A COMPARATIVE STUDY OF URBAN AND RURAL STUDENTS ATTENDING TWO URBAN SCHOOLS ON SELECTED ATTITUDINAL VARIABLES AND ACADEMIC ACHIEVEMENT

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A COMPARATIVE STUDY OF URBAN AND RURAL STUDENTS ATTENDING TWO URBAN SCHOOLS ON SELECTED ATTITUDINAL VARIABLES AND ACADEMIC ACHIEVEMENT

A Thesis

Presented to

The Department of Educational Psychology

Memorial University of Newfoundland

In Partial Fulfillment

of the requirements for the degree

Master of Education

by

David Ross Adams

ABSTRACT

In Newfoundland, there is a widespread practice of transporting students from small rural communities to larger centers to attend school. Most of the junior high schools and senior high schools in St. John's accommodate both urban students and students who commute daily from rural communities within a radius of twenty-five miles from the city. This researcher and other educators have observed that rural students attending these schools generally perform less well academically than their urban peers.

A strong relationship between academic achievement and educational attitudes has been demonstrated by many researchers. It was the purpose of this study to determine whether the attitudes of rural students were significantly different from those of urban students in the same schools and whether any differences were accompanied by similar differences in academic achievement.

In an attempt to control for factors other than those uniquely rural or urban, this study included socio-economic status, intelligence, sex, academic program and grade as controlled variables.

Intelligence was measured by the Raven's Standard Progressive Matrices and the socio-economic status of students was indicated by their fathers' occupations as categorized by the Blishen Scale. Three instruments were used to measure

academic self-concept, attitude toward school, and students' perceptions of how teachers view them. Two individual items on each questionnaire were also selected for analysis. By statistical analysis of the data, no significant difference between the 224 rural students and their matched urban peers on any of the attitudinal variables was detected. Academic achievement was assessed by students' results on teacher-made English and Mathematics tests. Again, no significant difference was detected between the English scores of the rural students and the urban students of the sample. The rural students, however, scored significantly higher in Mathematics ($p < .05$) than the urban students, a finding in complete contradiction to that which was expected.

The study does not contradict the observations of this researcher and other educators that rural students generally perform less well academically than their urban peers. In fact, this study shows that as subpopulations in the two urban schools, rural students are disproportionally assigned to low academic programs, representing nearly 50 percent of these programs, while they constitute only 15 to 20 percent of the total student populations. It is also shown that students in the low academic programs generally come from lower socio-economic status families than students in other programs. The results of this study indicate, then, that the factors contributing to lower academic achievement are more socio-economic in nature than the student's place of residence.

Apparently, rural students, when matched individually with urban students on socio-economic status, intelligence, sex, academic program and grade, possess similar educational attitudes and perform academically as well as their urban peers. However, the whole rural subpopulations in the two schools had not attained as high a level of academic achievement as the total school populations and may have possessed more negative attitudes.

ACKNOWLEDGEMENTS

The writer wishes to express his appreciation to all those who provided assistance in the preparation and conduction of this study.

Special appreciation is extended to Mr. Glenn Sheppard, my advisor, for his constant interest, cooperation, and assistance, willingly offered to me from the inception of the study to its end.

Sincere gratitude is also extended to Dr. Lorne Taylor and Mr. Raftus Noel for their willingness to serve on my examining committee.

The cooperation and assistance provided by the administrators, guidance counsellors, and teachers of the schools involved in the study is also deeply appreciated.

The support provided by my wife, Barbara, her patience and her encouragement made it possible for me to devote the time necessary to complete the study. A special, personal thank you is extended to you.

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CHAPTER I

INTRODUCTION

This chapter contains a discussion of the historical background of rural students commuting to urban schools, the purpose and rationale of the study, research questions and hypotheses, definitions, and the scope and limitations of the study.

HISTORICAL BACKGROUND OF RURAL STUDENTS COMMUTING TO URBAN SCHOOLS

Prior to 1969, Newfoundland children were educated through a denominational system of education in which each religious denomination operated its own schools through grants provided by the Provincial Department of Education. With the exception of a few larger communities, most of the hundreds of settlements scattered throughout the Island and Labrador had very small populations. Moreover, in many of these communities, two or more religious denominations were represented. Consequently, the educational facilities in these communities often consisted of two or three schools each with one, two, or three classrooms to serve all grades of students. The schools lacked laboratory, audio-visual, library and other facilities which are required in modern day schools. Frequently, the teachers were not qualified,

many were high school graduates with a four week summer program as their only professional training.

In 1968, the United Church, Anglican, and the Salvation Army denominations totally integrated their educational services, with the Presbyterians later joining the integration (Warren, 1973). Warren also points out that a degree of cooperation has developed among the Integrated, Roman Catholic and Pentecostal school system. This has resulted in the consolidation of educational services in many communities. Still, the small number of students in these communities made the provision of adequate educational facilities impractical. In an attempt to provide all students with the best available education, a wide-spread program of bussing high school students from the smaller communities to larger ones with better and more modern schools was initiated, and this practice has been in effect ever since.

Even before 1969, there was cooperation between various school boards, including those now comprising the Avalon Consolidated School Board, the one involved in this study. In 1966 and 1967, the junior high and senior high school students from Bauline, Portugal Cove, Pouch Cove, St. Phillips and Torbay began commuting to St. John's to attend school. Besides the awareness of educators that they could not provide educational facilities in and attract qualified teachers to these small communities, parents, according to the former superintendent of one of the school boards involved, provided much of the impetus for the trans-

porting of their children to St. John's. Because of the close proximity of these communities to St. John's, parents, through conversations with parents of St. John's students, became vividly aware of the discrepancy between the quality of education of their children and that of children attending schools in St. John's. They felt, as well as did educators, that transporting the rural students to St. John's would solve the educational disparity. Unfortunately, little consideration was given to the personal-social adjustment of the rural students to the urban schools - it was assumed that they would easily integrate. Apparently, this has not been the case. It is this researcher's observation that rural students attending the urban schools in the study remain as cliques and associate very little with their urban peers.

It is hoped, that the results of this study will provide educators of rural students who commute daily to urban schools with information that can be of assistance in their continuing endeavour to provide an educational environment in which students can develop academically, personally and socially.

THE PURPOSE OF THE STUDY

The purpose of this study was to determine whether there are significant differences between urban students and rural students, matched for sex, grade, academic program and socio-economic status, who commute daily to the same

urban schools on measures of, (1) attitude toward self - academic self-concept, (2) attitude toward school, (3) students' perceptions of how teachers view them, and (4) academic achievement.

THE RATIONALE OF THE STUDY

It is this researcher's observations as well as the expressed view of teachers, administrators, and counselors in urban schools that the academic achievement of rural students attending the same schools as urban students is substantially lower than that of their urban peers. This situation has been concerning educators for several years, yet, very little research has been conducted to empirically relate the apparent difference in academic achievement of the two groups of students to some of the factors which have been under speculation. Such factors include bussing, possible feelings of alienation toward school experienced by rural students, cultural differences between rural and urban students, and possible different attitudes toward education and future employment.

Numerous studies have been conducted in Newfoundland and elsewhere to establish a positive relationship between academic achievement and socio-economic factors. These studies, including Moss (1973), Pollard (1971), George (1970), Noel (1970), Wolfe (1961), and Warner, Havighurst and Loeb (1944), conclude that a positive relationship does exist

between academic achievement and socio-economic status as measured by a variety of indicators such as family's income, father's occupation, father's education and the number of children in the home. One can hypothesize then, that the apparent lower academic achievement of rural students may be related to lower socio-economic status. This relationship probably exists; however, this researcher believes that other factors may contribute to hypothesized achievement differences between the two groups. For this reason, the design of this study included a control for socio-economic status by matching rural and urban students on the basis of father's occupational class as determined by the Blishen scale (see Appendix D).

The literature includes several studies which show a significant correlation between I.Q. scores and socio-economic status (Jensen, 1968; Rohwer, 1968; Marks & Klahn, 1961; Floud & Halsey, 1961; Kagan & Moss, 1959, & Eells et al., 1951). It was anticipated that by controlling for socio-economic status, there would be little difference between the mean intelligence measure of rural students and that of urban students. An intelligence test, the Raven's Progressive Matrices, was administered to all students in the study and no significant difference between the means was found (Table 2).

Research has demonstrated that there does exist a positive relationship between academic achievement and (a) academic self-concept (Alford & Class, 1974; Coish, 1973;

Singh, 1972; Jones, 1970; LaBenne & Greene, 1969; & Brookover et al., 1962), (b) attitude toward school (Douglas, 1972; Neale, Gill & Tismer, 1970; Brodie, 1969; Neale & Proshek, 1967; Frost, 1964, & Rossi, 1961), and (c) teachers' attitudes toward students (Murphy, 1974; Spuck, Fruth & Magnoson, 1973; Sugrue, 1970; LaBenne & Greene, 1969; Rosenthal & Jacobson, 1968, & Davidson & Lang, 1960). It appeared that the students' perceptions of how teachers view them would have more relevance to this study than direct measures of teachers' attitudes, since it is the perception of the attitudes of significant people (i.e., teachers) that can influence behaviour. Teachers can attempt to prevent the communication of their attitudes toward students or, on the other hand, openly communicate them, yet, the teachers' attitudes may or may not be congruent with the students' perceptions of these attitudes.

Moreover, including students' perceptions on the study made it possible to measure all dependent variables from the student's frame of reference.

An extensive review of the literature failed to uncover any studies comparing educational attitudes of rural and urban students in urban schools. Consequently, one can make logical assumptions about the subjects of the study but, cannot support them with research done by others. Such an assumption is that there exists several factors which can contribute to possible negative educational attitudes of rural students in urban schools. Some of these factors have

already been mentioned in speculating on possible causes of apparent lower achievement of rural students.

The major hypothesis of this study is that rural students who commute daily to urban schools will score significantly lower than their urban peers on each of the attitude measures.

If such differences do exist, then they may have significant implications for the academic achievement of rural students since academic self-concept, attitude toward school, and students' perceptions of how teachers view them are all powerful motivational factors.

Allport states that an attitude

> ... is a mental and neural state of readiness to respond, organized through experience and exerting a directive and dynamic influence on behaviour (McGuire, 1969, p. 142).

Because attitudes are organized or learned through experience, the quality and quantity of situations which an individual experiences, as well as the variety of environmental factors which influence him, are paramount in the development of attitudes in general and educational attitudes in particular.

Moreover, it seems logical to assume that even after attitudes are established, they can be modified through other experiences and influences. Many educators, unfortunately, are not cognizant of the fact but as significant people in the lives of students, they can have a tremendous impact on the academic achievement of students by influencing students' perceptions of their academic ability, students' attitudes

toward school, and students' perceptions of how they are viewed by teachers.

Educators cannot alter the socio-economic status of students but they can help students develop more positive attitudes toward themselves and toward their school. Educators can also attempt to compensate for the lack of academic stimulation, assistance, and learning materials in the homes of many low socio-economic children. These efforts may help culturally deprived children to attain higher academic achievement.

Attitude measures have been selected then because of their apparent potency as determinants of achievement. If counselors, teachers and administrators become aware of any attitudinal differences between rural and urban students in an urban school, they may alter their treatment of students and/or implement a special program to facilitate positive attitudinal changes in students, subsequently, leading to possible improved academic achievement.

RESEARCH QUESTIONS AND HYPOTHESES

This study is designed to answer the following research questions:

(1) Is there a significant difference between rural and urban students of similar socio-economic status, matched on grade, sex and academic program, attending the same urban school, on measures of academic self-concept?

(2) Do rural students in urban schools differ significantly from their urban peers on measures of attitudes toward school?

(3) Are rural students' perceptions of how teachers view them significantly different from those of their urban peers?

(4) Is the academic achievement of rural students in the study significantly lower than that of their urban peers?

In an attempt to answer the preceding questions, the following research hypotheses have been developed:

(1) The academic self-concept of rural students in urban schools will be significantly lower than that of their urban peers of the same sex, in the same grade and academic program and of similar socio-economic status.

(2) Rural students will be significantly more negative in their attitudes toward school than their matched urban peers.

(3) In comparing the rural and urban students of the sample on their perceptions of how teachers view them, rural students will perceive their teachers as having significantly more negative attitudes toward them.

(4) The rural students in the study will score significantly lower than their urban peers on teacher-made tests measuring academic achievement in Mathematics and English. An average of the grades attained in Mathematics and English was also taken to provide a combined measure of academic achievement.

DEFINITIONS

The following are operational definitions of terms used in this study:

Rural students are those students who commute daily to an urban school from communities with populations of less than 2,000, outside the metropolitan area of St. John's.

Urban students are those students attending an urban school, who reside within the city limits of St. John's.

An urban school is a school within the city limits of St. John's.

Academic achievement is defined as the scores attained by a student on teacher-made tests in Mathematics and English, as well as an average score of the two subjects.

The socio-economic status of a student is a controlled variable, and is determined by assigning the occupation of a student's father to the numerically ranked occupational classes of the Blishen scale.

Intelligence measure is defined as the percentile rank assigned to a student's present level of intellectual functioning as measured by the Raven's Standard Progressive Matrices Test, a group administered nonverbal intelligence test.

Academic self-concept is defined as a student's feeling of capability in attaining academic success as measured by the Brookover Academic Self-Concept Questionnaire.

Attitude toward school is defined as the variable which determines whether a student has negative or positive feelings toward school, and which is measured by the Brokenshire Attitude Toward School Questionnaire.

Students' perception of how teachers view them is defined as the variable measured by the Checklist of Trait Names developed by Davidson and Lang.

SCOPE AND LIMITATIONS OF THE STUDY

When interpreting the results of this research and reflecting on its implications, one should be aware of certain limitations of the study as well as the uniqueness of its setting.

Newfoundland is primarily a rural province with hundreds of tiny communities scattered throughout the Island and Labrador. The larger communities with populations ranging from 5,000 to 30,000 cannot, according to Canadian standards, be considered urban centers. Consequently, if one uses a population of 50,000 as a minimum criterion for

an urban center, then the capital city, St. John's, with a population of approximately 125,000 is the only one in this Province, and is the setting for this study. However, this is not meant to imply, though, that the study has little relevance to the educators of children in other areas. On the contrary, wherever rural students commute to urban centers to attend schools, one must be cognizant of the effects that this translocation can have on them and how their academic achievement can be subsequently affected. Furthermore, it is a widespread practice in Newfoundland for students from the smaller communities to commute to larger centers where central high schools have been established. Many of the factors which can affect the educational attitudes and academic achievement of rural students in urban schools may also exist where rural students commute to central high schools in larger communities.

Even though the subjects of this study were enrolled in only two schools in St. John's, a junior high school and a senior high school, they were representative of rural and urban students attending co-educational high schools in St. John's. In fact, these schools were chosen because they are representative of a cross-section of socio-economic levels. Another important factor in this particular choice of schools is that practically all the students from the junior high school, because of zoning regulations, move to and constitute most of the student body of the senior high school. This permitted an examination of attitudes in the same school

system of students in grades seven to eleven.

