black-urban, and rural schools, when the effect of S.E.S. is controlled.

3. Student Perceived Sense of Futility (S.P.S.O.F.)

This factor is composed of items dealing with student sense of fate control as well as items that may determine teacher lack of interest in what happens in the school. It is a very significant predictor of achievement ($p = 0.0005$),[1] accounting for 44.9% of the

[1] See Ch. V within Least Square Add Linear Regression Analysis on Achievement or Summary section of this ch. for context in which this was found.

variance between high and low achieving schools, when the effects of S.E.S., race, and community type have been controlled. S.R.S.O.F. is also the most powerful student factor discriminator of higher and lower achieving schools, within all three of our design strata. An individual matched pair comparison also found S.R.S.O.F. has thus been determined to be the most important environmental climate variable, in relationship to high achieving schools.

Hypothesis 3:

There is a significant negative relationship between higher S.R.S.O.F., as defined by this study and higher achievement as measured by the M.S.S.A.A.I., in white-urban, black-urban, and rural schools, when S.E.S. is controlled.

4. Student Perceived School Academic Norms (S.P.S.A.N.)

This factor was composed of those items which elicit student perceptions of the pressure placed upon them to achieve, through the expectations of the members of the school bureaucracy. It is difficult to assess the total impact of this item upon achievement as it does not significantly predict the variation in achievement for our sampled schools. It has been determined, however, that a high S.P.S.A.N. does significantly predict a low sense of futility ($p = 0.029$),[1] which in turn is our most important predictor of achievement. While this suggests that S.P.S.A.N. might be an important variable in the creation of a high achieving elementary school normative academic climate, it bears only an indirect relationship to achievement. It would appear, however, that this variable is deserving of further research.

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[1] See Ch. V under Least Square add Linear Regression Analysis on Sense of Futility or Summary section of this Chapter for context in which this was found.

Hypothesis 4:

There is a significant positive relationship between S.P.S.A.N., as defined by this study, and achievement, as measured by the M.S.S.A.A.I., in white-urban, black-urban, and rural schools, when S.E.S. is controlled.

5. Teacher Present Evaluations-Expectations (T.P.E.E.)

This factor was composed of those items which elicit teacher actual and perceived expectations, concerning their students academic ability, from the present through high school. While T.P.E.E. was not a direct significant predictor of variation in achievement, a high T.P.E.E. was a very significant predictor of a low sense of futility, itself an important predictor of achievement. A comparison of matched schools revealed a higher T.P.E.E. for the higher achiever in all 5 white-urban pairs, and 2 of 3 black-urban pairs. Rural schools generally exhibit a higher level of T.P.E.E. than do urban schools. Further research of this potentially important factor should thus prove worthwhile.

Hypothesis 5:

There is a significant positive relationship between high T.P.E.E., as defined by this study, and achievement, as measured by the M.S.S.A.A.I., in white-urban, black-urban, and rural schools, when S.E.S. is controlled.

6. Teacher Future Evaluations-Expectations (T.F.E.E.)

This factor is composed of those items which elicit teacher actual and perceived evaluations-expectations concerning the ability of their students to achieve in college. This variable was one of the most significant predictors of achievement within our sample ($p = 0.008$).[1] It exhibited higher significance for the higher

[1]See Ch. 5 within Least Square add Linear Regression Analysis on Achievement or Summary section of this Chapter for context in which this was found.

achieving schools of our matched pairs within white-urban and black-urban strata.

Hypothesis 6:

There is a significant positive relationship between high T.F.E.E., as defined by this study, and achievement, as measured by the M.S.S.A.A.I., in white-urban, black-urban, and rural schools when S.E.S. is controlled.

7. Teacher Perceived Parent-Student Push for Educational Achievement (T.P.P.S.P.)

This factor is composed of those items which elicit teacher perceived academic push from sources outside of the school. No consistent relationship was found to exist in the matched pairs of schools within the white-urban or black-urban strata, however, our tables, graphs, and discriminant function analysis, have all uncovered an important relationship existing between T.P.P.S.P. and achievement in rural schools. This factor does not appear to be a very powerful predictor of either achievement or sense of futility.

Hypothesis 7:

There is a significant positive relationship between high T.F.E.E., as measured by the M.S.S.A.A.I., in rural schools.

8. Teacher Reported Push of Individual Students (T.R.P.I.S.)

This factor is composed of those items which elicit teacher willingness to exert pressure on individual students to achieve. A significant negative predictor of high academic achievement ($p = 0.023$),[1] it is interestingly noted that in our white-urban, and 2 of 3 black-urban, matched pairs of schools, less

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[1] See Ch. V within Least Square add Linear Regression Analysis on Achievement or Summary section of this Chapter for context in which this was found.

teacher push was reported in higher achieving schools. This researcher cites three possible explanations for this situation: (1) in higher achieving schools, normative patterns are so strong that teachers have no need to push students; (2) teachers may be unaware of pushing their students unless they overtly do so; and (3) teacher push is relative to school and classroom expectations. Teachers who hold very high general expectations might be more reluctant to push an individual student than would teachers who hold generally low expectations.

Hypothesis 8:

There will be a significant negative relationship between high T.R.P.I.S., as defined by this study, and achievement, as measured by the M.S.S.A.A.I., in white-urban, black-urban, and rural schools, when S.E.S. and teacher evaluations and expectations are controlled.

9. Teacher Reported Feelings of Job Satisfaction (T.R.F.J.S.)

This factor is composed of those items that elicit teacher satisfaction with his school and with teaching, in general. T.R.F.J.S. did not significantly predict the variance in achievement or sense of futility, nor did it appear to discriminate greatly between higher and lower achieving schools. Observational analysis of the ordering of schools, within strata, on this variable, however, did lead to the possible conclusion that there is a positive relationship between high T.R.F.J.S., in white-urban schools, and a negative relationship between these two variables, in black-urban schools. As a result of this extremely speculative observation, this researcher would suggest further research to study the

relationship between T.R.F.J.S. and S.E.S., within each of our strata of interest.

Hypothesis 9:

There will be a significant positive relationship between higher T.R.F.J.S. and S.E.S., in white-urban schools.

Hypothesis 9a:

There will be a significant negative relationship between higher T.R.F.J.S. and S.E.S., in black-urban schools.