This study does not deal extensively with the possible effects of bussing per se. The author recognizes this as a limitation but through experience working with commuting students and in examining the results of a Newfoundland study conducted by Gill (1972), and studies by White (1971) and Reich (1968) conducted in the United States, he is led to believe that the direct effects of bussing in the setting of this study may not be as demonstrative as is speculated by many people. In the present setting, many urban students must leave their homes as early in the morning as rural students in order to get to school on time and arrive home from school just as late. Moreover, many urban students must walk, hitch-hike, or take a city bus, varying distances across the city, while the rural students have the convenience of a bus carrying them from their homes directly to the school.

Studies by Hiscock (1972) and Morgan and Kurtzman (1969) have shown that transported students do not participate as extensively in extra-curricular activities as non-transported students. Direct observation by this author has confirmed that the same situation exists in the setting of this study, but the reasons for this lack of participation may not be as obvious as they would appear. This is indicated by an attempt by the school board involved in this study to offer buses to rural students later in the afternoon permitting them to become involved in extra-curricular activities. Apparently, the students were not at all receptive to this

idea and it was not pursued. One can infer, then, that there may be other reasons for rural students' lack of participation in extra-curricular activities.

The scope of this study is limited to the attitudes of junior high and senior high students because the rural students in the setting generally receive their primary and elementary education in their own settlements and commute to urban schools once they reach grade seven.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this chapter is to review the literature as it relates to the variables being measured in this study. Since this study made comparisons between urban students and rural students who commute daily to urban schools on various attitudinal and achievement measures, research of the literature making rural-urban comparisons, generally, was also relevant. Rural and urban students were matched on socio-economic status and the literature, as reviewed in this chapter, indicates that by so doing one could expect little difference in I.Q. scores as well. This, in fact, was supported by this study.

The chapter is divided into five sections which are as follows:

I Academic Achievement and Academic Self-Concept

II Academic Achievement and Attitudes Toward School

III Academic Achievement and Teachers' Attitudes Toward Students Including Students' Perceptions of These Attitudes

IV Rural-Urban Differences

V The Relationship Between Socio-economic Status and Performance on I.Q. Tests

I ACADEMIC ACHIEVEMENT AND ACADEMIC SELF-CONCEPT

With hundreds of studies having been conducted relating self-concept, and especially academic self-concept, to academic achievement, and the vast majority of these studies showing a significant positive correlation between the two variables, it can be considered a truism that self-concept and academic achievement are strongly related variables.

Some of the most extensive research is that conducted by Brookover et al. (1962, 1965, 1967) encompassing measures of self-concept of ability and academic achievement of white junior high and senior high school students in the United States. The results of the studies show a significant and positive correlation between self-concept of ability and academic performance, even when measured I.Q. is controlled.

The most extensive Newfoundland study done in this area was conducted by Singh (1972) who, using the same instrument as Brookover to measure self-concept of ability, arrived at significant correlations of .49 for boys and .51 for girls. His sample consisted of 1219 seventh grade students. Singh quotes studies done in Germany and Lebanon which also show significant positive correlations between self-concept of ability and academic achievement.

Additional studies have been done in other settings and with different subjects. One such study is that conducted by Smith (1972) whose research findings, while working with

black college students, again showed a significant positive correlation between academic self-concept and academic achievement. Roberts' study (1974) was inconclusive. His subjects were high school students in the ninth and tenth grades who attended either a predominantly black or integrated high school. The data indicated non-significant relationships among self-concept, socio-economic status and level of academic achievement. Roberts, realizing that his findings were contrary to the literature offered some plausible explanations for his results. Krupezak (1972), whose subjects were grade six students from a composite group of black, white and Spanish children, concluded that

> a statistically significant, positive correlation between student self-concept and achievement was observed, but it was noted that self-concept scores predicted grade point average best, reading score next, and arithmetic score next (p. 3388 A).

Caplin (1969), in an interesting study comparing the self-concepts of children in segregated and desegregated schools, concluded that children attending segregated schools (white and Negro) had less positive self-concepts than children in desegregated schools. His relevant findings indicated that children with more positive self-concepts showed higher academic achievement.

With this supportive evidence, as well as an additional list of studies offered by the authors, one must concur with LaBenne and Greene (1969) who state that "empirical and experimental data clearly indicate a direct relationship

between the child's self-concept and his manifest behavior, perceptions, and academic performance" (p. 24). Coombs (1964) arrived at a similar conclusion by stating that "a major determinant of how well one will be able to function is his feeling of capability of functioning" (p. 47).

Brookover, Patterson and Thomas (1962) propose that large numbers of students are being needlessly held back in academic achievement by their low self-concepts of academic ability. They believe that self-concept of academic ability functions as a threshold variable setting limits of achievement for the individual.

Frequently, students set relatively low academic standards for themselves because they feel incapable of doing any better. These conceptions of limited abilities to learn appear to be self-fulfilling prophecies and subsequently contribute, in many cases, to underachievement. Rosenthal and Jacobson (1968), Larsen (1975), and others have demonstrated that teachers' expectations can influence students' conceptions of their academic ability. Teachers, as well, often contribute greatly to students' developing low academic self-concepts by failing to provide encouragement to students or opportunities for all students to achieve some degree of success.

If one is convinced that a significant positive correlation does indeed exist between academic self-concept and academic achievement, "then a logical conclusion is to seek means of enhancing the academic self-concept ... that is,

the student's perception of his ability to achieve in school tasks ... in the concomitant hope of subsequently increasing achievement" (House & Moore, 1974, p. 1).

II ACADEMIC ACHIEVEMENT AND ATTITUDES TOWARD SCHOOL

There exists a wide variance of opinions on the relationship between attitudes toward school and achievement. Robinson (1975) has reviewed the results of several studies relating these variables, and has noted that the results can be placed on a continuum from a strong positive to near zero non-significant correlations.

> It is commonly thought that children's attitudes toward school and particular subjects have a positive relationship with their school achievement. Intuitively, this is an acceptable truism. However, upon closer examination of the meaning of attitude and of how attitudes theoretically should affect behavior, this truism can be questioned (Robinson 1975, p. 3).

Apparently, Robinson does not accept Allport's contention that an attitude is a state of readiness to respond. Moreover he must also take exception to Allport's belief that an attitude exerts both a directive and dynamic influence on behavior. Allport's definition of an attitude is quoted on page 7 of this study. Jackson (1968), in the same context, says that "the relationship between attitudes and scholastic achievement, if it exists at all, is not nearly as easy to demonstrate as common sense would lead us to believe it might be" (p. 80). Nevertheless, this researcher's review of the

literature indicates that the majority of studies designed to determine whether or not a significant relationship exists between attitudes toward school and academic achievement has demonstrated a positive correlation. It is important to add that no studies were uncovered that indicated a negative correlation between the two variables.

Apparently, much of the variance in the results of the many studies done can be accounted for by the variety of instruments used, the sub-variables measured by the different instruments - attitudes toward teacher, attitude toward curriculum, attitude toward peers, and so forth, the different measures of academic achievement, and the variety of settings in which the studies were conducted.

In this study, it was believed that rural students may have reasons to feel alienated toward their urban school. Some of these reasons may include having to leave their own community and go to a city to attend school, feelings that the curriculum does not suit their needs, and feelings of isolation among urban students. Consequently, it was felt that students' attitudes toward school, in this study, could be very important predispositions to their academic achievement and thus should be empirically evaluated.

The results of a study conducted by Roberts (1972), whose subjects were fifth grade students, indicated a positive relationship between self-concept and achievement level, while attitudes toward school and achievement level appear to be independent of each other. Jackson and LaHaderne (1967),

as well, present evidence to support the idea that scholastic success and attitudes toward school are typically unrelated to each other. The study conducted by Neale, Gill and Tismer (1970), however, shows opposing results. Their data reveals significant correlations between attitudes and achievement. They explained the discrepancy by noting that Jackson's and LaHaderne's study concentrated on measures of general satisfaction with school while their study measured attitudes to school subjects. Neale, Gill and Tismer conclude that attitudes toward school subjects are more related to school achievement than is a general attitude toward school. Tocco and Brickes (1971) showed that student achievement in mathematics is directly related to student attitude toward mathematics.

Representative studies which indicate a positive relationship between attitudes toward school and academic achievement include that of Frost (1965) who seems to completely contradict Jackson and LaHaderne (1967) by listing several studies which support the contention that general attitudes toward school influence underachievement. Brodie (1964), studying eleventh grade students, concluded that 'satisfied' students outperformed 'dissatisfied' students at a statistically significant level. Similarly, Phelps (1956), whose subjects were high school students, concluded that the overall attitude of the achievers, in his study, toward school is more favourable than that of the underachievers. He also concluded that achievers are more

satisfied with their participation in student activities than are under-achievers. The results of a study conducted by Evans (1970), again working with high school students indicated

> that the students expressed attitudes toward education and his academic progress were congruous. On the Attitude Survey, high-performing students expressed more positive attitudes toward education than low-performing students (p. 3264 A).

Still another study of high school students' attitudes toward school, conducted by Sorum (1973) indicated that

> the most favorable combinations of factors affecting student success in secondary schools in North Dakota were: (a) a positive student attitude toward school, (b) positive family ties and influence, and (c) a high school principal whose behavior is characterized by his evident effort to 'move the organization through example' (p. 2995 A).

Research involving elementary students includes that of Dusewicz (1972) and Robertson (1972). The results of Dusewicz's study indicate that the Attitude Toward School in General Factor was a consistently significant predictor in reading, language and arithmetic achievement. Robertson concluded that

> pupil's attitudes toward school were significantly related to ability as measured by intelligence tests; achievement as measured by school grades and peer acceptance as determined by sociometric tests (p. 72 A).

In summary, it can be concluded, as does Douglas (1972) that "the attitudes and points of view pupils maintain regarding school and its personnel determines, at least in part, their ability to succeed academically" (p. 34).

III -ACADEMIC ACHIEVEMENT AND TEACHERS' ATTITUDES TOWARD STUDENTS INCLUDING STUDENTS' PERCEPTIONS OF THESE ATTITUDES

"Do teachers make a difference? Of course they do" (Mood, 1970, p. 21). Mood describes the variance in teachers' personalities and capabilities and the different influences they can have on students, from "loving teachers who bring lifesaving affection to miserable children of acrimonious families" (p. 21) to "idiots who destroy children's self-confidence by convincing them they do everything wrong" (p. 21).

LaBenne and Greene (1969) emphasize the importance of teachers in the life of any child through the recollection of many people of a teacher as the most significant person in their lives. In a study conducted by Harrison and Westerman (1973), a high percentage (63.9) of university students indicated that they had teachers who influenced them in high school.

> The teacher's understanding of a student's abilities, environment, and attitudes is a crucial factor in learning, and the understanding of these factors is based upon the teacher's perceptions of the student (Spuck, Fruth & Magnason, 1973, p. 107).

Murphy (1974), after reviewing the available research, has concluded that teachers can influence a child's chances at school. He says that children are known to react to their teachers' opinions of their abilities.

The majority of studies reviewed in the literature indicate a strong relationship between teachers' attitudes

toward students and students' academic achievement, however, the results of some are varied and inconclusive. The results of Gansneder's study (1970) seem to indicate that teachers' attitudes make a difference on students' achievement in 'poor black' schools but not in 'poor white' or middle class white schools. Mayberry (1971) in analysing the data of his study concludes that

> taken as a whole the findings of the study suggest that the most important affective response for a teacher; at least at the college level, is positive attitude shown by interest in the material he is dealing with. Interest in the students is of secondary importance (p. 13).

Studies which are more positive in their results include that of Kilanski (1971).

> Evidence in this study supports the belief that the attitude of a teacher toward his students is a significant variable in the reading achievement of sixth grade students (p. 1259 A).

Sugrue (1970), working with high school students, concluded that

> it has been shown by research that task achievement of any kind relates to positive feelings toward the group, its norms, its activities and its leader (p. 19).

In his study of Newfoundland grade seven students, Singh (1972) showed that perceived evaluations by significant others - parents, friends and teachers, were significantly related to self-concept of academic ability. As noted in an earlier section of this chapter, Singh also concluded that self-concept of academic ability is significantly related to school achievement. Schneider and Brookover (1974), in comparing students' achieve-

ment in various schools, made some interesting observations. They noted that in two high achieving, low socio-economic urban schools, students appeared to perceive that their teachers expected them to achieve in school. The teachers in these schools seemed to have an extremely hopeful attitude concerning students' future academic improvability and prospects for success.

The necessity for teachers to form positive attitudes toward students' abilities is illustrated quite vividly by Rosenthal and Jacobson (1968). They state that "teachers' expectations, however derived, can come to serve as an educational self-fulfilling prophecy" (p. viii). They also include the results of a study which indicate that "variations in teachers' expectations and standards contribute to differences in pupil attainment and aspirations" (p. 52). "Teachers everywhere I went seemed preoccupied with the idea of 'what to expect' so seldom with what they might effect" (Rosenthal & Jacobson, 1968, p. 53).

The results of Kester's and Letchworth's study (1972) are particularly interesting. The study does not provide support for the assumption that teachers' expectations of student performance based on a knowledge of a student's I.Q. affect his achievement or attitude toward school or himself. However, the teachers' expectations did influence their interaction with the students; the more positive-accepting-supportive the student's behavior, the more the teacher tended to respond in a positive-accepting-supporting manner.

Kester's and Letchworth's study is one of several involved in a controversy over the results of Rosenthal's and Jacobson's research.

Rosenthal's self-fulfilling prophecy is supported by Krupczak (1972). He stated that

> in this study, students' reported self-concept of academic ability and teacher-perception of student academic ability were better predictors of grade point average than was a conventional intelligence test (p. 3389 A).

Jeter (1975) offers an interesting slant to the controversy. He believes that teachers' expectations are not automatically self-fulfilling but that they must be translated into behavior that will communicate expectations to the student and will thus shape his behavior toward expected patterns. In other words, the student must be perceptive of those expectations.

Apparently, only a small number of studies relating students' perception of their teachers' attitudes toward them and their academic achievement have been conducted as only three were located in a review of the literature. Davidson and Lang (1960), whose subjects were fourth, fifth and sixth grade students, conclude that

> the more positive the children's perception of their teachers' feelings, the better was their academic achievement and the more desirable their classroom behavior as rated by the teachers (p. 72).

The findings of Borovetz (1975) are similar. He concluded that when sixth grade students had positive perceptions of their teachers' feelings toward them, reading achievement scores

were higher. Fuller (1970), in studying the relationship between accurate empathy, nonpossessive warmth and genuineness as perceived by nursing students and their achievement, concluded that genuineness and nonpossessive warmth in the teacher as perceived by the students appear to have a significant effect on the students' grades.

In conclusion, Gilmore (1974) in examining specific factors which can positively influence the educational desire of a student, is obviously warranted in including on his list of important variables, teacher attitudes. His contention that teacher attitudes toward students have an influence on student achievement is supported by the bulk of research carried out on this topic to date.

IV RURAL-URBAN DIFFERENCES

A search of the literature uncovered very few studies dealing specifically with a comparison of urban students who commute daily to urban schools on any of the variables being measured in this study, or in fact on any other personal or social variables. However, some of the research literature may relate indirectly to the questions being examined in this study and permits cautious speculation as to any differences between rural and urban students on a variety of educational and psychosocial variables.

A factor which may limit the generalizability of some of the related research to aspects of this study Is that most

of the studies in the literature relate to primary and elementary children, with very few dealing with high school students.