10. Teacher Perceptions of Student Academic Improvability (T.P.S.A.I.)

This factor was composed of those items that elicit teachers perceptions that individuals in the school social system believe that past academic failure would not determine the chances of future achievement in school. This factor does not significantly predict academic achievement or sense of futility. We find, on the basis of the discriminant function analysis, that T.P.S.A.I. although not a powerful discriminator of higher and lower achieving white-urban schools, is a powerful discriminator in our black-urban sample. This also becomes evident in the graphic comparison of matched pairs, which shows a large positive relationship to exist between T.P.S.A.I. and achievement, in black-urban schools, but no meaningful pattern to exist between these variables, in white-urban schools.

Hypothesis 10:

There will be a significant positive relationship between T.P.S.A.I. and achievement in predominantly black-urban schools.

Hypothesis 10a:

There will not be a significant positive relationship between T.P.S.A.I. and achievement in predominantly white-urban schools.

From our case analysis there are three research questions which should further contribute to the study of this topic:

1. Are schools located in stable communities higher achieving than schools located in unstable communities, when the effects of S.E.S., race, and urban-rural type are controlled?

2. Are schools with a stable teaching staff higher achieving than schools with unstable teaching staffs, when the effects of S.E.S., race, and urban-rural type are controlled?

3. Are schools with close community relationships higher achieving than those without close community relationships, when the effects of S.E.S., race, and urban-rural community type are controlled?

This study and its research design have contributed substantially to this researcher's beginning attempts of testing the preceding hypotheses and research questions. There were, however, several prevailing limitations of this research, and its results:

1. Given our sample selection, we are unable to generalize our findings beyond the particular schools studied.

2. Given the small sample size, we can not discount any variables on the basis of their lack of statistical significance alone.

3. The small sample size was a great detriment to our design, as we were unable to examine all of our variables simultaneously in the discriminant function analysis, nor were we able to perform a least square add linear regression analysis on all of our variables within strata.

4. While our desire was to study elementary school normative academic climates, the validity of young students responses to a questionnaire of this length and complexity was always in question.

5. In the case study section, a completely systematic method of measurement was not employed. Rather, the analysis was written on the basis of the principal questionnaire, notes taken during the school visitation, and reflections of this researchers. Results should be interpreted accordingly.

6. The current study's unit of analysis is schools and not individual students. As such, the correlations obtained in the analysis are ecological in nature and thus higher than might be obtained if students were the unit of analysis. Therefore, it is important to point out that any attempt to generalize the findings of this type of correlation to individuals rather than to groups of individuals might prove unwise.

Recommendations

The preceding study has produced a number of important contributions upon which this researcher has formulated several substantive and methodological recommendations.

On the basis of substantive findings this researcher makes two recommendations. First, schools can no longer justify the low achievement of their students strictly upon the basis of low socio-economic status, race, or their urban-rural community type. Attentions must focus upon the learning climates within the building. An environment in which all members of the school social system; principals, teachers, and students, perceive present and future academic achievement as a realistic goal appears to have a strong relationship with achievement. Even though the present study is correlational and not causal in nature, the results of this analysis have led to this researcher's opinion that this sort of environment should be created in schools. Secondly, as some climate factors relate similarly to all types of schools, other climate factors relate to varying types of schools differently. Therefore, there is more than just one uniform method in which high achievement can be encouraged. Each school must have a clear understanding of its unique community and the values that that community perceives as

important. It follows then, that each member of the school bureaucracy must have a clear definition of its function in the service of the school community.

On the basis of methodological considerations, this researcher makes four recommendations. First, the current study was based upon a non-randomly selected sample. This researcher recommends that any further study of elementary schools normative academic climates be based on random selected samples for the purpose of expanding generalizability. Secondly, this researcher further recommends that the sample size be greatly increased so that data can be better analyzed and significance more attainable. Thirdly, given the expanded sample size of a proposed study, strata should be narrowed to include; white-urban, white-suburban, white-rural, black-urban, black-suburban, and black-rural. The sample should be categorized on the basis of S.E.S., and achievement relative to the strata. Finally, sampled schools and the "psychic-integration" between school and community should be systematically case studied as well as empirically analyzed.

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APPENDICES

APPENDIX A

STUDENT QUESTIONNAIRE

SCHOOL SOCIAL ENVIRONMENT STUDY
STUDENT QUESTIONNAIRE

Sponsored by

Michigan Department of Education
and
Michigan State University

Dr. Wilbur Brookover, Professor of Sociology and Education, Project Director

DIRECTIONS: We are trying to learn more about students and their work in schools. We would, therefore, like for you to respond to the following questions. This is not a test of any sort and will not affect your work in school. Your teacher and your principal will not see your answers. There are no right or wrong answers, we simply want you to tell us your answer to each question.

1. Name_____

PLEASE ANSWER THE FOLLOWING QUESTIONS BY CIRCLING THE NUMBER ON THE RIGHT OF YOUR BEST ANSWER TO THE QUESTION. PICK ONLY ONE ANSWER FOR EACH QUESTION!

2. How old were you on your last birthday?

9 years old	..... 1.
10 years old	..... 2.
11 years old	..... 3.
12 years old	..... 4.
13 years old	..... 5.

3. Are you a boy or girl?

boy	..... 1.
girl	..... 2.

4. What grade are you in?

3rd grade	..... 1.
4th grade	..... 2.
5th grade	..... 3.
6th grade	..... 4.
7th grade	..... 5.

5. Please write your teacher's name.

_____

6. Please write the name of your school.

_____

7. How many years have you been at this school?

Less than 1 year	..... 1.
2 years	..... 2.
3 years	..... 3.
4 years	..... 4.
5 years	..... 5.
6 years	..... 6.
7 years or more	..... 7.

If your father does not live with you or if he is not alive, please answer this question for the person in your house who makes the most money.

8. What type of work does your father do? (Give a short description of his job)

_____

_____

THE FOLLOWING QUESTIONS ARE TO BE ANSWERED BY CIRCLING THE NUMBER ON THE RIGHT OF THE CORRECT ANSWER. REMEMBER, NO ONE WILL SEE YOUR ANSWERS EXCEPT THOSE OF US FROM MICHIGAN STATE UNIVERSITY, SO PLEASE TELL US JUST WHAT YOU THINK. (Pick only one answer for each question)

9. If you could go as far as you wanted in school, how far would you like to go?

Finish grade school	..... 1.
Go to high school for a while	..... 2.
Finish high school	..... 3.
Go to college for a while	..... 4.
Finish college	..... 5.

10. How many students in this school try hard to get a good grade on their weekly tests?

Almost all of the students	..... 1.
Most of the students	..... 2.
Half of the students	..... 3.
Some of the students	..... 4.
Almost none of the students	..... 5.

11. How many students in this school will work hard to get a better grade on the weekly tests than their friends do?

Almost all of the students	..... 1.
Most of the students	..... 2.
Half of the students	..... 3.
Some of the students	..... 4.
Almost none of the students	..... 5.

12. How many students in this school don't care if they get bad grades?

Almost all of the students	..... 1.
Most of the students	..... 2.
Half of the students	..... 3.
Some of the students	..... 4.
Almost none of the students	..... 5.

13. How many students in this school do more studying for weekly tests than they have to?

Almost all of the students	..... 1.
Most of the students	..... 2.
Half of the students	..... 3.
Some of the students	..... 4.
Almost none of the students	..... 5.

14. If most of the students here could go as far as they wanted in school how far would they go?

Finish grade school	..... 1.
Go to high school for a while	..... 2.
Finish high school	..... 3.
Go to college for a while	..... 4.
Finish college	..... 5.

15. If the teacher that you like the best told you that you were a poor student how would you feel?

I'd feel very bad	..... 1.
I'd feel somewhat bad	..... 2.
It wouldn't bother me very much	..... 3.
It wouldn't bother me at all	..... 4.

16. How important is it to you to be a good student?

It's the most important thing I can do	..... 1.
It's important, but other things are just as important	..... 2.
It's important, but other things are more important	..... 3.
It's not very important	..... 4.

17. If your parents told you that you were a poor student, how would you feel?

I'd feel very bad	..... 1.
I'd feel somewhat bad	..... 2.
It wouldn't bother me very much	..... 3.
It wouldn't bother me at all	..... 4.

18. If your best friend told you that you were a poor student, how would you feel?

I'd feel very bad	..... 1.
I'd feel somewhat bad	..... 2.
It wouldn't bother me very much	..... 3.
It wouldn't bother me at all	..... 4.

19. How do you think most of the students in this class react when one of you does a bad job on school work?

They feel badly and want to help him (her) do better	..... 1.
They feel sorry, but don't say anything	..... 2.
They really don't care	..... 3.
They are secretly happy that it happened	..... 4.

20. How do you think most of the teachers in this school react when one of the students does a bad job on school work?

They feel badly and want to help him (her) do better ..... 1.
They feel badly, but don't really help him (her) ..... 2.
They get mad and tell him (her) to start working harder ..... 3.
They get mad but don't say anything ..... 4.
They really don't care ..... 5.

21. What do you think most students say when a student has done good or better than he usually does in his school work?

He was just lucky, he won't do that good next time ..... 1.
Anyone could do it if they studied ..... 2.
I wish I could do as well as he did ..... 3.
I'm glad for him I hope he does as well next time ..... 4.

22. How important do most of the students in this class feel it is to do well in school work?

Almost everybody thinks it is the most important thing you can do. ..... 1.
Most students think it is quite important to do well ..... 2.
Doing well in school work is a good thing but other things are important too. ..... 3.
Most students don't seem to care how well they do, but it's okay for others to do well. ..... 4.
Most students don't seem to care how good they do, but they don't like other students to do good. ..... 5.

23. How important do you think most of the students in this school feel it is to do well in school work?

Almost everybody thinks it is the most important thing you can do. ..... 1.
Most students think it is quite important to do well ..... 2.
Doing well in school work is a good thing but other things are important too. ..... 3.
Most students don't seem to care how well they do, but it's okay for others to do well. ..... 4.
Most students don't seem to care how good they do, but they don't like other students to do good. ..... 5.

PLEASE ANSWER THE FOLLOWING QUESTIONS BY CIRCLING THE NUMBER WHICH BEST ANSWERS THE QUESTION FOR YOU. PICK ONLY ONE ANSWER FOR EACH QUESTION.

24. Think about the boys or girls you play with at recess or after school. How often do they read in their free time?

Very often ..... 1.
Quite a bit ..... 2.
Sometimes, but not very much ..... 3.
Seldom ..... 4.
Almost never ..... 5.

25. When you and your friends are together after school or on weekends, how often do you talk about your school work?

Very often	..... 1.
Quite a bit	..... 2.
Sometimes, but not very much	..... 3.
Seldom	..... 4.
Almost never	..... 5.

26. People like me will not have much of a chance to do what we want to in life.

Strongly agree	..... 1.
Agree	..... 2.
Disagree	..... 3.
Strongly disagree	..... 4.

27. People like me will never do well in school even though we try hard.

Strongly agree	..... 1.
Agree	..... 2.
Disagree	..... 3.
Strongly disagree	..... 4.

28. I can do well in school if I work hard.

Strongly agree	..... 1.
Agree	..... 2.
Disagree	..... 3.
Strongly disagree	..... 4.

29. In this school, students like me don't have any luck.

Strongly agree	..... 1.
Agree	..... 2.
Disagree	..... 3.
Strongly disagree	..... 4.

30. You have to be lucky to get good grades in this school.

Strongly agree	..... 1.
Agree	..... 2.
Disagree	..... 3.
Strongly disagree	..... 4.

31. Think of your friends. Do you think you can do school work better, the same, or poorer than your friends?

Better	..... 1.
The same	..... 2.
Poorer	..... 3.

32. Think of the students in your class. Do you think you can do school work better, the same, or poorer than the students in your class?

Better	..... 1.
The same	..... 2.
Poorer	..... 3.

33. When you finish high school, do you think you will be one of the best students, about the same as most of the students, or below most of the students?

One of the best	..... 1.
About the same as most of the students	..... 2.
Below most of the students	..... 3.

34. Do you think you could finish college?

Yes, with no difficulty at all	..... 1.
Yes, as long as I work hard	..... 2.
Yes, but I will probably have a lot of difficulty	..... 3.
No, it will be too difficult	..... 4.

35. If you went to college, do you think you would be one of the best students, about the same as most of the students, or below most of the students?

One of the best	..... 1.
About the same as most of the students	..... 2.
Below most of the students	..... 3.

36. If you want to be a doctor or a teacher, you need more than 4 years of college. Do you think you could do that?

Yes, with no difficulty at all	..... 1.
Yes, as long as I work hard	..... 2.
Yes, but I will probably have a lot of difficulty	..... 3.
No, it will be too difficult	..... 4.

37. Forget how your teachers mark your work. How good do you think your own work is?

Excellent	..... 1.
Good	..... 2.
About the same as most of the students	..... 3.
Below most of the students	..... 4.
Poor	..... 5.

38. What marks do you think you really can get if you try?

Mostly A's	..... 1.
Mostly B's	..... 2.
Mostly C's	..... 3.
Mostly D's	..... 4.
Mostly E's	..... 5.