An extremely important variable not controlled for in many of the studies making rural-urban comparisons is socio-economic status (S.E.S.). This, it is felt, lessens the credibility of the results in that any observed differences may not be due to the different environments of rural and urban students but may be more dependent on differences that are more socio-economic in nature.

Academic Achievement

Hunka (1958), studying the effects of transporting rural children to urban schools, demonstrated that there was a difference in educational achievement between transported and non-transported students at grade two level but not at grade four or six. Hunka speculates that the difference might be due to fatigue and isolation of the child from the maternal atmosphere of the home. This might be a factor if rural children have to travel long distances and the urban children live in close proximity to the schools; this, of course, is not always the case. Unfortunately, Hunka's study does not control for intelligence or socio-economic status. Socio-economic status could be a very important variable because in Alberta, the setting of the study, many of the rural children came from financially secure farm families who could conceivably provide an environment as conducive to

academic achievement as the urban families.

While working with college freshmen, Shaw and Brown (1957) realized that

> the size of the towns indicated by subjects as their present home residences revealed an interesting and possibly significant trend. Forty-seven percent of the underachievers indicated their present home to be in a town of less than 2,000 population. In the achiever group, only seventeen percent indicated residence in towns this small (p. 198).

Straley (1956), studying the effects of transportation on academic achievement and social adjustment of high school students, included both rural and urban students in his study, but unfortunately did not distinguish between them. He concluded that when unmatched groups of transported seniors and non-transported seniors were compared on academic achievement, the difference in favour of non-transported groups was statistically significant. However, when the groups were matched on sex and I.Q., there was no significant difference between the groups composed of girls, or groups composed of boys and girls, but in the groups composed of boys, there was a statistically significant difference in favour of the non-transported group.

A more recent study, conducted by Yancey (1973), with sixth grade rural and urban students as subjects, indicates that there is a significant difference in the mean scores of the academic achievement of rural and urban southern United States sixth grade students. From the abstract of the study one infers that the urban students' achievement was higher than that of the rural students.

Downey (1965) showed that grade nine urban students in Alberta attained higher averages than grade nine rural students: 60.6 percent compared with 56.5 percent. He concludes that pre-high school educational experiences of rural students are inferior to those of urban students. Downey believes that the elementary and junior high schools are partially responsible.

> But very likely, too, the richer cultural environment that is the privilege of the city youngsters contributes to their higher educational level. In any case it may be concluded at the outset of this phase of the inquiry, that rural students enter high school seriously disadvantaged (Downey, 1965, p. 39).

The results of this study may be extrapolated to the setting of this study where rural elementary students, who commute to urban junior high and senior high schools, must compete with their urban peers. During the 1976-1977 school year, the Canadian Test of Basic Skills was administered to all grade six students in this province. The results for students attending schools under the jurisdiction of the school board involved in this study, showed that students attending rural schools scored significantly lower on all subtests than the averages computed for all students (rural and urban combined) within the school board. This information was supplied by official school board records. The rural students, then, may find that they already are educationally disadvantaged, as well as having to adjust personally and socially to their new setting.

In comparing rural children's and urban children's performance on the Canadian Test of Basic Skills, Scharf (1974)

concluded that even though children enrolled in rural schools achieved as well as children in urban schools, a pattern favouring the urban children in the more senior years in the Work and Mathematics Test seemed to occur.

> Interviews with principals yielded a general subjective belief that while no differences would be found in the 3 R's, differences between rural and urban schools and large and small schools, would appear in the subject areas of Science, Social studies and Physical education (Scharf, 1974, p. 139).

Again, it seems apparent that if rural children began commuting to urban schools after receiving their earlier education in small rural schools they may be educationally disadvantaged.

The limited number of studies comparing the achievement of urban students and rural students who commute to urban schools makes it difficult to arrive at any valid conclusion. This present study attempts to help fill the apparent void by empirically examining some of the significant questions relating to apparent rural-urban differences.

Personal and Social Adjustment

This author has had six years teaching experience in an urban school to which rural students commute, and one year teaching in a rural elementary school from which students graduated to attend an urban junior high school. Through direct observation of the interpersonal relationships between rural and urban students and conversations with these students, as well as through conversations with teachers and counselors

in several different schools, it can be inferred that, at least in the setting of this study, many rural students who commute daily to urban schools have problems in personal and social adjustment. The literature indicates that this situation occurs in other educational settings and geographical areas as well.

Sociometric studies seem to indicate that urban students tend to reject rural students, but the reverse is not necessarily true. In a study conducted by Orzack (1959), urban students consistently preferred other urban students in all the areas covered. The rural students in the same urban school preferred other rural students as friends, co-workers and dates, but overrepresented urban students in selecting leaders and enemies. Apparently the rural students had more confidence in the urban students as leaders than they did in themselves. Soares and Soares (1971) offer one factor which may contribute to this. They believe that the change from neighbourhood schools to integrated high schools, with their greater competitiveness and less security, contribute to the lowering of self-images. Results similar to Orzack's were found by Gill (1972) and Hiscock (1972). However, instead of commuting to urban schools, the transported students were bussed to regional high schools in small towns with populations ranging from 1100 to 2900. Both studies showed that transported and non-transported sub-groups choose friends from within their own groups. Hiscock's data indicated that the transported and non-transported

students rejected more members from their own group than from the other group. Gill concluded that rejection was not a problem in the classroom; however, in specific work and play interactions, non-transported students were rejecting transported students. In a study by Bonney (1951), rural and urban high school students enrolled in an urban school were asked to list the names of others in the school who they considered to be among their best friends. In comparing the friendship choices of the rural and urban students, a consistent trend in favour of the urban students was demonstrated.

> These differences are not large, but again they are consistent in showing the bussed students to be less well accepted 'as persons' in their school groups than were the town students (Bonney, 1951, p. 237).

An important question not adequately dealt with in these studies is whether the problems of integration or rejection are really due to the students' places of residence, or more closely related to socio-economic status, intelligence and other related factors.

Personality differences between rural and urban students have been demonstrated by Munson (1959) and Hatheway et al. (1959). Munson, working with children of various ages concluded that suburban children exhibited the highest degree of adjustment, urban children were second highest, rural children were third, and town children showed the poorest adjustment. Munson reached this conclusion by comparing the different groups of children on measures of sense of personal worth, feelings of belonging, social skills and school

relations. In all cases, the suburban and urban children scored significantly higher than rural and town children.

Hatheway et al., comparing rural and urban ninth grade school children concluded that "rural boys and girls in general express more feelings of shyness, self-deprivation, suspicion of others, and a few fears rational to rural life" (p. 346). If one can infer that sixth grade students also experience these feelings, then their transition to urban junior high and senior high school would be all the more traumatic.

In an interesting study conducted by Aubertine (1969), students who had attended both rural and urban schools discussed their experiences. The students were convinced that in the smaller school community, they were more aware of a sense of personal value and felt more socially fulfilled and accepted. One student stated that in the urban school, shy students just stayed introverts most of the time, due to large classes giving no opportunity or encouragement to bring themselves out. Irvine (1973) believes that

> rural children, like children in other communities, need an educational program that takes them from the point where they are in their environment and their stage of personal development into the broader world (p. 18).

It is possible that if rural elementary students were to experience such programs their transition from small rural schools to larger urban schools would be facilitated.

Vocational and Occupational Aspirations

It is generally believed that vocational and occupational aspirations are important motivational forces on students' academic achievement. The literature, although limited, seems to indicate that urban students have higher vocational and occupational aspirations than do rural students. Kuvlesky and Ohlendorf (1968) quote a study conducted by Lipset in 1955 which demonstrates that relationship. They also point out that a number of studies that cover a wide geographical area in the United States, a broad expanse of time and a range of age levels have supported Lipset's contention. The research conducted by Kuvlesky and Ohlendorf, themselves, indicate that

> urban youth aspired to high prestige professional positions at a rate three times greater than rural boys ... conversely, rural boys selected low prestige jobs, both blue-collar and white-collar, much more frequently than urban counterparts (p. 148).

A study conducted by Middleton and Grigg (1959) indicated that there was no rural-urban difference among Negro males and females in occupational aspirations. However, white urban males had higher occupational aspirations than white rural males. White urban females and white rural females showed no significant differences. A more recent study, Davis (1972), showed that both urban males and females had significantly higher occupational aspirations than rural males and females. In a Canadian study, dealing with these variables, Forcese and Siemens (1965) concluded that higher level occupations

were aspired by urban students. "This tendency toward higher aspirations among urban than among rural youth is in conformance with American findings" (Forcese & Siemens, 1965, p. 9). In a study on the career decisions of grade eleven students in Newfoundland, Parsons et al. (1974) related students' decisions to a variety of variables. The variable relevant to this study, of course, is rural-urban differences. It should be noted that Parsons et al. included students from five of the larger towns in Newfoundland as well as St. John's, in the urban population. Their findings clearly indicate that urban students are more inclined to attend universities and the College of Trades and Technology than rural students. Rural students, on the other hand, are more inclined than urban students to attend vocational schools. This seems to indicate that urban students aspire more to professional, managerial, and technical occupations than rural students, while rural students show a greater interest in skilled and semi-skilled trades.

Educational Attitudes and Aspirations

The hypotheses of this study state that urban students and rural students who commute daily to urban schools differ in both educational attitudes and academic achievement. The literature, apparently, supports these hypotheses. All of the studies reviewed, dealing with educational attitudes and aspirations, seem to indicate that urban students have higher educational attitudes and aspirations than rural students.

Middleton and Grigg (1959) showed that both white males and white females from urban centers have higher educational aspirations than those from rural areas, but neither black males or black females showed significant rural-urban differences. Dunkelberger et al. (1974) working with young adults, concluded that urban white males were most oriented toward college, while rural white females were least oriented. Black men and women from rural and urban backgrounds were substantially equal in their orientations toward college, although the orientation was somewhat more pronounced among urban residents. After viewing the results of several studies, Nelson (1971) concludes that

> the findings are clear and persistent; high school students from urban areas are more likely than those from rural areas to plan on attending college (p. 3).

In analyzing the data from his own research, however, Nelson found that rural students register academic scores similar to those of urban students, are as strongly encouraged to attend college as urban students, and are as likely, and perhaps more likely, to enjoy school as urban students. George (1970), as well, reviewed the literature and concluded that a major factor related to educational aspirations is one's residential background. "The urban students have greater educational aspirations compared to their rural counterparts" (George, 1970, p. 13). He, however, determined that there was no significant difference between rural and urban students regarding their attitudes toward grades. Forcese and Siemens (1965), controlling for S.E.S.,

still showed that urban students tend to have higher educational aspirations than rural students.

Although educational aspirations is not a variable that was measured in this study, educational attitudes were studied. The literature indicates that urban students have significantly higher educational aspirations than rural students, but the number of studies measuring educational attitudes is so limited that one cannot, without further research, ascertain if a similar relationship exists between urban and rural students on educational attitude variables.

In summary, the literature indicates that rural and urban students generally appear to differ significantly on a variety of personal, social, and educational variables. These differences would seem to place urban students in an advantageous position to rural students if both urban and rural students were placed in the same educational setting. In an urban school, it is possible that urban students feel more positively about themselves, school and teachers, than rural students who commute to the school from their own small communities. It is also possible that these positive feelings could contribute to higher academic achievement. This study was designed to substantiate or nullify these suppositions.

V THE RELATIONSHIP BETWEEN SOCIO-ECONOMIC STATUS AND PERFORMANCE ON I.Q. TESTS

A review of the research literature indicates that there is an abundance of empirical support for a high cor-

relation between socio-economic status (S.E.S.) and intelligence measures. Apparently, in designing this study one could anticipate little difference between the mean percentile ranks attained on the Raven's Standard Progressive Matrices by the rural and urban students of this study.

Typical relationships between I.Q. and S.E.S. in the studies reviewed by Eells et al. (1951), are represented by a correlation coefficient of around .35 with half of the studies reporting coefficients ranging between .25 and .50.

> The fact that there is a definite and measurable relationship between scores which pupils obtain on intelligence tests and the social status, or cultural background, or their parents has been known since the time of Binet (Eells et al., 1951, p. 3).

Pinneau and Jones (1958), as well, in reviewing studies dealing with intelligence and cultural variables list several which show positive correlations between I.Q. and S.E.S. One study showed no signficant difference in I.Q. based on S.E.S. Since this is contrary to usual findings, Pinneau and Jones raise the question as to whether the results reflect special characteristics of the sample or of the Wechsler Intelligence Scale for Children (WISC) at the particular age of grade five children. Marks and Klahn (1961), however, using the WISC, demonstrated that occupational ratings of the father correlated positively with I.Q. in both younger and older groups of children. Girls, though, showed substantially higher correlations than did

boys: .42 compared with .19 for verbal and .45 to .17 in the full scale. "The closer relation between occupational level and I.Q. among girls than among boys stem from the higher peer value which girls put upon middle class verbality" (Marks & Klahn, 1961, p. 273). Kagan and Moss (1959), using the Stanford-Binet again, showed significant correlations between S.E.S. as indicated by father's occupation and student's I.Q. for boys and girls of ages three years, six years and ten years. Girls showed substantially higher correlations: .26 to .66 compared with .17 to .43 for boys. In his study of boys in public schools of New York, Crowley (1959) does not give the exact correlations nor does he indicate the I.Q. tests used, but he concludes that a significant positive relationship does exist between I.Q. and S.E.S. for the total group of students.

Apparently, the findings remain quite consistent; a significant positive correlation does exist between performance on I.Q. tests and S.E.S., regardless of the test used or how the social status is defined or measured. Probably the most vivid illustration of this relationship, located in a review of the literature, is that presented by Floud and Halsey (1961). The following is an abbreviated form of one of their tables.

Father's Occupation	Mean I.Q.	S.D.
Professional, Managerial	113.50	13.82
Clerical	111.36	15.02
Supervisory, small shopkeepers, etc.	107.58	14.84
Manual workers, skilled	101.69	14.41
unskilled	96.00	14.25

(see Table 3 of Floud and Halsey, 1961, for complete data)

It is important to note that because lower class children tend to attain lower scores on I.Q. tests than middle or upper class children, one should not infer that lower class children are innately less intelligent. Eells et al. (1951) believes that S.E.S. difference in I.Q. is due entirely to environmental or cultural influences, while Jensen (1968) believes that cultural differences do have some influence but that S.E.S. differences in I.Q. reflect "perhaps to a greater degree, genetically determined differences in biological potential for intellectual development" (p. 1). This author would like to emphasize the tremendous influence a child's family background has on performance on an I.Q. test. If the child is culturally deprived he cannot be expected to perform as highly as a child who develops within an intellectually stimulating environment. This, however, has no bearing on his innate intellectual potential - it simply means that his potential has not been developed. Moreover,

> most intelligence tests are biased in favor of middle class children to the subsequent disadvantage of children from the lower class. Some of the reasons for the bias are that current intelligence tests are generally 'validated' in terms of school performance, are characteristically presented in middle class vocabulary and linguistic forms, and consist of materials which have relatively less interest for lower class children or less relevance of their value systems and daily experiences" (Haggard, 1954, p. 149).