NOW WE WOULD LIKE YOU TO ANSWER SOME QUESTIONS ABOUT PEOPLE THAT YOU KNOW. ANSWER THESE QUESTIONS BY CIRCLING THE NUMBER AS YOU DID IN THE OTHER QUESTIONS. (Pick only one answer)

39. When you do good work in school who do you most want to know about it?

mother	..... 1.
father	..... 2.
brother or sisiter	..... 3.
teacher	..... 4.
friend	..... 5.
other_____ (specify)	..... 6.

40. Who is the most interested in your work in school?

Mother	..... 1.
Father	..... 2.
Brother or sister	..... 3.
Teacher	..... 4.
Friend	..... 5.
Other_____ (Specify)	..... 6.

NOW WE WOULD LIKE YOU TO ANSWER SOME QUESTIONS ABOUT YOUR BEST FRIEND. STOP FOR A MINUTE AND THINK WHO YOUR BEST FRIEND IS. ANSWER THESE QUESTIONS BY CIRCLING THE NUMBER AS YOU DID IN THE OTHER QUESTIONS. REMEMBER, YOUR BEST FRIEND WILL NOT SEE YOUR ANSWERS. (Pick only one answer)

41. How far do you think your best friend believes you will go in school?

Finish grade school	..... 1.
Go to high school for a while	..... 2.
Go to college for a while	..... 3.
Finish college	..... 4.

42. How good a student does your best friend expect you to be in school?

One of the best	..... 1.
Better than most of the students	..... 2.
Same as most students	..... 3.
Not as good as most students	..... 4.
He doesn't really care	..... 5.

43. Think of your best friend. Would your best friend say you can do school work better, the same, or poorer than other people your age?

Better	..... 1.
The same	..... 2.
Poorer	..... 3.

44. Would your best friend say that your grades would be with the best, same as most, or below most of the students when you graduate from high school?

With the best	..... 1.
Same as most	..... 2.
Below most	..... 3.

45. Does your best friend think you could finish college?

Yes	..... 1.
Maybe	..... 2.
No	..... 3.

46. Remember you need more than four years of college to be a teacher or doctor. Does your best friend think you could do that?

Yes	..... 1.
Maybe	..... 2.
No	..... 3.

47. What grades does your best friend think you can get?

Mostly A's ..... 1.
Mostly B's ..... 2.
Mostly C's ..... 3.
Mostly D's ..... 4.
Mostly E's ..... 5.

NOW WE WOULD LIKE TO ASK SOME QUESTIONS ABOUT THE TEACHERS IN THIS SCHOOL. ANSWER THESE QUESTIONS AS YOU ANSWERED THE OTHER ONES BY CIRCLING THE NUMBER. REMEMBER, NO TEACHER WILL SEE YOUR ANSWERS SO BE AS HONEST AS YOU CAN.

48. Of the teachers that you know in this school how many tell students to try hard to do better on tests?

Almost all of the teachers ..... 1.
Most of the teachers ..... 2.
Half of the teachers ..... 3.
Some of the teachers ..... 4.
Almost none of the teachers ..... 5.

49. How many teachers in this school tell students to try and get better grades than their classmates?

Almost all of the teachers ..... 1.
Most of the teachers ..... 2.
Half of the teachers ..... 3.
Some of the teachers ..... 4.
Almost none of the teachers ..... 5.

50. Of the teachers that you know in this school how many don't care if the students get bad grades?

Almost all of the teachers ..... 1.
Most of the teachers ..... 2.
Half of the teachers ..... 3.
Some of the teachers ..... 4.
Almost none of the teachers ..... 5.

51. Of the teachers that you know in this school how many tell students to do extra work so that they can get better grades?

Almost all of the teachers ..... 1.
Most of the teachers ..... 2.
Half of the teachers ..... 3.
Some of the teachers ..... 4.
Almost none of the teachers ..... 5.

52. Of the teachers that you know in this school how many make the students work too hard ?

Almost all of the teachers ..... 1.
Most of the teachers ..... 2.
Half of the teachers ..... 3.
Some of the teachers ..... 4.
Almost none of the teachers ..... 5.

53. Of the teachers that you know in this school how many don't care how hard the student works, as long as he passes?

Almost all of the teachers	1.
Most of the teachers	2.
Half of the teachers	3.
Some of the teachers	4.
Almost none of the teachers	5.

54. If the teachers in this school think a student can't do good work, how many will try to make him work hard anyway?

Almost all of the teachers	1.
Most of the teachers	2.
Half of the teachers	3.
Some of the teachers	4.
Almost none of the teachers	5.

55. Of the teachers that you know in this school, how many think it is not good to ask more work from a student than he is able to do?

Almost all of the teachers	1.
Most of the teachers	2.
Half of the teachers	3.
Some of the teachers	4.
Almost none of the teachers	5.

56. Of the teachers that you know in this school, how many believe that students should be asked to do only work which they are able to do?

Almost all of the teachers	1.
Most of the teachers	2.
Half of the teachers	3.
Some of the teachers	4.
Almost none of the teachers	5.

57. How far do you think <u>the teacher you like the best</u> believes you will go in school?

Finish grade school	1.
Go to high school for a while	2.
Finish high school	3.
Go to college for a while	4.
Finish college	5.

58. How good of a student does <u>the teacher you like the best</u> expect you to be in school?

One of the best	1.
Better than most of the students	2.
Same as most students	3.
Not as good as most students	4.
She doesn't really care	5.

59. Think of your teacher. Would your teacher say you can do school work better, the same, or poorer than other people your age?

Better	..... 1.
The same	..... 2.
Poorer	..... 3.

60. Would your teacher say that your grades would be with the best same as most, or below most of the students when you graduate from high school?

With the best	..... 1.
Same as most	..... 2.
Below most	..... 3.

61. Does your teacher think you could finish college?

Yes	..... 1.
Maybe	..... 2.
No	..... 3.

62. Remember you need more than four years of college to be a teacher or doctor. Does your teacher think you could do that?

Yes	..... 1.
Maybe	..... 2.
No	..... 3.

63. What grades does your teacher think you can get?

Mostly A's	..... 1.
Mostly B's	..... 2.
Mostly C's	..... 3.
Mostly D's	..... 4.
Mostly E's	..... 5.

NOW, WE WOULD LIKE YOU TO ANSWER SOME QUESTIONS ABOUT YOUR PARENTS. ANSWER THEM THE SAME WAY YOU ANSWERED THE OTHER ONES.

64. How far do you think your parents believe you will go in school?

Finish grade school	..... 1.
Go to high school for a while	..... 2.
Finish high school	..... 3.
Go to college for a while	..... 4.
Finish college	..... 5.