CHAPTER III

METHODOLOGY

The purpose of this chapter is to present the design of this study and to describe the procedure used in conducting the research. The chapter is divided into the following four sections:

I General Design of the Study

II Sampling

III Selected Variables and Instrumentation

IV Statistical Procedures

I GENERAL DESIGN OF THE STUDY

This study is a comparative analysis of urban and rural students who commute daily to the same urban schools and who are matched for sex, grade, academic program and socio-economic status. The variables that were studied are: (1) academic self-concept, (2) attitude toward school, (3) students' perceptions of how teachers view them, and (4) academic achievement.

The research design is basically ex post facto (Kerlinger, 1973) as no efforts were made in this study to manipulate any of the research variables. The subjects had already developed their attitudes and had been assigned their indices of academic achievement before the research

of this study was conducted. Moreover, the subjects were categorized rural or urban on the basis of criteria which they had also already met before the commencement of research.

II SAMPLING

Selection of the Sample

The sample consisted of 224 rural students, attending two urban schools, whose permanent address, as reported in school records, was in one of the several small communities outside the metropolitan area of St. John's but within a radius of twenty-five miles from the city. In an effort to include only students who are indigenous to the communities, one criterion which was met in order to qualify as a rural student was the necessity for the families to have been residents in the communities for at least five years.

In order to make valid comparisons, the 224 rural students were matched with 224 urban students whose permanent address is within the city limits of St. John's. Matching was done on the basis of socio-economic status as indicated by the Blishen scale (see Appendix D), sex, grade, and academic program. Since students are registered in a wide variety of curriculum offerings provided in each school, it is important that rural students be matched with their urban counterparts in the same academic program. Table 1 shows the number of rural and urban subjects in each grade.

Description of the Sample

For identification purposes, the schools in this study will be designated School A and School B, for the remainder of the study.

Description of School A. School A is a relatively new junior high school having opened in September, 1972. In the 1976-1977 school year, it had an enrollment in the vicinity of 950 students in grades seven, eight and nine. Of these students, approximately 20 percent were rural. The school offers a comprehensive academic program intended to meet the needs of students with varying intellectual capabilities. It also has a special education program designed to remediate specific learning disabilities experienced by some students. The graduating grade nine classes from this school constitute the majority of the grade ten classes of School B.

Description of School B. School B is older than School A. However, as it was opened in September, 1960, it still can be considered a modern high school for grades ten and eleven students. During the 1976-1977 school year, rural students constituted approximately 15 percent of the close to 775 total student population. The academic curricula of the school are developed around a streaming procedure channeling students into either a general pass (non-university preparatory) program, a matriculation university preparatory program, and an honours program.

Grade ten students are evaluated on the basis of teacher-made tests, projects, and so forth, while grade

eleven students, generally, write provincial examinations with their final marks comprising 50 percent from the school's evaluation and 50 percent from the provincial examinations. If grade eleven students maintain an average of 75 percent throughout the year and their marks are fairly consistent, they may be recommended to and accepted by Memorial University of Newfoundland and other specific post-secondary educational institutions without writing the provincial examinations.

III SELECTED VARIABLES AND INSTRUMENTATION

This study utilized four instruments to collect data and each, with the exception of the Raven's Standard Progressive Matrices, was administered at approximately the same time to all students in the sample (rural and urban) enrolled in the two schools. The instruments were administered in February of 1977, just after the students had completed their mid-term examinations. This was an appropriate time because students had been enrolled in their respective classes for approximately one half of the school year thus permitting time for them to have established definite feelings about their capability to succeed in their present grade, and to have developed attitudes toward school and their teachers. The teachers, as well, probably had developed certain response patterns to individual students as well as to the whole class. This time was also appropriate because the results of the mid-term examinations

could be used as an indication of the students' academic achievement. As stated in Chapter I, the indices of academic achievement were the marks attained by students on Mathematics and English examinations as well as the average mark resulting from combining students' scores on the two examinations.

Academic program for students in School A refers specifically to one of four different English programs which differ in levels of difficulty. However, students assigned to an English program of a certain difficulty, generally are assigned to programs of similar difficulty for other subjects. School B, however, has three, rather rigid, academic programs. To permit analyses of data collected from students in grades seven through to eleven, in the two schools, and to make comparisons, students in the sample from School A, assigned to levels 2 and 3, were grouped together and called level 2 (average); level 4 was subsequently referred to as level 3 (low), while level 1 (honours) remained unchanged.

The socio-economic status of students was determined by recording the fathers' occupations as obtained through school records. The Blishen Scale (see Appendix D) was used to numerically categorize the fathers' occupations.

The four instruments used are:

(1) The Michigan State University Self-Concept of Ability Scale (see Appendix A) to measure academic self-concept;

(2) The Brokenshire Attitude Toward School Questionnaire (see Appendix B) to measure attitude toward school;

(3) Davidson's and Lang's Checklist of Trait Names (see Appendix C) to measure students' perceptions of how teachers view them;

(4) Raven's Standard Progressive Matrices to measure intelligence. This instrument was group administered in December, 1976 to all subjects.

Academic Self-Concept

In the development of the Self-Concept of Ability Scale, the original list of items was reduced to sixteen which was administered as a formal pretest. As a result of item analysis and Guttman scaling, the sixteen items on the pretest were reduced to eight.

The scale, consisting of eight multiple choice items is scored from 5 to 1, with the higher scores indicating higher self-concept. Each item requires the individual to compare himself with others in his academic environment on the basis of academic capability.

Reliability and Validity

The following information on reliability and validity was prepared by Paterson and is found in Brookover, Erickson, and Joiner (1967).

In reference to the final scale, Paterson determined that "the remaining eight items formed a Guttman Scale with a .91 coefficient of reproducability" (p. 159). "The pre-

tests results reassured the research staff of the feasibility of tapping self-concept as a learner with a paper and pencil test" (p. 159). The following year, the SCA was administered to all the seventh graders in the area. The analysis of data yielded reproducability coefficients of .95 and .96 for the 513 males and 537 females, respectively. "The Hoyt method of determining internal consistency reliability yielded coefficients of .82 and .84 for the total sample of 513 males and 537 females" (p. 166). Stability reliability coefficients over a 12-month interval were also calculated and yielded .75 and .77 for males and females, respectively.

> The SCA Scale is considered to have content validity because the method of selection of the items can be considered a comprehensive sample of the construct under consideration (p. 164).

Satisfactory construct validity is indicated by a correlation of .57 between SCA scores and grade point averages of both males and females of the sample. In cross-validating the predictive validity of the SCA scale, SCA scores were combined with I.Q. scores to predict grade point averages six months hence of students in the same school system but not a part of the original sample. The resulting correlations were .71 (males) and .70 (females).

> These values, when compared with the multiple correlations, suggest that the original prediction equation does not capitalize on change factors but accounts for real and stable variance (p. 165).

Since its development, the SCA Scale has been used successfully by at least four independent researchers. Singh (1972) conducted his research with grade seven Newfoundland students. Singh also cites three other studies. Morse (1963) used the instrument in comparing the self-concept of academic ability of Caucasian and Negro grade eight students. A German study, conducted by Votruba (1970) also dealt with eighth grade children. Sidawi (1970) conducted his study in Lebanon and had seventh grade and ninth grade students as his subjects.

Considering the reliability and validity of the SCA Scale and its previous successful use in Newfoundland and elsewhere, its use in this study is seen as appropriate. A slight change, however, in the wording of item 3 was necessary because senior high school students, as well as junior high school students, constituted the sample. The original wording which read "Where do you think you would rank in your class in the high school?" was changed to "Where do you think you could rank in your class in high school?"

The instrument was scored by assigning a number to the possible responses, A through E, on each item; A - 5, B - 4, C - 3, D - 2, E - 1. Besides using the overall score, two individual items from the SCA Scale were selected for study. This was done to measure more specifically, (a) the student's concept of his ability to complete college (item 4), and (b) the grades which the student felt he had the

ability to attain (item 8).

Attitude Toward School

The instrument used in this study as a measure of students' attitude toward school was the Brokenshire Attitude Toward School Questionnaire. This instrument is one of three subscales included in the Brokenshire Self Attitude Questionnaire (Brokenshire, 1977), which is designed to also measure attitude toward self and attitude toward teacher.

The complete questionnaire originated with 500 items being collected through a review of the literature and through conversations with parents and teachers.

Reliability and Validity

Content validity was initiated by submitting the list of 500 items to two educational psychologists. As a result, the original list was reduced to 114 items which was then submitted to eleven educational psychologists for constructive criticism. Comments from this panel led to a list of 80 items which was then given final acceptance by a panel of four educational psychologists.

Construct validity of the 80 items was determined by subjecting the data collected from 211 students in grades four to seven to factor analysis procedures. This produced three meaningful factors; attitude toward school, attitude toward self and attitude toward teacher. These three factors

accounted for 32.1 percent of the total variance of the items.

Predictive validity of the questionnaire, using the Teacher Perception of Student Behaviour Rating Form (Brokenshire, 1977, p. 80), produced a Pearson product moment correlation coefficient of 0.283. Although this is fairly low, it does correspond favourably with the predictive validity of other self-esteem inventories reported by Brokenshire.

Test-retest of the questionnaire was determined by readministering the questionnaire to the same group of 211 students, three weeks after the original administration. The Kuder 20 formula was used on the data and resulted in a reliability coefficient of 0.8936.

This researcher selected, from the complete Brokenshire Self Attitude Questionnaire, the 20-item subset designed to measure attitude toward school. The split half reliability indicating internal consistency was subsequently computed on this subset. Using the Spearman-Brown prophecy formula (Roscoe, 1969, p. 103) on data collected from 448 students in grades seven to eleven, a reliability coefficient of 0.79 was determined for the Attitude Toward School Questionnaire.

It was felt that the Attitude Toward School Questionnaire had acceptable validity and reliability and would be particularly appropriate, having been devised and tested for students from similar cultural backgrounds to those

comprising the sample for this study.

The questionnaire was scored by assigning one point for each Yes on a positive statement and zero points for each No. Negative statements were scored in a reverse order. In addition to the aggregate score on the questionnaire, items 3 and 4 were individually analyzed.

Students' Perceptions of How Teachers View Them

The Checklist of Trait Names, used in this study to measure students' perceptions of how teachers view them, was developed by Davidson and Lang (1960).

> Students are instructed to decide how the teacher feels toward them with respect to each trait name, and then to rate it on a three-point rating scale: most of the time, half of the time, seldom or almost never (Davidson & Lang, 1960, p. 64).

In developing the checklist, Davidson and Lang established three criteria which had to be met in order to be included on the checklist: (1) the words had to be commonly used to describe how people feel toward others, especially how teachers feel about children; (2) the words had to be easy enough for children 10-16 years old to read and comprehend; and (3) the list had to contain about an equal number of words connoting positive and negative feelings. After the first two criteria were applied, 135 adjectives remained of the initial pool of 200. On the basis of 35 teachers and 50 junior high school students

judging the remaining items to be positive, negative, and neutral, a further reduction resulted after the neutral items were dropped. Finally, words judged by the authors to be too difficult or to have some duplication of meaning were also eliminated.

Reliability and Validity

The checklist was administered twice, by Davidson and Lang, to 105 students. The time between administrations ranged from four to six weeks. A test-retest reliability coefficient of .85 was obtained.

"The checklist may be considered to have logical validity. However, it was desired to obtain a measure of empirical and concurrent validity" (Davidson & Lang, 1960, p. 64). The authors did this by correlating the child's own perception of his teacher's approval of him with his classmates' perceptions of the teacher's feelings toward him. By administering a modified version of the de Goat and Thompson Teacher Approval and Disapproval Scale along with the checklist, a correlation of .51 was obtained between the Index of Favorability and the teacher approval score.

The authors conclude that the reliability and validity of the checklist developed to assess children's perceptions of their teacher's feelings toward them appear to be quite satisfactory.

In scoring the instrument, each positive adjective was scored by assigning two points for a most of the time

response, one point for half of the time, and zero point for seldom or almost never. A negative adjective was scored by assigning points in a reverse order to a positive one. Two adjectives, Leader and Shy, were selected for individual analysis.

Through personal correspondence with Dr. Davidson, it has been learned that the original checklist and the checklist with some changes have been used a number of times but the studies were not published. It is not surprising, then, that a review of the literature failed to uncover any studies using the Checklist of Trait Names. Davidson believes that very few people have considered how children perceive their teachers' feelings toward them.

Intelligence

An intelligence test was administered to all subjects in the study because it was important to determine whether or not a significant difference existed between the mean score of the rural students and the mean score of the urban students. Having matched rural and urban students on fathers' occupations, an indicator of S.E.S., a significant difference was not anticipated. Table 2 shows that the mean intelligence scores of the rural and urban students are similar and an analysis of variance determined that the difference that does exist is not significant.

Raven's Standard Progressive Matrices (PM) was chosen for use in this study because it is generally considered to be culturally fair. MacArthur and Elley (1963) administered nine promising culture-reduced tests and subtests to 271 Edmonton twelve and thirteen year old children and analyzed the results in relation to measures of socio-economic status, verbal intelligence, achievement and school marks.

> Raven's Progressive Matrices proved the most useful test in the battery since it showed consistent and minimal relation with S.E.S., no evidence of cultural bias by items, and moderate correlations with school marks (MacArthur & Elley, 1963, p. 107).

Similar conclusions were made by MacDonald and Netherton (1969) who compared indigenous Eskimo and Indian children in grades two and four and 'other' children in the same grades. They recommended that the Progressive Matrices be adapted as part of the system's wide testing and evaluation program in the North West Territories.

> The Standard Progressive Matrices, Set A, B, C, D and E is a test of a person's capacity at the time of the test to apprehend meaningless figures presented for his observations, see the relations between them, oonceive the nature of the figure completing each system of relations presented, and, by so doing, develop a systematic method of reasoning (Raven, 1960, p. 1).

People from age eleven upward are given the same series of problems and are instructed to work at their own rate until they are finished. The total score attained on the 60 problems provides an index of an individual's intellectual

capacity, regardless of his nationality or education.

Reliability and Validity

Raven (1960) computed the test-retest reliability of the PM with various age groups resulting in correlations ranging from .83 to .93. For the age groups involved in the present study, the correlations were .88 and .93. Burke and Bingham (1969) computed the split-half reliability coefficient and found it to be surprisingly high - .96.

As a measure of concurrent validity, Raven (1960) found that the PM correlates .86 with the Terman Merrill Intelligence Quotient (TMIQ). In a study with male patients in a veterans' hospital, whose ages ranged from 20 to 52, Bingham, Burke, and Stewart (1966) correlated the PM with Wechsler Adult Intelligence Scale (WAIS) Verbal (.80), the WAIS Performance (.79) and the WAIS Full Scale (.85). In a further study, in the same setting but with different subjects, Burke and Bingham (1969) found correlations of .70, .76, and .75 between the PM and the WAIS Verbal, WAIS Performance, and WAIS Full Scale, respectively. Purl and Curtis (1970), whose subjects were sixth grade students of various ethnic backgrounds, computed correlations between scores on the PM and Lorge Thorndike Intelligence Quotient (LTIQ) as well as correlations with the WISC. The resulting correlations are as follows: .46 with LTIQ Verbal, .56 with LTIQ Nonverbal, .45 with WISC Verbal, .60 with WISC Nonverbal, and .58 with WISC Full Scale.