65. How good of a student do your parents expect you to be in school?

One of the best	..... 1.
Better than most of the students	..... 2.
Same as most of the students	..... 3.
Not as good as most of the students	..... 4.
They don't really care	..... 5.

66. Think of your mother and father. Do your mother and father say you can do school work better, the same, or poorer than your friends?

Better	..... 1.
Same as most	..... 2.
Poorer	..... 3.

67. Would your mother and father say that your grades would be with the best, same as most, or below most of the students when you finish high school?

The best	..... 1.
Same as most	..... 2.
Below most	..... 3.

68. Do they think you could finish college?

Yes	..... 1.
Maybe	..... 2.
No	..... 3.

69. Remember, you need more than four years of college to be a teacher or doctor. Do your mother and father think you could do that?

Yes	..... 1.
Maybe	..... 2.
No	..... 3.

70. What grades do your mother and father think you <u>can</u> get?

Mostly A's	..... 1.
Mostly B's	..... 2.
Mostly C's	..... 3.
Mostly D's	..... 4.
Mostly E's	..... 5.

NOW WE WANT TO ASK YOU SOME QUESTIONS ABOUT THE PRINCIPAL OF THIS SCHOOL. REMEMBER, YOUR PRINCIPAL WILL <u>NOT</u> SEE YOUR ANSWERS.

71. How many students in this school do you think the principal believes can get high grades?

Almost all of the students	..... 1.
Most of the students	..... 2.
Half of the students	..... 3.
Some of the students	..... 4.
Almost none of the students	..... 5.

72. How do you think your principal would grade the work of the students in this school, compared to other schools?

Would grade it much better	..... 1.
Would grade it somewhat better	..... 2.
Would grade it the same	..... 3.
Would grade it somewhat lower	..... 4.
Would grade it much lower	..... 5.

73. How many of the students in this school do you think the principal believes will finish high school?

Almost all of the students	..... 1.
Most of the students	..... 2.
Half of the students	..... 3.
Some of the students	..... 4.
Almost none of the students	..... 5.

74. How many of the students in this school do you think the principal believes will go to college?

Almost all of the students	..... 1.
Most of the students	..... 2.
Half of the students	..... 3.
Some of the students	..... 4.
Almost none of the students	..... 5.

75. How many of the students in this school do you think the principal believes will finish college?

Almost all of the students	..... 1.
Most of the students	..... 2.
Half of the students	..... 3.
Some of the students	..... 4.
Almost none of the students	..... 5.

76. When I do a good job on my school work, I am more popular with other students.

Yes	..... 1.
No	..... 2.
Doesn't make any difference	..... 3.

77. If I do well in school, it will be easier for me to get the job I want when I graduate.

Yes	..... 1.
No	..... 2.
Doesn't matter	..... 3.

78. My parents allow me greater freedom when I do well in school.

Yes	..... 1.
No	..... 2.
Doesn't matter	..... 3.

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

Nothing in particular	..... 1.
Praise me	..... 2.
Give me special privileges	..... 3.
Give me money or some special reward	..... 4.
Other_____ (specify)	..... 5.

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

Nothing in particular	..... 1.
Scold me	..... 2.
Take away privileges	..... 3.
Punish me severely in some way	..... 4.
Other_____ (specify)	..... 5.

81. Sometimes what you <u>want</u> to happen is not what you <u>think</u> will happen. How far do you <u>think</u> you will go in school?

Finish grade school	..... 1.
Go to high school for a while	..... 2.
Finish high school	..... 3.
Go to college for a while	..... 4.
Finish college	..... 5.

APPENDIX B

TEACHER QUESTIONNAIRE

Teacher Questionnaire
(Revised Draft)

School Social Environment Study

Sponsored by

Michigan Department of Education
and
Michigan State University

This research project is being
carried out under the supervision of

Dr. Wilbur B. Brookover
Professor of Sociology and Education, and
Associate Director, Center for Urban Affairs
Michigan State University
East Lansing, Michigan
Tel. 517 353-9506

Any questions should be directed to Dr. Brookover

Directions: The information which you give us on this questionnaire is completely confidential. No one will see your answers except the members of our research staff. Reports will be made with aggregate data, and no one person will be identified with his or her data. After your questionnaire has been completely coded and punched on IBM cards (without your name), your questionnaire will be destroyed. Complete confidentiality is assured. It is very important that you be as candid as possible in your answers.

Please do not write on this side of the line.

1. Name_____ 1 2

2. Sex (Please check appropriate line) 3

female_____

male_____

3. Please write the name of this school 4 5

_____

4. How long have you taught in this school? 6 7

(Include this year)_____

5. How long have you taught school? 8 9

_____

6. What grade level are you teaching? 10

_____

7. How much formal preparation do you have? (circle the number of the correct answer) 11

1. less than a Bachelors degree
2. Bachelors degree
3. some graduate work but less than Masters degree
4. Masters degree
5. more than Masters degree but not Doctorate
6. Doctor's degree

8. How did you feel about this school before coming here? (give general attitude) 12

9a. Has your attitude changed since? (circle number of correct answer) 13

1. yes
2. no

9b. If so, how?

We would like to ask you some questions about grouping practices and use of standardized tests in this school. Please feel free to write any additional comments after each question.

10. In general, what grouping procedure is practiced across sections of particular grade levels in this school? 14

1. homogeneous grouping according to ability
2. heterogeneous grouping according to ability
3. random sampling
4. no intentional grouping
5. other (indicate)_____

11. In general, what grouping procedure is practiced within your class? 15

1. homogeneous grouping according to ability
2. heterogeneous grouping according to ability
3. random grouping
4. no intentional grouping
5. other (indicate)_____

12. How important do you think the standardized test scores of your students are? 16

1. very important
2. somewhat important
3. not very important
4. not important at all

13. How often do you use the standardized test scores of your students? 17

1. very often
2. often
3. somtimes
4. seldom
5. never

Please answer each of the following questions by encircling the letter before the choice which most nearly answers the question for you.