Socio-economic Status

The occupation of students' fathers, which is an index of socio-economic status, was noted from school records and was assigned a numerical rank when rated on the Blishen Occupational Class Scale which consists of 320 occupations divided into seven classes. The classes are separated abritrarily and the sizes of the class intervals are unequal. The principle reason for the unequal intervals is that an attempt was made to prevent combining, in the same class, fairly low prestigeous occupations with occupations that have relatively high ranking.

> The data used to construct the following occupational scale were taken from the decennial census of 1951 which classifies occupations according to a variety of characteristics including income and years of schooling (Blishen, 1964, p. 449).

In determining the degree to which the Scale reflects the prestige ranking of the occupations, it was correlated with the only other Canadian scale in existence up to that time, the one developed by Tuckman. The rank correlation between the two scales was .91.

Rank correlations between the ratings of occupational prestige in each of several countries and the Blishen Scale, were computed.

> The highest rank correlations, 0.94, was found between Canada and the United States. Between Canada and the other countries mentioned the rank correlations were: Germany, 0.74; Great Britain, 0.85; New Zealand, 0.89; and Japan, 0.90. These

> rather high correlations would seem to indicate that the occupational scale under discussion reflects the same variables which underlie prestige scales (Blishen, 1964, p. 451).

Since its development, the original Blishen Scale has been revised using the 1961 census data. However, the revised list of occupations is not divided into classes and consequently is not as appropriate as the original one for use in this study. The rank correlation between the original and revised scales was calculated to be 0.96, "indicating both stability in the structure over time and similarity in results despite variations in procedure" (Blishen, 1968, p. 744).

The students in the sample of this study were of varying socio-economic levels. The Blishen Occupational Class Scale was a valuable instrument in matching rural students on the basis of their fathers' occupations and thus matching for socio-economic status.

IV STATISTICAL PROCEDURES

SPSS and MANOVA computer programs were prepared to provide the following statistical analysis of the data collected in this study.

Means and Standard Deviations

The means and standard deviations were computed by Statistical Procedures for the Social Sciences (Nie et al.,

1975), for all measured variables on the total sample of 448 students. These statistics were also computed for the total urban sample of 224 and the total rural sample of 224.

Means and Variances

A SPSS program was also used to provide the means and variances of students categorized by Academic Program, Grade, and Sex, on all the measured variables.

Analysis of Variance

An analysis of variance matrix was computed using MANOVA, Multivariate Analysis of Variance on Large Computers (Clyde, 1969). This relatively new program was a particularly convenient one because it permitted comparisons of two groups of students identified by three, two, and one descriptor(s). Students in this study were matched on four controlled variables, but because of the small number of students in one or more of the cell(s) in the matrix, the following three computer runs were made, each using three descriptors:

(1) Community x Grade x Program

(2) Community x Sex x Program

(3) Community x Sex x Grade

Community distinguished between Urban and Rural.

Grade distinguished between Grades 7, 8, 9, 10, and 11.

Program distinguished between Academic Programs: 1 - honours,

2 - average, and 3 - low or non-matriculation.
Sex distinguished between Male and Female.
Community was included in each run because of its prominence as the major descriptor.

MANOVA was utilized to test the statistical significance of the differences between groups of students on all the following variables.

(1) Intelligence
(2) English Mark Attained by the Student
(3) Mathematics Mark Attained by the Student
(4) Average Mark of English and Mathematics Combined
(5) Academic Self-Concept - score attained by student on the SCA scale
(6) Ability to Complete College - item 4 on the SCA scale
(7) Grades Capable of Getting - item 8 on the SCA scale
(8) Students' Perception of How Teachers View Them - scores attained by the student on the Checklist of Trait Names
(9) A Leader - single item on the Checklist of Trait Names
(10) Shy - single item on the Checklist of Trait Names
(11) Attitude Toward School - scores attained by the student on the Brokenshire Attitude Toward School Questionnaire (ATS)
(12) School Nice Place To Be - item 3 on the ATS Questionnaire
(13) School Boring For Me - item 4 on the ATS Questionnaire

Pearson Product-Moment Correlation Coefficients

A Pearson product-moment correlation matrix was computed, by an SPSS computer program, to test the cross-

relationship between all the measured variables.

Pearson product-moment correlations were also computed between intelligence and achievement scores, distinguishing between urban and rural students.

As only a 20-item subset of the Brokenshire Self Attitude Questionnaire, that pertaining to the student's attitude toward school, was used, a Pearson product-moment correlation between the Yes responses and No responses was necessary to determine the split-half reliability of the sub-questionnaire.

CHAPTER IV

ANALYSIS OF DATA

This chapter contains a detailed analysis of the data collected in this study on achievement scores, attitudional measures, intelligence and socio-economic status.

I DESCRIPTION OF THE SAMPLE

As can be seen from Table 1, the total number of students included in this study was 448. This number included 286 students enrolled in grades seven, eight and nine, in a junior high urban school, and 162 grades ten and eleven students enrolled in a senior high urban school. Precisely one half of these students were residents of the urban center while the other students commuted daily to the urban schools from rural towns, which were within a radius of twenty-five miles.

TABLE 1

Description of the Sample

School	Grade	Urban	Rural
	7	51	51
A	8	48	48
	9	44	44
	10	50	50
B	11	31	31
Total		224	224

Every rural student was individually matched with an urban student by sex, grade, program level and socio-economic status. Consequently, every student in the study was identified by five descriptors. As the primary purpose of this study was to determine whether the location of residence of students (rural or urban) contributed to attitudional differences and differences in academic achievement, it was necessary to control for the previously mentioned variables.

II DESCRIPTIVE STATISTICS

Means and Standard Deviations of Urban and Rural Students on Intelligence and Socio-economic Status (S.E.S.)

Urban and rural students, in this study, were matched on father's occupation, an indicator of socio-economic status. The Blishen scale (Appendix D), consisting of a ranking system of 1 (high) to 7 (low) was used. Table 2 shows that the mean 4.81 (S.D. 1.71) for urban students is very similar to 4.86 (S.D. 1.70), the mean for the rural students.

The literature, as reviewed in Chapter 2, indicated that by controlling for S.E.S., intelligence would probably also be controlled, as high correlations between S.E.S. and intelligence have been reported. The Raven's Standard Progressive Matrices was administered to all students in the sample and the results, tabulated in Table 2, seem to indicate

that the mean percentile rank of 63.26 (S.D. 27.62) for urban students is similar to 66.25 (S.D. 25.60), the mean for rural students.

TABLE 2

Means and Standard Deviations for the Total 448 Students, and the 224 Urban and 224 Rural Students Who Comprise the Total Sample, on Intelligence and S.E.S.

Variable[a]	Total		Urban		Rural	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Intelligence (100)	64.76	26.64	63.26	27.62	66.25	25.60
S.E.S. (7)	4.83	1.70	4.81	1.71	4.86	1.70

[a]Numbers in parentheses indicate the total possible score on each variable.

Students' Results on Achievement Measures

The results attained by students on teacher-made tests was the criterion of academic achievement. Table 3 provides a tabulation of these results. Apparently, there exists very little difference between the mean English scores of urban and rural students. On Mathematics, however, a 3-point difference in favour of rural students was recorded. This was rather surprising as it was hypothesized that rural students would perform less well academically than urban students. The composite mark, an average of English and Mathematics scores, showed similar results, with the mean of

rural students being two points higher than that of the urban students. These differences will be further analyzed in this chapter.

TABLE 3

Means and Standard Deviations for the Total 448 Students, and the 224 Urban and 224 Rural Students Who Comprise the Total Sample, on Achievement Scores

Variable[a]	Total		Urban		Rural	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
English (100)	59.28	12.66	59.10	13.39	59.47	11.92
Mathematics (100)	63.14	16.98	61.50	18.25	64.77	15.48
Average[b] (100)	61.41	12.61	60.38	13.65	62.44	11.42

[a]Numbers in parentheses indicate the total possible score on each variable.

[b]This score results from a composite of the English and Mathematics scores.

Students' Results on Attitudinal Measures

Three instruments, each providing a numerical score, were used to measure educational attitudes. Moreover, from each instrument, two individual items were selected for analysis. Table 4 presents the means and standard deviations for the total sample, on all the attitudinal variables and subvariables, as well as for the urban and rural groups.

As can be seen from Table 4, means and standard deviations for urban and rural students, on all variables,

appear to be quite similar. It is interesting, though, to note that on the variables whose means differed by more than 0.5 points (SPTVT and ATS), the difference was in favour of the rural students.

TABLE 4

Means and Standard Deviations for the Total 448 Students, and the 224 Urban and 224 Rural Students Who Comprise the Total Sample, on the Various Attitudinal Measures

Variable[a]	Total		Urban		Rural	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
ASC (40)	25.74	4.31	25.62	4.61	25.85	3.99
SPTVT (50)	34.04	7.24	33.71	7.35	34.37	7.13
ATS (20)	13.15	4.33	12.87	4.34	13.42	4.30
ACC (5)	3.17	1.00	3.72	1.03	3.69	0.96
GCG (5)	3.67	0.80	3.68	0.84	3.65	0.75
SPTVT - Leader (2)	0.44	0.63	0.46	0.63	0.43	0.62
SPTVT - Shy (2)	1.40	0.72	1.42	0.74	1.39	0.70
SNP (1)	0.57	0.50	0.56	0.50	0.58	0.50
SBM (1)	0.74	0.44	0.71	0.46	0.76	0.43

[a]Numbers in parentheses indicate the total possible score on each variable.

Note. ASC represents Academic Self-Concept
ACC represents Ability to Complete College (item on ASC)
GCG represents Grades Capable of Getting (item on ASC)
SPTVT represents Students' Perception of How Teachers View Them
SPTVT - Leader represents item on SPTVT
SPTVT - Shy represents item on SPTVT
ATS represents Attitude Toward School
SNP represents School Nice Place To be (item on ATS)
SBM represents School Boring For Me (item on ATS)

Scores on All Measured Variables Attained by Students Separated Into Specified Categories

Results produced by a Multivariate Analysis of Variance Matrix (presented in Table 8 and which will be fully discussed in the next section of this chapter), shows that Program, Grade, and Sex are factors which significantly influenced the scores attained by students on the variables measured in this study.

Program. Table 8 shows that the academic program in which a student was enrolled is a significant factor at the 0.01 level for all variables from Intelligence to Grades Capable of Getting inclusive. A very interesting observation from Table 5 is a progression from lower to higher scores for students enrolled in programs arranged in the order Low, Average, and Honours, on all the above mentioned variables. Other variables on which program's influence was not shown to be significant by the Multivariate Analysis of Variance Matrix, also showed this progression. These included the students' perception of their teachers viewing them as leaders, and the school not being boring for them.

It is important, at this point, to emphasize that, as is shown in Figures 1 and 2, more rural students were enrolled in the Low academic program than in the other two programs, in both schools included in this study. In proportion to the urban students, rural students occupied nearly 50 percent of the Low academic programs but constituted only 15 to 20 percent of the total student populations of the two

TABLE 5

Means and Variances of Scores, Attained by Students in Different Academic Programs, on all Measured Variables

	Total Possible Score	Low	Average	Honours
Intelligence	100	45.250 (675.577)	64.885 (663.261)	71.384 (676.671)
English	100	52.575 (164.610)	57.939 (115.081)	65.232 (225.459)
Math	100	54.500 (261.579)	60.780 (285.880)	72.482 (178.973)
Average	100	53.700 (115.959)	59.453 (138.689)	69.330 (136.025)
Academic Self-Concept	40	23.375 (18.548)	25.166 (16.179)	28.089 (16.659)
SPTVT[a]	50	31.300 (25.241)	33.260 (54.925)	37.080 (42.651)
Attitude Toward School	20	11.925 (16.430)	12.858 (20.054)	14.339 (14.082)
Ability to Complete College	5	3.375 (1.061)	3.598 (1.055)	4.107 (0.583)
Grades Capable of Getting	5	3.050 (0.818)	3.625 (0.527)	3.991 (0.622)
SPTVT[a] - Leader	2	0.375 (0.394)	0.419 (0.393)	0.536 (0.377)
SPTVT[a] - Shy[b]	2	1.500 (0.513)	1.375 (0.547)	1.446 (0.448)
School Nice Place To Be	1	0.450 (0.254)	0.598 (0.241)	0.536 (0.251)
School Boring For Me[b]	1	0.700 (0.215)	0.706 (0.208)	0.830 (0.142)
S.E.S.	7	5.850 (0.951)	4.855 (2.911)	4.420 (3.002)

[a]SPTVT represents Students' Perceptions of How Teachers View Them.

[b]These variables were scores in reverse order so that 1 point for Shy means Not Shy and 1 point for School Boring For Me means School Not Boring For Me.

Note. Numbers in parentheses are the variances.

schools. By extrapolation, then rural students, as a sub-population in the two schools, would score lower than the total schools' populations on most of the measured variables.

Grade. The Multivariate Analysis of Variance Matrix, as presented in Table 8, shows that the grade in which a student was enrolled to be a significant factor at the .01 level for all variables from Intelligence to Students' Perception of How Teachers View Them inclusive, as well as for the variable School Nice Place To Be. Grade is a significant factor at the .05 level for the variables Shy and School Boring For Me.

The tabulations of Academic Self-Concept, as seen in Table 6, are quite interesting. With a reversal of the scores for grades nine and ten, a negative progression from grade seven to grade eleven would be indicated. Students in grade seven have a significantly higher Academic Self-Concept and feel more positive about their ability to complete college than grade eleven students ($p < .01$, shown in Table 8).

Other interesting observations from Table 6 include the scores of SPTVT - Leader and SPTVT - Shy. These scores seem to indicate that the grade ten students (students in their first year of high school) view themselves as being more shy and being less of a leader than the students in grades seven, eight, or nine in the junior high school. However, these differences have not been shown to be significant.

Also, the scores from Table 6 seem to indicate that the grades ten and eleven students in high school feel that

TABLE 6

Means and Variances of Scores, Attained by Students in Different Grades, on All Measured Variables

	Total Possible Score	Seven	Eight	Nine	Ten	Eleven
Intelligence	100	61.029 (881.355)	56.354 (676.042)	70.909 (642.267)	67.960 (627.675)	70.000 (520.492)
English	100	64.882 (240.382)	63.115 (118.881)	54.364 (121.498)	54.780 (130.355)	58.387 (62.799)
Math	100	71.265 (177.741)	59.490 (268.884)	65.375 (231.249)	57.950 (347.866)	60.597 (316.081)
Average	100	68.431 (154.901)	61.458 (143.851)	60.068 (112.248)	56.410 (177.941)	59.742 (106.883)
Academic Self-Concept	40	26.608 (16.261)	26.198 (17.718)	25.352 (17.656)	25.610 (21.149)	24.339 (17.965)
SPTVT[a]	50	35.990 (49.376)	33.333 (42.182)	33.670 (60.522)	32.540 (55.544)	34.871 (48.373)
Attitude Toward School	20	13.657 (22.762)	12.646 (16.610)	13.443 (14.893)	12.390 (21.614)	13.871 (14.803)
Ability to Complete College	5	3.882 (0.620)	3.771 (0.957)	3.568 (1.053)	3.650 (1.139)	3.597 (1.294)
Grades Capable of Getting	5	3.745 (0.905)	3.792 (0.546)	3.557 (0.548)	3.630 (0.639)	3.548 (0.416)
SPTVT[a] - Leader	2	0.431 (0.406)	0.531 (0.441)	0.466 (0.390)	0.330 (0.304)	0.484 (0.418)
SPTVT[a] - Shy[b]	2	1.510 (0.470)	1.469 (0.462)	1.466 (0.459)	1.230 (0.583)	1.323 (0.616)
School Nice Place To Be	1	0.539 (0.251)	0.458 (0.251)	0.489 (0.253)	0.660 (0.227)	0.758 (0.186)
School Boring For Me[b]	1	0.814 (0.153)	0.771 (0.179)	0.761 (0.184)	0.670 (0.223)	0.629 (0.237)
S.E.S.	7	4.755 (3.236)	5.042 (2.588)	5.250 (1.891)	4.440 (3.441)	4.694 (2.872)

[a] SPTVT represents Students' Perceptions of How Teachers View Them.

[b] These variables were scored in reverse order so that 1 point for Shy means Not Shy and 1 point for School Boring For Me means School Not Boring For Me.

Note. Numbers in parentheses are the variances.

their school is a nice place to be more so than grades seven, eight, and nine subjects in the junior high school. However, it appears that school is more boring for the high school students. Using data from Table 8 it can be determined that the difference between the mean grade eight score and mean grade eleven score on School Nice Place To Be is significant at .01 level. The difference between grade seven students and grade eleven students on School Is Boring For Me is significant at the .05 level.

Sex. Table 8 also shows that male/female differences is a factor which significantly influenced scores attained by students on several variables. Differences on six variables are shown by Table 8 to be significant at the .01 level while another is significant at the .05 level.

By observing the means of scores of male students and female students, tabulated in Table 7, one can readily see that with the exceptions of SPTVT - Leader and SPTVT - Shy, the differences are all in favour of the female students. These results were expected as, traditionally, female students generally attain higher academic achievement, and, at least overtly, seem to have more positive educational attitudes.

TABLE 7

Means and Variances of Scores Attained by Male Students and Female Students on All Measured Variables

	Male	Female
Intelligence	63.662 (727.927)	65.776 (693.768)
English	55.954 (141.998)	62.384 (158.177)
Math	62.208 (262.566)	64.000 (311.991)
Average	59.181 (132.539)	63.483 (175.350)
Academic Self-Concept	25.542 (21.459)	25.918 (15.824)
SPTVT[a]	32.356 (49.356)	35.608 (50.404)
Attitude Toward School	12.144 (19.863)	14.078 (15.907)
Ability to Complete College	3.690 (1.220)	3.720 (0.783)
Grades Capable of Getting	3.546 (0.696)	3.776 (0.556)
SPTVT[a] - Leader	0.509 (0.437)	0.384 (0.341)
SPTVT[a] - Shy[b]	1.574 (0.404)	1.246 (0.576)
School Nice Place To Be	0.519 (0.251)	0.616 (0.237)
School Boring To Me[b]	0.648 (0.229)	0.819 (0.149)
S.E.S.	4.824 (2.964)	4.845 (2.824)

[a]SPTVT represents Students' Perceptions of How Teachers View Them.

[b]These variables were scored in a reverse order so that 1 point for Shy means Not Shy and 1 point for School Boring For Me means School Not Boring For Me.

Note. Numbers in parentheses are the variances.

III ANALYTICAL STATISTICS

Analysis of Variance Between Specified Groups of Students, on All Measured Variables

The results yielded by three Multivariate Analysis of Variance Matrices are compiled in Table 8. Analysis of variance, using MANOVA (Multivariate Analysis of Variance on Large Computers) was carried out to determine the influence that each matched variable or descriptor, individually and in conjunction with all other matched variables, had on the scores attained by students on all the measured variables. It was impossible to make one computer run using all controlled variables, Community (2) x Sex (2) x Grade (5) x Program (3), which would include 60 cells, because the number in particular cells would be too few. Consequently, 3 separate analyses were conducted, making all possible combinations.

The most important observation, relevant to this study, which can readily be made from Table 8 is the non-significance of Community, that is the rural/urban dichotomy, on any of the measured variables except Mathematics. The difference in Mathematics, as is shown in Table 3, is in favour of the rural students; a finding contrary to what was expected. There are also no significant differences between urban and rural students on the measured variables when the factors Program, Grade and Sex were incorporated.

Clearly, it can be seen that rural/urban differences did not significantly contribute to the students' variable scores. The reader is referred back to Tables 3 and 4 to again observe the similiarity of the means and standard deviations for the urban and rural students on both achievement and attitudinal measures.

One of the controlled variables in the study is Program. Each rural student was individually matched with an urban student in the same academic program, while also controlling for the other previously mentioned variables. Table 8 apparently shows that the academic program in which a student is enrolled, accounts for more variance in the measured variables than any other controlled variable. By observing Table 5, one will note that students in the low academic program performed less well academically, were of lower intelligence, had more negative attitudes toward their academic ability and toward school, and perceived their teachers as viewing them in a more negative way than students in other programs. Table 8 shows the significance of these differences. It was pointed out in the previous section of this chapter that rural students constitute nearly 50 percent of the low academic programs in both schools.

From Table 8, it can be observed that Sex and Grade were also factors contributing to the variance of students' scores on several of the measured variables. The means and variances of scores attained by students, separated by Sex and Grade, on all the measured variables, have been previously

discussed and are tabulated in Table 6 and Table 7. There is no reason to believe that in the schools' student populations, rural students and urban students are disproportionally represented by grade or sex. Consequently, further discussion of the influence of sex and grade is not relevant to this study.

Pearson Product-Moment Correlations

Table 9 presents a Pearson Product Moment Correlation Matrix in which all measured variables have been correlated with each other. Many of the relationships shown in the matrix were anticipated. These included the significant correlations between intelligence and achievement measures, intelligence and academic self-concept, academic self-concept and achievement measures, academic self-concept and attitude toward school, and others. These variables are generally so closely interrelated that it is impossible to determine which are dependent and which are independent variables.

Other significant correlations include the relationships between academic self-concept and attitude toward school, and academic self-concept and students' perceptions of how teachers view them.

Probably the relationships most relevant to this study are those, which are illustrated in Table 9, between socio-economic status and the other variables. This relevance

TABLE 8

Multivariate Analysis of Variance Matrices

	Intelligence	English	Mathematics	Average	Academic Self-Concept (ASC)	Students' Perceptions Of How Teachers View Them (SPTVT)	Attitude Toward School (ATS)	Ability to Complete College (from ASC)	Grades Capable of Getting (from ASC)	A Leader (from SPTVT)	Shy (from SPTVT)	School Nice Place To Be (from ATS)	School Boring For Me (from ATS)
P	22.481**	38.363**	30.700**	46.665**	60.265**	11.546**	6.556**	34.885**	43.673**	2.764	0.108	0.701	2.084
G	5.785**	22.205**	12.932**	18.292**	4.039**	3.731**	2.096	1.849	2.021	1.388	2.588*	5.315	2.513*
X	0.770	35.789**	1.426	16.189**	1.074	24.795**	24.381**	0.116	11.136**	4.556*	24.220**	4.403*	17.448**
C	1.539	0.119	4.738*	3.742	0.409	1.025	2.032	0.165	0.152	0.282	0.220	0.083	1.718
G x P	0.552	10.959**	1.556	3.287**	0.523	1.069	0.817	0.895	2.489*	0.405	0.703	0.601	0.292
X x G	1.108	4.705**	0.681	3.151*	2.728*	3.284*	2.622*	1.582	3.990**	1.353	0.895	1.801	2.266
X x P	0.503	1.844	1.252	1.013	0.365	0.308	0.978	0.420	0.411	0.813	0.327	0.870	1.232
C x G	0.527	0.932	1.323	1.024	1.874	1.146	0.198	1.021	1.182	1.405	0.628	2.683*	0.296
C x P	0.795	0.920	2.063	1.808	0.220	1.936	2.668	0.102	0.011	0.309	0.416	3.118*	1.135
C x X	0.464	0.217	1.118	0.450	1.072	0.826	1.164	2.364	0.441	0.159	1.578	0.240	0.152
C x X x P	1.230	0.225	0.304	0.202	0.501	0.630	1.683	0.759	0.086	0.890	0.933	0.739	0.227
C x G x P	1.189	1.413	1.249	1.467	1.284	0.732	1.392	1.737	0.446	0.693	1.685	1.876	1.364
C x X x G	1.658	0.317	0.881	0.434	0.100	1.512	1.615	0.883	0.173	0.047	1.613	0.827	2.967*

*p < .05
**p < .01

Note. C represents Community
P represents Academic Program
X represents Sex
G represents Grade

TABLE 9

Pearson Product Moment Correlation Matrix

	S.E.S.[a]	SEM	SNP	SPIVT - Shy	SPIVT - Leader	GCG	ACC	AIS	SPIVT	ACS	Average	Mathematics	English	Intelligence
Intelligence	-0.2052**	0.0964*	0.1665**	0.0057	-0.0351	0.2781**	0.2634**	0.1450*	0.0949*	0.3062**	0.3923**	0.3827**	0.2717**	
English	-0.1771**	0.1977**	0.0918	0.0294	0.0406	0.4586**	0.3723**	0.3095**	0.3167**	0.5162**	0.7657**	0.4289**		
Mathematics	-0.1439*	0.1649**	0.0612	0.0482	-0.0059	0.3961**	0.3284**	0.2348**	0.2202**	0.4622**	0.8915**			
Average	-0.1888**	0.2133**	0.0969*	0.0424	0.0289	0.4997**	0.4034**	0.3220**	0.3151**	0.5675**				
ASC	-0.2837**	0.2615**	0.1626**	0.0863	0.2431**	0.6669**	0.7538**	0.4174**	0.4276**					
SPIVT	-0.0558	0.3592**	0.2180**	0.1496**	0.2353**	0.2478**	0.3042**	0.5654**						
AIS	-0.0491	0.6241**	0.5811**	0.0099	0.0746	0.2601**	0.2977**							
ACC	-0.2021**	0.2283**	0.1139*	0.0884	0.1892**	0.3943**								
GCG	-0.2856**	0.1496**	0.1041*	0.0335	0.1556**									
SPIVT - Leader	-0.0972*	0.0602	0.0703	0.1769**										
SPIVT - Shy	-0.0020	0.0259	-0.0252											
SNP	-0.0688	0.3394**												
SEM	-0.0104													
S.E.S.														

*p < .05
**p < .001
[a]Negative correlations are shown because of the S.E.S. scale: 7 (low) to 1 (high), i.e. the lower the number, the higher the S.E.S.

is emphasized because of this researcher's observation in the process of selecting the sample for this study, that rural students, as a subpopulation in the two schools, came from lower S.E.S. families than the urban students. This fact became evident when many rural students of low S.E.S. in the schools had to be dropped from the sample because corresponding urban students of the same sex, in the same grade and program, were not available.

All correlations between S.E.S. and the other variables show a positive relationship even though some are near zero (Table 9). The correlation at the .001 level of significance between S.E.S. and intelligence was anticipated. Correlations between S.E.S. and the achievement measures were also significant at or near the .001 level. There are also significant correlations between S.E.S. and the students' feelings of academic capability. Apparently, very little relationship exists, however, between S.E.S. and Students' Perception of How Teachers View Them and also between S.E.S. and Attitude Toward School. Yet, a small correlation $p < .05$, does exist between S.E.S. and students' perception of their teachers viewing them as leaders.

An attempt was made to determine whether the academic performance of urban students was more closely related to their intelligence than was the relationship between rural students' performance and their intelligence. Table 10 shows that the Pearson Product Moment Correlation Coefficient between

urban students' academic performance and their intelligence was indeed consistently higher than the correlations computed for the rural students. However, Fisher z scores (Ferguson, 1971) computed for the differences between the correlations for urban and rural students did not indicate that these differences were significant at the .05 level.

As a test for internal consistency on the Attitude Toward School Questionnaire, a Pearson Product Moment Correlation Coefficient was computed between the Yes responses on positive statements and No responses on negative statements. A coefficient of 0.6528 was computed and subsequently converted into a reliability coefficient of 0.79, by using the Spearman-Brown prophecy formula (Roscoe, 1969).

TABLE 10

Correlation Coefficients Between Intelligence and Achievement Measures and the Fisher Z Scores for the Difference of Correlation Coefficients for Urban and Rural Students

	Total Sample (448)	Urban Sample (224)	Rural Sample (224)	z
Intelligence with English	0.2717**	0.3528**	0.1728*	0.60
Intelligence with Mathematics	0.3827**	0.4590**	0.2796**	0.70
Intelligence with Average	0.3923**	0.4712**	0.2855**	0.70

*p < .05
**p < .001

Note. None of the Fisher z scores were significant at the .05 level.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

I SUMMARY OF PROCEDURES

The purpose of this study was to determine whether there were any differences between urban students and rural students who commuted daily to the same two urban schools on selected attitudinal measures and academic achievement.

It has been this researcher's observation as well as the expressed view of many other educators that rural students who commute to urban schools perform less well academically and have more negative attitudes toward school than their urban peers. Several reasons have been postulated for these apparent differences, including the effect of transportation.

This study, in an attempt to measure, as precisely as possible, the significant differences of living in a rural setting or urban setting on educational attitudes and academic achievement, included several controlled variables. Accounted for in this study, but absent in many studies which did indicate urban/rural differences, were the influences contributed by socio-economic status, sex, the academic program to which students are assigned, and grade. Consequently, in selecting the sample for this study, urban and rural students were rigorously matched on these four controlled variables. The effect of intelligence was also accounted for

by the close relationship between S.E.S. and intelligence as indicated in the literature and empirically tested in this study.

It was expected that findings from this study would reveal useful information for educational planning in schools where both urban and rural students are integrated and expected to compete academically and to possess similar educational attitudes.

The 448 students, which comprised the sample, consisted of 224 urban and 224 rural students, individually matched on S.E.S., sex, academic program and grade.

Three instruments were used to measure attitudes: Self-Concept of Ability Scale (Appendix A), Brokenshire Attitude Toward School Questionnaire (Appendix B), and Checklist of Trait Names (Appendix C). The Raven's Standard Progressive Matrices was used to measure intelligence and the Blishen Occupational Class Scale provided an indicator of socio-economic status.

Statistical analyses of the data were provided by computer programs. These analyses tested the following research hypotheses:

(1) The academic self-concept of rural students in urban schools will be significantly lower than that of their urban peers of the same sex, in the same grade and academic program, and of similar socio-economic status.

(2) Rural students will be significantly more negative in

their attitudes toward school than their urban peers.

(3) In comparing the rural and urban students on their perceptions of how teachers view them, rural students will perceive their teachers as having significantly more negative attitudes toward them.

(4) The rural students in the study will score significantly lower than their urban peers on teacher-made tests measuring academic achievement in Mathematics and English. An average of the grades attained in the two subject areas was also taken to provide a combined measure of academic achievement.

II SUMMARY OF THE FINDINGS

Hypothesis Number One

It can be readily observed in Table 4 that the Academic Self-Concept of rural students and urban students are very similar. In fact, the mean score for rural students was slightly higher than that for urban students, a finding in complete contradiction to the first hypothesis. This difference, however, is not significant at the .05 level. From the Multivariate Analysis of Variance Matrices (Table 8), it can be concluded that rural/urban differences was a factor not significantly affecting Academic Self-Concept. Thus, this research hypothesis has to be rejected; the rural students in the study (individually matched with urban students on S.E.S., Sex, Grade and Program) did not demonstrate

a lower academic self-concept than did their urban peers. Also, the scores attained on the two individual items selected for analysis from the Self-Concept of Ability scale, Ability to Complete College and Grades Capable of Getting, showed no significant differences between the means of rural and urban students.