14. On the average what level of achievement can be expected of the students in this school? 18

1. much above national norm
2. slightly above national norm
3. approximately at national norm
4. slightly below national norm
5. much below national norm

15. On the average what level of achievement can be expected of the students in your class? 19

1. much above national norm
2. slightly above national norm
3. approximately at national norm
4. slightly below national norm
5. much below national norm

16. What percent of the students in this school do you expect to complete high school? 20

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

17. What percent of the students in your class do you expect to complete high school? 21

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

18. What percent of the students in this school do you expect to attend college? 22

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

19. What percent of the students in your class do you expect to attend college? 23

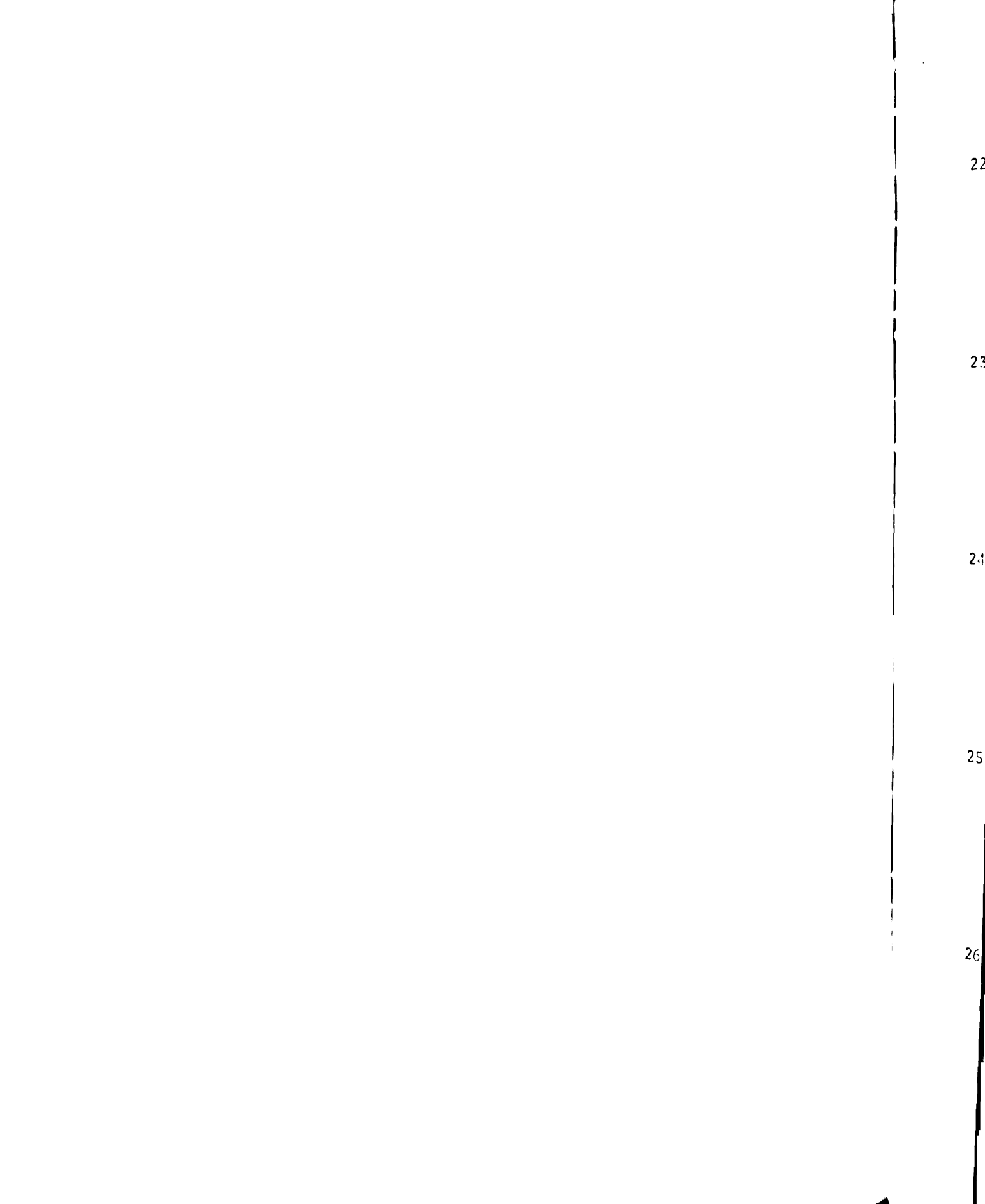
1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

20. What percent of the students in this school do you expect to complete college? 24

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

21. What percent of the students in your class do you expect to complete college? 25

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%



22. How many of the students in this school are capable of getting mostly A's and B's? 26

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

23. How many of the students in your class are capable of getting mostly A's and B's? 27

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

24. How would you rate the academic ability of the students in this school compared to other schools? 28

1. ability here is much higher
2. ability here is somewhat higher
3. ability here is about the same
4. ability here is somewhat lower
5. ability here is much lower

25. What percent of the students in this school would you say want to complete high school? 29

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

26. What percent of the students in your class would you say want to complete high school? 30

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

27. What percent of the students in this school would you say want to go to college? 31

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

28. What percent of the students in your class would you say want to go to college? 32

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

Please remember, your answers to all of these questions is completely confidential. No one but our research staff will see your answers.

29. How much do you enjoy your teaching responsibilities in this school? 33

1. very much
2. much
3. average
4. little
5. not at all

30. If someone were to offer you an interesting and secure non-teaching job for $1,000 more a year, how seriously would you consider taking the job? 34

1. very seriously
2. somewhat seriously
3. not very seriously
4. not at all

31. If someone were to offer you an interesting and secure non-teaching job for $3,000 more a year, how seriously would you consider taking the job? 35

1. very seriously
2. somewhat seriously
3. not very seriously
4. not at all

32. How often do you stay after school to help students? 36

1. very often
2. often
3. sometimes
4. seldom
5. never

33. What percent of the students in this school do you think the principal expects to complete high school? 37

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

34. What percent of the students in this school do you think the principal expects to attend college? 38

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

35. What percent of the students in this school do you think the principal expects to complete college? 39

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

36. How many students in this school do you think the principal believes are capable of getting mostly A's and B's. 40

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

37. How do you think your principal rates the academic ability of the students in this school, compared to other schools? 41

1. rates it much better
2. rates it somewhat better
3. rates it the same
4. rates it somewhat lower
5. rates it much lower

38. Completion of high school is a realistic goal which you set for what percentage of your students? 42

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

39. Completion of college is a realistic goal which you set for what percentage of your students? 43

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

40. How often do you stress to your students the necessity of a post high school education for a good job and/or a comfortable life? 44

1. very often
2. often
3. sometimes
4. seldom
5. never

41. For those students who do not have the resources which will allow them to go to college, you are careful not to promote aspirations in them which strongly can not be fulfilled. 45

1. strongly agree
2. agree
3. not sure
4. disagree
5. strongly disagree

42. The teachers in this school push students to work too hard. 46

1. strongly agree
2. agree
3. not sure
4. disagree
5. strongly disagree

43. How many teachers in this school aren't concerned how hard most students work, as long as they pass? 47

1. almost all of the teachers
2. most of the teachers
3. half of the teachers
4. some of the teachers
5. almost none of the teachers

44. It is unfair to demand more from a student than he is capable of giving. 48

1. strongly agree
2. agree
3. not sure
4. disagree
5. strongly disagree

45. If you think a student is not able to do some of the school work you won't try to push him very hard. 49

1. strongly agree
2. agree
3. not sure
4. disagree
5. strongly disagree

46. For most students you are very careful not to push them to their frustration level. 50

1. strongly agree
2. agree
3. not sure
4. disagree
5. strongly disagree

47. How many teachers in this school encourage students to try hard to improve on previous test scores? 51

1. almost all of the teachers
2. most of the teachers
3. about half of the teachers
4. some of the teachers
5. almost none of the teachers

48. How many teachers encourage students to seek extra school work so that the students can get better grades? 52

1. almost all of the teachers
2. most of the teachers
3. about half of the teachers
4. some of the teachers
5. almost none of the teachers

49. How many students in this <u>school</u> try hard to improve on previous work? 53

1. almost all of the students
2. most of the students
3. about half of the students
4. some of the students
5. almost none of the students

50. How many students in your <u>class</u> try hard to improve on previous work? 54

1. almost all of the students
2. most of the students
3. about half of the students
4. some of the students
5. almost none of the students

51. How many students in this school will try hard to do better on tests than their friends do? 55

1. almost all of the students
2. most of the students
3. about half of the students
4. some of the students
5. almost none of the students

52. How many students in your class will try hard to do better on tests than their classmates do? 56

1. almost all of the students
2. most of the students
3. about half of the students
4. some of the students
5. almost none of the students

53. How many students in this school are content to do less than they should? 57

5. almost all of the students
4. most of the students
3. about half of the students
2. some of the students
1. almost none of the students

54. How many students in your class are content to do less than they should? 58

1. almost all of the students
2. most of the students
3. about half of the students
4. some of the students
5. almost none of the students

55. How many students in this school will seek extra work so that they can get better grades? 59

1. almost all of the students
2. most of the students
3. about half of the students
4. some of the students
5. almost none of the students

56. How many students in your class will seek extra work so that they can get better grades? 60

1. almost all of the students
2. most of the students
3. about half of the students
4. some of the students
5. almost none of the students

57. How many students in this school don't care when other students do much better than they do? 61

5. almost all of the students
4. most of the students
3. about half of the students
2. some of the students
1. almost none of the students

58. How many students in your class don't care when other students do much better than they do? 62

1. almost all of the students
2. most of the students
3. about half of the students
4. some of the students
5. almost none of the students

59. The parents in this school service area regard this school primarily as a "baby-sitting" agency. 63

5. strongly agree
4. agree
3. not sure
2. disagree
1. strongly disagree

60. The parents of this school service area are deeply concerned that their children receive a top quality education. 64

1. strongly agree
2. agree
3. not sure
4. disagree
5. strongly disagree

61. How many of the parents in this school service area expect their children to complete high school? 65

1. almost all of the parents
2. most of the parents
3. about half of the parents
4. some of the parents
5. almost none of the parents

62. How many of the parents in this school service area expect their children to complete college? 66

1. almost all of the parents
2. most of the parents
3. about half of the parents
4. some of the parents
5. almost none of the parents

63. How many of the parents in this school service area don't care if their children obtain low grades? 67

5. almost all of the parents
4. most of the parents
3. about half of the parents
2. some of the parents
1. almost none of the parents

64. How many of the parents in this school service area like feedback from the principal and teachers on how their children are doing in school? 68

1. almost all of the parents
2. most of the parents
3. about half of the parents
4. some of the parents
5. almost none of the parents

APPENDIX C

PRINCIPAL QUESTIONNAIRE

Principal Questionnaire

School Social Environment Study

Dr. Wilbur B. Brookover
Professor of Sociology and Education, and
Associate Director, Center for Urban Affairs
Michigan State University
East Lansing, Michigan

Directions: The information you give us on this questionnaire is completely confidential. No one will see your answers except the members of our research staff. Reports will be made with aggregate data, and no one person will be identified with his or her data. After your questionnaire has been completely coded and puched on IBM cards (without your name), your questionnaire will be destroyed. Complete confidentiality is assured.

1. Name_____ 1 2

2. Sex (Please check): 3

Male_____ Female_____

3. Please write the name of this school:_____ 4 5

4. How long have you been the principal in this school? (Include this year)_____ 6 7

5. How long have you been a principal?_____ 8 9

6. Have you ever taught school?

Yes_____ No_____ 10

7. If so, how long did you teach?_____ 11 12

8. How did you feel about this school before coming here? 13

9. Has your attitude changed?_____ 14

We would now like to ask you some questions about grouping practices, teacher credentials and testing procedures in your school. Please feel free to write any additional comments after each question.

10. In general, what grouping procedure is practiced across sections of particular grade levels in this school? 15

    1. homogeneous grouping according to ability
    2. heterogeneous grouping according to ability
    3. random grouping
    4. no intentional grouping

11. In general, what grouping procedure is practiced within individual sections of particular grade levels of this school? 16

    1. homogeneous grouping according to ability
    2. heterogeneous according to ability
    3. random grouping
    4. no intentional grouping

12. In general, what grouping procedure is practices across grade levels in this school? 17

    1. homogeneous grouping according to ability
    2. heterogeneous grouping according to ability
    3. random grouping
    4. no intentional grouping

13. How many teachers in this school have a Bachelors degree? 18

    1. 75% or more
    2. 50-75%
    3. 25-50%
    4. 25% or less

14. How many teachers in this school have a provisional teaching certificate? 19

    1. 75% or more
    2. 50-75%
    3. 25-50%
    4. 25% or less

15. How many teachers in this school have a permanent teaching certificate? 20

    1. 75% or more
    2. 50-75%
    3. 25-50%
    4. 25% or less

16. How many teachers in this school have a graduate degree? degree?

    1. 75% or more
    2. 50-75%
    3. 25-50%
    4. 25% or less

21

17. What kinds of standardized tests are administered in this school?

22 23 24

_____
_____
_____

18. In your opinion what do the standardized tests which are administered in this school measure?

25

_____
_____
_____

19. As principal of this school how do you use the results of the standardized tests which are administered?

26 27 28

_____
_____
_____
_____

20. How important are the standardized test scores for the teachers in this school?

29

    1. Very important
    2. Somewhat important
    3. Not very important
    4. Not important at all

21. How are the standardized test scores used by the teachers in this school?

30

_____
_____
_____
_____

Please answer each of the following questions by circling the letter before the choice which most nearly answers the question for you.