Hypothesis Number Two

Table 4 shows that rural students also scored higher than urban students on Attitude Toward School. This difference is not statistically significant but is contrary to the stated hypothesis. The Multivariate Analysis of Variance Matrix (Table 8) shows that rural/urban differences did not significantly affect the Students' Attitude Toward School. Consequently, this research hypothesis has to be rejected; the rural students in the study did not portray more negative attitudes toward school than their urban peers. Moreover, on the variables School Nice Place To Be and School Boring For Me, individual items from the Attitude Toward School Questionnaire, rural and urban students did not score significantly different.

Hypothesis Number Three

Data collected in this study on students' perception of how teachers view them, presented in Table 4, show very little difference between the mean scores of rural and urban students. The difference that does exist, in favour of the

rural students, is not significant at the .05 level. By a Multivariate Analysis of Variance (Table 8) it is shown that being rural or being urban did not significantly affect the Students' Perception of How Teachers View Them. This research hypothesis, as well, must be rejected; the rural students in the study did not perceive their teachers as having significantly more negative attitudes toward them. The mean scores of urban and rural students on the two individual items, SPTVT - Leader and SPTVT - Shy, were also not significantly different.

Hypothesis Number Four

By observing Table 3, it can be readily seen that very little difference exists between the mean English scores of rural and urban students. A significant difference ($p < .05$) does exist between the mean Mathematics scores of the two groups. However, the significant difference is in favour of the rural students; a finding in complete contradiction to that which was expected. The Multivariate Analysis of Variance Matrix (Table 8) shows that English was not significantly influenced by the rural/urban dichotomy. Yet, Mathematics was significantly influenced ($p < .05$). The effect, however, resulted in the rural score being higher than the urban score. On the basis of statistical analysis, then, this hypothesis must also be rejected. Not only was the rural students' academic achievement not significantly lower than their urban peers, but in fact, the rural students

scored significantly higher on Mathematics.

III CONCLUSIONS

The rejection of all four research hypotheses has very important implications. It had been anticipated that rural students, even though rigourously matched with urban students on socio-economic status (S.E.S., Sex, Program, and Grade, would still show significant differences from their urban peers on the attitudinal measures and measures of academic achievement. However, very little difference was recorded and that which did occur was in favour of the rural students. Consequently, it appears that the needs of rural students who commute daily to the two urban schools in the study, are met equally as well as the needs of urban students of the same S.E.S., sex, in the same grade, and assigned to the same academic program.

There were certain characteristics of the rural students, in the two schools, which are not uniquely rural but which, in relation to the urban students, in the total school populations were disproportionally present. Such factors included lower S.E.S. and assignment to the lower academic programs.

Socio-economic status has been shown to be significantly correlated with the achievement measures and attitudinal variables. Thus, the lower S.E.S. of rural students generally would negatively influence academic

achievement and educational attitudes. The effect of S.E.S. on academic achievement is also indicated by the results of the Canadian Tests of Basic Skills, administered to all grade six students within the jurisdiction of the school board to which the two schools, involved in this study, belong. From school board records, it was noted that the results attained by students in the rural elementary schools, which the vast majority of the junior high and senior high school rural students in this study had attended, to be substantially lower than that of the norm for the entire school board system. However, it was also noted that an urban elementary school, in a low S.E.S. area of the city, showed results similar to those of the rural schools. Also showing similar results was a new urban elementary school in a suburban area in which a large number of subsidized rental units had been incorporated. Obviously then, the socio-economic status of a student's family influences his academic achievement. As was previously mentioned, the S.E.S. of rural students, as subpopulations in the two urban schools of this study, was lower than that of the whole student population.

While assigning a S.E.S. ranking to students in the two urban schools, it became obvious to this researcher that the S.E.S. of students in the low academic program was generally lower than that of students in other programs. The S.E.S. of the total sample (matched urban and rural students), selected for this study, show a progression from lower in low academic programs to higher in high academic programs (Table 5).

As indicated in Chapter 4, rural students are disproportionally represented in the low academic programs. Figures 1 and 2 show the rural student representation in each of the academic programs. For grades seven and ten, rural students constitute 50 percent or more of all the students in the low academic programs. In other grades, the representation is in the vicinity of 40 percent. Rural students constitute between 15 and 20 percent of the total population of each grade. It can be readily seen, then, that rural students are disproportionally assigned to the low academic programs. This study has shown (Tables 5 and 8) that the achievement and attitudinal scores attained by students was related to the academic program in which they were enrolled. By extrapolation, one can assume that the rural subpopulation performed less well academically and possessed more negative educational attitudes than did their urban peers, simply by their larger numbers in the low academic programs.

The foregoing issues were raised to account for the fact that it was this researcher's observations as well as those of other educators that the rural student subpopulations in urban schools generally demonstrate lower academic achievement and possess more negative attitudes than the general school populations. This study does not refute these observations; however, the research has shown that poorer academic achievement and more negative educational attitudes may be more closely related to factors such as low

socio-economic status, lower intelligence and subsequent assignment to the low academic programs, rather than to the students' residence in rural communities.

With S.E.S., intelligence, and the past academic achievement of students (the primary basis on which junior high school students are assigned to academic programs) included in this study as controlled variables, other factors, such as transportation by bus and possible cultural differences remained as unique characteristics of those students residing in a rural community and commuting to an urban school. Many people advocate that the transportation of rural students to urban schools has a detrimental effect on their academic achievement and educational attitudes; whether or not this is true, the transported rural students in this study, performed as well academically and possessed similar educational attitudes as their matched urban peers.

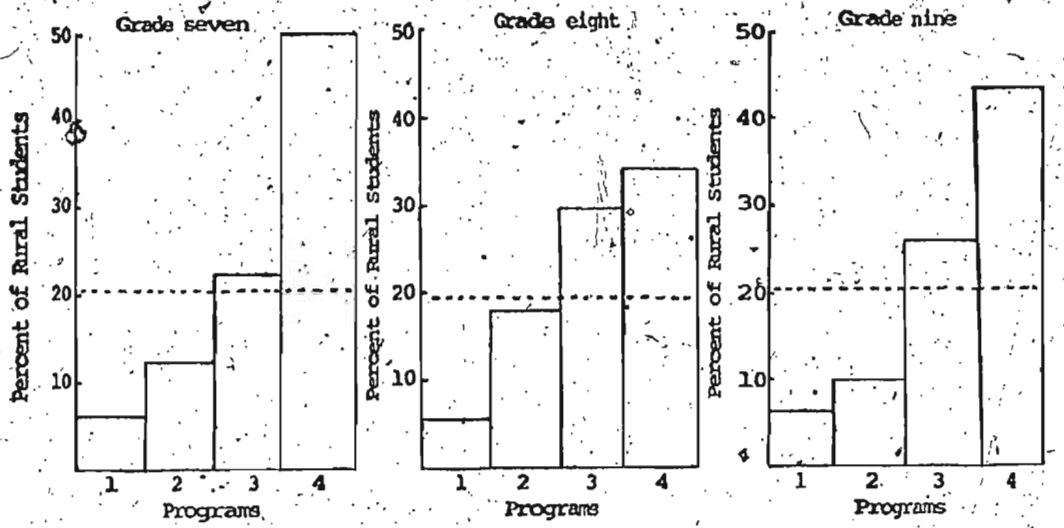
As this study was being conducted, certain procedural limitations, and difficulties in specifically measuring individual attitudes became apparent. Although matching had the advantage of ensuring confidence in controlling for the influence of such variables as S.E.S. and intelligence, it may have had the unfortunate effect of leaving uncontrolled other unknown variables. In retrospect, it is possible that matching may have been too rigourous. Matching for program may have cancelled out some academic differences and other unknown factors between rural and urban students.

Another difficulty which arose was the inability to distinguish between some of the dependent and independent variables. Factors which affect learning are so many and varied that it is difficult to isolate individual factors and to establish causative effect. For example, researchers generally, recognize a strong relationship between academic self-concept and academic performance. The question regarding causation, however, remains inadequately answered.

This researcher recognizes that many more cultural factors, than those dealt with in this study, can contribute to academic success, but that it was outside the scope of this study to identify and discuss others.

It is also recognized that educational attitudes are interrelated. It is possible that all the measured attitudinal variables may be parts of the total Self-Concept construct, and subsequently it is difficult to measure specifically any one attitude.

The definition of ruralness used by this researcher was purely an operational one. In conceptualizing the study, it was felt that there were differences between rural and urban students, relating to aspects of school performance. This study suggests that the differences may be more due to socio-economic factors than to other community differences. However, a note of caution must be maintained because those elements that tend to encourage perception of rural experiences to be substantially different from urban experiences have not been sufficiently articulated nor measured. In fact,



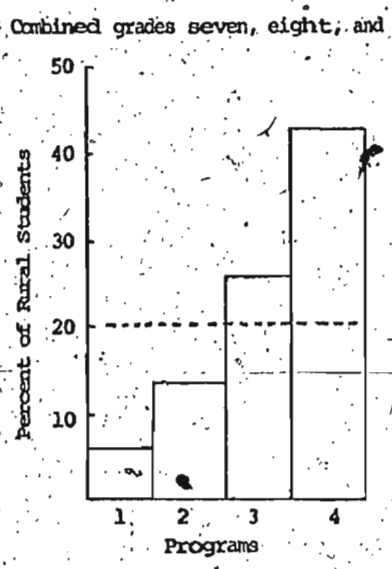
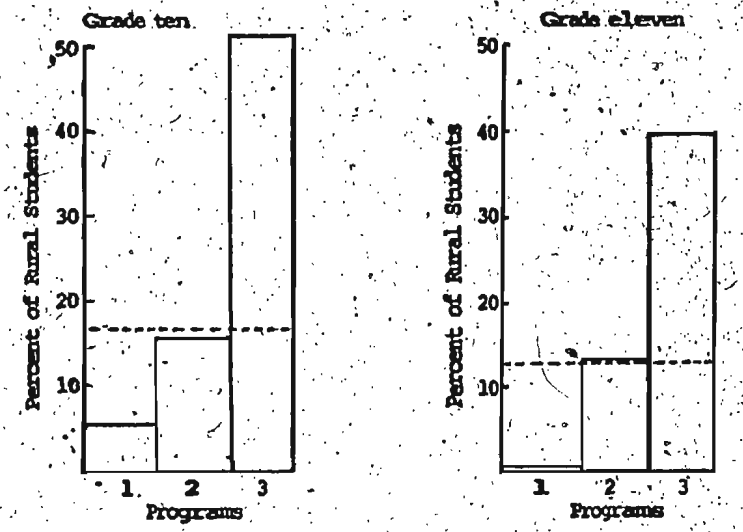


Figure 1. Rural student representation in each academic program, in each grade of School A.

Note. The broken line in each histogram represents the percent of rural students in the grade(s).



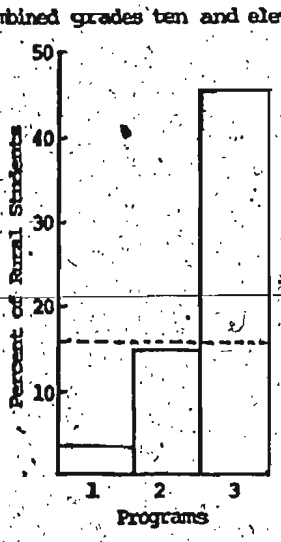


Figure 2. Rural student representation in each academic program, in each grade of School B.

Note. The broken line in each histogram represents the percent of rural students in the grade(s).

in this study, the operational definition and rural/urban differences (one of residence) was used rather than theorizing about the elements which constitute any suspected differences.

IV. RECOMMENDATION

Based on the results of this study, the following recommendation is made.

Educators, generally, seem to be preoccupied with the poor academic performance and negative educational attitudes of rural students, and, at least partly, attribute this situation to factors such as residence in a rural community, bussing, and possible alienation toward school. It is recommended that they shift their attention to the performance and attitudes of students regardless of residence, as no significant differences between rural students and their matched counterparts were found. Any concentration on improving performance and attitudes may be best directed at all students who have experienced disadvantaged socio-economic experiences, regardless of the type of community in which they reside. In other words, for the causative factors of low school performance of rural students, we may have to look more at the effects of poverty rather than ruralness or urbanness per se.

Educators need to be reminded that, even though rural students are conspicuous because of their large numbers in a given urban school population, poor rural students may

not perform substantially different or possess significantly different attitudes from poor urban students.

V RECOMMENDATIONS FOR FURTHER RESEARCH

Recommendations for further research, in the area of educational attitudes and academic performance of all students generally, and rural students in particular, are as follows.

1. The school board in this study has recently begun planning for a new central high school, in a rural setting, to accommodate most of the rural junior High school and senior high school students under its jurisdiction. This school is being built on the assumption that rural students, enrolled in rural schools, will perform as well as or better than if they were integrated with urban students in an urban school. This may be the case; however, it is recommended that research be designed to test this hypothesis, since this study suggests that low performance may be less due to residence in a rural community than due to being at the lower socio-economic end of our society.

2. The Blishen Occupational Class Scale was used in this study to indicate levels of socio-economic status. The validity of the instrument has been accepted by most researchers working in either rural or urban settings. It is recommended, though, that validity studies be conducted to assess the adequacy of the scale when both rural and urban subjects

constitute the sample. Typically rural occupations, such as 'fisherman', are placed in the same category as 'longshoreman', a typical urban occupation. Whether or not these occupations are actually of similar S.E.S., should probably be questioned.

3. The literature appears to be badly deficient in studies pertaining to the attitudes and achievement of rural students commuting to urban schools. This study was an attempt to help fill this void; however, many more studies need to be conducted. It is recommended that further studies be carried out in this province and elsewhere, where the central school could be located in a large town, rather than a city, and to which students from small rural settlements commute. It is further recommended that socio-economic status be a controlled variable but academic program be left to randomization. Although Hiscock (1972) and Gill (1972) carried out sociometric studies on transported and non-transported students, they did not control for S.E.S. It would be very interesting if further studies did contain sociometric measures comparing acceptance and rejection of rural (transported) and urban (non-transported) students, while controlling for the possible influence of socio-economic status.

VI CONCLUDING STATEMENT

This study was conducted to determine whether rural students who commute daily to urban schools differ in edu-

cational attitudes and academic performance from their urban peers of the same socio-economic status, sex, in the same grade, and assigned to the same academic program. Research findings indicate that no significant differences do exist between rural and urban students when they are matched on the aforementioned controlled variables.

It is not implied, though, that rural students as subpopulations do not perform less well academically or possess more negative educational attitudes than urban students, but it is suggested that any differences may be due more to factors more socio-economic in nature than to place of residence. It is recommended, then, that efforts to improve students' academic achievement and educational attitudes be directed at all socio-economically deprived children regardless of their place of residence. However, it is recommended that further research attempt to isolate any important educational elements, not identified by this study, which distinguish between rural and urban students.

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APPENDIX A

SELF-CONCEPT OF ABILITY SCALE

Name _____ Class _____

Please answer the 8 questions on the following pages as honestly as you can, by making a circle around the letter in front of the statement which best answers each question.