22. On the average, what achievement level can be expected of the students in this school? 31

1. much above national norm
2. slightly above national norm
3. approximately at national norm
4. slightly below national norm
5. much below national norm

23. What percent of the students in this school do you expect to complete high school? 32

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

24. What percent of the students in this school do you expect to attend college? 33

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

25. What percent of the students in this school do you expect to complete college? 34

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

26. How many of the students in this school are capable of getting good grades? 35

1. 90% or more
2. 70% or more
3. 50% or more
4. 30% or more
5. less than 30%

27. How would you rate the academic ability of the students in this school compared to other schools? 36

1. ability here is much higher
2. ability here is somewhat higher
3. ability here is about the same
4. ability here is somewhat lower
5. ability here is much lower

28. The parents in this school service area regard this school as primarily a "baby-sitting" agency. 37

    1. strongly agree
    2. agree
    3. unsure
    4. disagree
    5. strongly disagree

29. The parents in this school service area are deeply concerned that their children receive a top quality education. 38

    1. strongly agree
    2. agree
    3. unsure
    4. disagree
    5. strongly disagree

30. How many of the parents in this school service area expect their children to complete high school? 39

    1. almost all of the parents
    2. most of the parents
    3. about half of the parents
    4. some of the parents
    5. almost none of the parents

31. How many of the parents in this school service area expect their children to complete college? 40

    1. almost all of the parents
    2. most of the parents
    3. about half of the parents
    4. some of the parents
    5. almost none of the parents

32. How many of the parents in this school service area don't care if their children obtain low grades? 41

    1. almost all of the parents
    2. most of the parents
    3. about half of the parents
    4. some of the parents
    5. almost none of the parents

33. How many of the parents in this school service area like feedback from the principal and teachers on how their children are doing in school?

42

1. almost all of the parents
2. most of the parents
3. about half of the parents
4. some of the parents
5. almost none of the parents

34. What proportion of your teachers call on the parents of their pupils at least once during the year?

43

1. almost all the teachers
2. most of the teachers
3. about hlaf of the teachers
4. some of the teachers
5. almost none of the teachers

35. What else is there about the community school relationship that would help us better understand the nature of this school?

APPENDIX D

SOCIO-ECONOMIC STATUS QUESTIONS USED IN THE MICHIGAN STATE SCHOOL ASSESSMENT S.E.S. INDEX 1969-1970

SOCIO-ECNOMIC STATUS QUESTIONS USED IN THE MICHIGAN STATE SCHOOL ASSESSMENT S.E.S. INDEX 1969-1970

General Information Questions

Does your family have a dictionary? (S.E.S.)

A. Yes
B. No
C. I don't know

Does your family have an encyclopedia? (S.E.S.)

A. Yes
B. No
C. I don't know

Does your family have a vacuum clearner? (S.E.S.)

A. Yes
B. No
C. I don't know

Does your family have a typewriter? (S.E.S.)

A. Yes
B. No
C. I don't know

Does your family have a dishwashing machine? (S.E.S.)

A. Yes
B. No
C. I don't know

How many cars does your family have? (S.E.S.) (Don't count trucks.)

A. None
B. One
C. Two or more

Do you have your own wrist watch? (S.E.S.)

A. Yes
B. No

Has anyone in your family traveled in an airplane in the last year? (S.E.S.)

A. Yes
B. No
C. I don't know

How much education does your father have? (S.E.S.)

A. Grade school--Grades 1-8
B. High School--Grades 9-12
C. College or special training after high school
D. I don't know

How much education does your mother have? (S.E.S.)

A. Grade school--Grades 1-8
B. High School--Grades 9-12
C. College or special training after high school
D. I don't know

How many different schools have you gone to since you started first grade? Count only the schools which you went to during the day. (S.E.S., Att. A, Att. B)

A. One--only this one
B. Two
C. Three
D. Four
E. Five or more

What is the highest grade you want to finish in school? (S.E.S., Att. A, Att. B, Att. C)

A. I don't want to go to school any more
B. I only want to finish high school
C. I want to go to a special school, like nursing or business school
D. I want to go to college

Are you planning to go to college?

A. Yes
B. No
C. I'm not sure

APPENDIX E

DUNCAN'S SOCIO-ECONOMIC INDEX SCORE IN SCHOOLS IN COMPARISON WITH THE STATE ASSESSMENT SOCIO-ECONOMIC SCORE OF SCHOOLS

TABLE 26.--Duncan's Socio-Economic Index Score in Schools in Comparison with the State Assessment Socio-Economic Score of Schools

School	Duncan S.E.S. Index	S.E.S. Level	State Assessment S.E.S. Score
1	50.5	High	55.1
2	41.6	High	55.2
3	51.8	High	54.4
4	48.7	High	54.9
5	30.0	High	49.4
6	50.2	High	50.1
7	32.4	Low	43.2
8	26.0	Low	44.9
9	36.5	Low	46.6
10	29.0	Low	46.8
11	**		**
12	17.76	High	49.2
13	20.1	Low	43.8
14	18.8	Low	46.7
15	64.9	High	61.3
16	40.4	High	52.9
17	28.7	Low	47.0
18	19.1	Low	46.7
19	29.1	High	53.2
20	35.3	Low	44.6
21	32.8	Low	42.9
22	21.3	Low	44.3
23	23.6	High	50.7
24	29.2	Low	47.8
25	17.7	Low	37.8

**School 11 not available for data collection.

APPENDIX F

THREE FACTOR VARIMAX - PRINCIPALS

Three Factor Varimax - Principals

Factor 1 — Proportional Variance = .3577

Var. #		Factor Loading Score
6.	How would you rate the academic ability of students in this school compared to other schools?	.8808
7.	The parents in this school service area regard this school as primarily a "baby-sitting" agency.	-.8719
3.	What percent of the students in this school do you expect to attend college?	.8024
8.	The parents in this school service area are deeply concerned that their children receive a top quality education.	.8020
10.	How many of the parents in this school service area expect their children to complete college?	.7603
4.	What percent of the students in this school do you expect to complete college?	.6913
5.	How many students in this school are capable of getting good grades?	.6519

Factor 2

9.	How many parents in this school service area expect their child to complete high school?	.9158
11.	How many of the parents in this school service area don't care if their children obtain low grades?	-.9068
2.	What percent of the students in this school do you expect to complete high school?	.8772
1.	On the average what achievement level can be expected of the students in this school?	.7549

Factor 3

12.	How many parents in this school service area like feedback from the principal and teachers on how their children are doing in school?	-.8856
13.	What proportion of your teachers call on the parents of their pupils at least once during the year?	-.2567