Neither your teacher nor your principal will see your paper.

1. How do you rate yourself in school ability compared with your close friends?

   a. I am the best
   b. I am above average
   c. I am average
   d. I am below average
   e. I am the poorest

2. How do you rate yourself in school ability compared with those in your class at school?

   a. I am among the best
   b. I am above average
   c. I am average
   d. I am below average

3. Where do you think you could rank in your class in high school?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

4. Do you think you have the ability to complete college?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. no

5. Where do you think you would rank in your class in college?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

6. In order to become a doctor, a lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?

a. very likely
b. somewhat likely
c. not sure either way
d. unlikely
e. most unlikely

7. Forget for a moment how others grade your work. In your own opinion, how good do you think your work is?

a. my work is excellent
b. my work is good
c. my work is average
d. my work is below average
e. my work is much below average

8. What kinds of grades do you think you are capable of getting?

a. mostly A's (85% to 100%)
b. mostly B's (75% to 84%)
c. mostly C's (60% to 74%)
d. mostly D's (50% to 59%)
e. mostly E's or F's (0% to 49%)

APPENDIX B

ATTITUDE TOWARD SCHOOL QUESTIONNAIRE

Please mark each statement in the following way:

If the statement describes how you USUALLY feel or think, put an X through the word YES in the COLUMN beside the statement.

If the statement does not describe how you USUALLY feel or think, put an X through the word NO in the column beside the statement.

There is no right or wrong answer for any statement. The best answer is what you feel is USUALLY true of yourself.

Neither your teacher nor principal will see your paper.

EXAMPLE:

1) I think my friends listen to me when I talk. Yes No

Put an X through YES if the above statement is usually true for you.

Put an X through NO if the above statement is not true for you.

Name _____ Class _____

1.	I complain about school many times	Yes	No
2.	I like to do my homework	Yes	No
3.	My school is a nice place to be	Yes	No
4.	School is very boring for me	Yes	No
5.	I try to get good marks in all my school studies	Yes	No
6.	I hate school	Yes	No
7.	I only go to school because my parents make me go	Yes	No
8.	School is great	Yes	No
9.	To me school is like a jail	Yes	No
10.	I am pleased that I learn a lot at school . .	Yes	No
11.	Most times I like going to school	Yes	No
12.	I do my school work just to get it over with	Yes	No
13.	I do not care if I fail	Yes	No
14.	I do my school work as well as I can do it . .	Yes	No
15.	I wish I did not have to go to school	Yes	No
16.	I think I do as well in my school work as my friends	Yes	No
17.	I do my school work with excitement	Yes	No
18.	I would rather be home than in school	Yes	No
19.	I find it hard to keep my mind on my work in school	Yes	No
20.	I am proud of my school	Yes	No

APPENDIX C

CHECKLIST OF TRAIT NAMES

On the following page, you will find 25 words. Opposite each word, you will find three blank spaces labelled most of the time, half of the time and seldom or almost never.

We are interested in the way you think your homeroom teacher feels toward you. Consider the word PLEASANT. If you feel your homewoom teacher thinks you are pleasant most of the time, put an X in the first blank; if you feel your homeroom teacher thinks you are pleasant half of the time, put an X in the second blank; if you feel your homeroom teacher thinks you are pleasant only seldom or almost never, put an X in the third blank.

Now do the example. Be sure to place an X in the blank which describes most nearly how your teacher feels about you. Be as honest as you can. Neither your teacher nor your principal will see your paper.

	MOST OF THE TIME	HALF OF THE TIME	SELDOM OR ALMOST NEVER
Pleasant			

Turn the page and begin.

Name _____ Class _____

	MOST OF THE TIME	HALF OF THE TIME	SELDOM OR ALMOST NEVER
Fair			
A nuisance			
Afraid			
Cheerful			
A time waster			
Neat			
Not eager to learn			
A leader			
Unhappy			
Loving			
Outstanding			
Loud			
Generous			
Nervous			
Sensible			
Polite			
Lazy			
Forgetful			
Smart			
Silly			
Kind			
Shy			
A sloppy worker			
Dependable			
A day dreamer			

APPENDIX D

BLISHEN OCCUPATIONAL CLASS SCALE

TABLE 1. Occupations ranked and grouped according to combined standard scores for income and years of schooling, by sex, Canada, 1951[a]

Occupation	Sex	Score[b]
Class 1		
Judges	M	90.0
Dentists	M	82.5
Physicians and Surgeons	M	81.2
Lawyers	M	78.8
Engineers, chemical	M	77.8
Actuaries	M	77.6
Engineers, mining	M	77.4
Engineers, electrical	M	75.2
Engineers, civil	M	75.0
Architects	M	73.2
Class 2		
Statisticians	F	72.9
Engineers, mechanical	M	72.6
Professors	M	72.0
Stock and bond brokers	M	70.9
Veterinarians	M	69.8
Business service officers	M	69.5
Statisticians	M	68.8
Mining Managers	M	67.9
Finance Managers	M	67.7
Osteopaths and chiroptactors	M	67.3
Dietitians	F	67.0
Professors	F	66.7
Chemists and metallurgists	M	65.8
Officers, armed forces	M	65.1
Air pilots	M	65.0
Chemists and metallurgists	F	64.8
Agricultural professionals	M	64.8
Electricity, gas and water officials	M	64.7
Other professions, hockey players	M	64.0
Construction managers	M	63.8
Wholesale trade managers	M	63.5
Librarians	F	63.4
Authors, editors and journalists	M	63.4
Manufacturing managers	M	63.0
Community service workers	M	62.4
Social welfare workers	F	62.2
Osteopaths and chiropractors	F	62.2
School teachers	M	62.2
Librarians	M	62.0

Occupation	Sex	Score[b]
Accountants and auditors	M	61.8
Authors, editors and journalists	F	61.4
Clergymen	M	61.0
Designers, clothing	M	60.6
Government service officials	M	60.6
Transportation managers	M	60.1
Farmers	F	59.4
Community service workers	F	59.1
Dispatchers, train	M	58.5
Designers, cloth	F	58.2
Insurance agents	M	58.2
Foremen, communication	M	58.1
Advertising agents	M	58.0
Managers N.E.S.[c]	M	57.7
School teachers	F	57.6
Artists and teachers of art	M	57.6
Nurses, graduate	F	57.4
Real estate agents and dealers	M	57.0
Social welfare workers	M	57.0
Retail trade managers	M	57.0
Class 3[a]		
Actors, models	F	56.9
Commercial travellers	M	56.7
Advertising agents	F	56.6
Forestry managers	M	56.5
Artists, commercial	F	56.4
Radio announcers	M	56.4
Laboratory technicians N.E.S.[c]	F	56.0
Artists, commercial	M	56.0
Draughtsmen	M	56.0
Brokers, agents and appraisers	M	56.0
Inspectors, communication	M	55.0
Artists and teachers of art	F	55.0
Surveyors	M	55.0
Recreation service officers	M	54.8
Purchasing agents	M	54.8
Agents, ticket station	M	54.3
Laboratory technicians N.E.S.[c]	M	54.2
Stenographers and typists	F	54.1
Conductors, railway	M	54.1
Radio operators	M	54.0
Locomotive engineers	M	54.0
Photo-engravers	M	54.0
Music teachers	M	53.7
Teachers N.E.S.[c]	F	53.6
Office appliance operators	F	53.4

Occupation	Sex	Score[b]
Teachers N.E.S.[c]	M	53.4
Retail trade managers	F	53.3
Telegraph operators	F	52.9
Foremen, mining	M	52.8
Window decorators	F	52.3
Nurses, graduate	M	52.2
Actors	M	52.1
Stenographers	M	52.0
Class 4		
Bookkeepers and cashiers	F	51.9
Forewoman, communication	F	51.8
Foremen, manufacturing	M	51.8
Photographers	M	51.8
Inspectors, construction	M	51.7
Window decorators	M	51.6
Telegraph operators	M	51.6
Petroleum refiners	M	51.6
Toolmakers	M	51.6
Engravers, except photo-engravers	M	51.4
Undertakers	M	51.3
Office clerks	F	51.2
Locomotive firemen	M	51.2
Bookkeepers and cashiers	M	51.2
Brakemen, railway	M	51.1
Power station operators	M	51.0
Office appliance operators	M	51.0
Doctor, dentist attendants	F	50.8
Motion picture projectionists	M	50.8
Radio repairmen	M	50.8
Captains, mates, pilots	M	50.7
Foremen, transportation	M	50.7
Foremen, commercial	M	50.6
Personal service officers	M	50.5
Class 5		
Patternmakers	M	50.4
Compositors	M	50.4
Inspectors, metal	M	50.4
Paper makers	M	50.4
Photographers	F	50.2
Policemen	M	50.2
Office clerks	M	50.2
Mechanics, airplane	M	50.1
Inspectors, metal products	F	50.0
Music teachers	F	50.0

Occupations	Sex	Score[b]
Firemen, fire department	M	49.8
Pressmen and plate printers	M	49.8
Telephone operators	F	49.6
Electricians	M	49.6
Machinists, metal	M	49.6
Linemen and servicemen	M	49.4
Engineering officers (on ships)	M	49.4
Baggagemen	M	49.4
Transportation inspectors	M	49.4
Rolling millmen	M	49.4
Auctioneers	M	49.3
Inspectors and graders	M	49.2
Farmers	M	49.2
Photographic occupations N.E.S.[c]	M	49.2
Collectors	M	49.1
Dental mechanics	M	49.1
Sulphite cookers	M	49.0
Wire drawers	M	46.9
Other ranks, armed forces	M,F	46.8
Electroplaters	M	46.8
Plumbers	M	46.8
Motormen	M	46.7
Quarriers	M	46.6
Machine operators, metal	M	46.5
Paint makers	M	46.4
Filers	M	46.4
Upholsterers	M	46.3
Knitters	M	46.3
Wood inspectors	M	46.3
Opticians	F	47.6
Bus drivers, taxi	M	47.6
Heat treaters	M	47.6
Religious workers N.E.S.[c]	F	47.6
Photographic workers N.E.S.[c]	F	47.4
Machine operators, metal	F	47.4
Boilermakers	M	47.3
Jewellers and watchmakers	F	47.2
Other bookbinding workers N.E.S.[c]	M	47.2
Sales clerks	M	47.2
Hoistmen, cranemen	M	47.2
Welders, general trade	M	47.2
Mechanics, N.E.S.[c]	M	47.2
Mechanics, railroad	M	47.2
Fitters, metal	M	47.2
Cutters, textile goods	M	47.2
Millmen	M	47.2
Wire drawers	F	47.1
Core makers	F	47.1

Occupations	Sex	Score[b]
Riggers	M	47.1
Sheetmetal workers	M	47.1
Shipping clerks	M	47.0
Logging foremen	M	45.4
Labellers	M	45.3
Nurses, in training	F	45.2
Meat canners	M	45.2
Farm managers	M	45.2
Plasterers	M	45.2
Textile inspectors	M	45.1
Other pulp and paper workers	F	45.1
Class 6		
Winders and warpers	F	45.0
Carders and drawing frame workers	F	45.0
Sales clerks	F	45.0
Moulders, metal	M	45.0
Nurses, practical	M	45.0
Cutters, textile goods	F	44.9
Elevator tenders	F	44.8
Tailoresses	F	44.8
Textile inspectors	F	44.8
Potmen	M	44.8
Timbermen	M	44.7
Prospectors	M	44.7
Barbers	F	46.2
Milliners	F	46.2
Tobacco products workers	F	46.2
Furnacemen	M	46.2
Furriers	M	46.2
Brothers (religion)	M	46.1
Paper box makers	M	46.1
Other bookbinding workers N.E.S.[c]	F	46.0
Coremakers	M	46.0
Vulcanizers	M	46.0
Liquor and beverage workers	M	46.0
Postmen	M	45.9
Meat canners	F	45.9
Other upholstering workers N.E.S.[c]	F	45.8
Bookbinders	F	45.8
Transportation, storage, communication workers	F	45.8
Polishers, metal	M	45.8
Furriers	F	45.6
Structural Iron workers	M	45.6
Mechanics, motor	M	45.6
Textile inspectors	M	45.6

Occupations	Sex.	Score[b]
Cabinet and furniture makers	M	45.5
Loom fixers	M	45.5
Weavers, textile	F	45.4
Butchers	M	45.4
Miners	M	45.4
Assemblers, electrical equipment	F	48.9
Operators, electric street railway	M	48.8
Stationary engineers	M	48.7
Bookbinders	M	48.6
Tire and tube builders	F	48.4
Canvassers	M	48.2
Telephone operators	M	48.2
Switchmen and signalmen	M	48.2
Opticians	M	48.2
Jewellers and watchmakers	M	48.2
Personal service workers	F	48.1
Assemblers, electrical equipment	M	48.1
Tire and tube builders	M	48.1
Millwrights (repairs machinery in mills)	M	48.0
Religious workers N.E.S.[c]	M	48.0
Fitters, metal	F	47.9
Milliners	M	47.8
Construction foremen	M	47.7
Oilers, power plant	M	44.7
Liquor and beverage workers	F	44.6
Paper box makers	F	44.6
Kiln burners	M	44.6
Brick and stone masons	M	44.6
Construction machine operators	M	44.5
Canvassers	F	44.4
Service station attendants	M	44.4
Painters and decorators	M	44.4
Hat and cap makers	M	44.4
Bleachers and dyers	M	44.4
Spinners and twisters	F	44.3
Rubber shoe makers	F	44.2
Porters	M	44.2
Tobacco products workers	M	44.2
Millers	M	44.2
Nurses, practical	F	44.1
Finishers, textile	F	44.0
Blacksmiths	M	44.0
Tailors	M	43.8
Bakers	M	43.8
Weavers	M	43.8
Rubber shoe makers	M	43.7

Occupations	Sex	Score[b]
Labellers	F	43.6
Other personal service workers	F	43.6
Barbers	M	43.6
Truck drivers	M	43.6
Packers and wrappers	M	43.6
Finishers, textile	M	43.6
Tanners	M	43.6
Finishers, wood	M	43.5
Hat and cap makers	F	43.5
Cutters, leather	M	43.5
Commercial packers and wrappers	F	43.4
Teamsters	M	43.4
Stone cutters	M	43.4
Riveters and rivet heaters	M	43.4
Butter and cheese makers	M	43.3
Chauffeurs	M	43.3
Boiler firemen	M	43.3
Spinners	M	43.3
Inspectors N.E.S. graders[c]	F	43.2
Postmen	F	43.2
Waiters	M	43.2
Carpenters	M	43.2
Sewers and sewing machine operators	M	43.2
Forest rangers	M	43.2
Lock keepers, canalmen	M	43.1
Wood turners	M	43.1
Labourers, mines and quarries	M	43.1
Sewers and sewing machine operators	F	43.0
Brick and stone masons	M	43.0
Textile inspectors	F	42.8
Machine operators, boot and shoe	F	42.8
Knitters	F	42.8
Guards, commissionaires	M	42.8
Winders, warpers, reelers	M	42.8
Glove makers	M	42.7
Cutters, leather	F	42.6
Elevator tenders	M	42.5
Bakers	F	42.4
Machine operators, boot and shoe	M	42.4
Launderers	M	42.4
Firemen, on ships	M	42.4
Cement and concrete finishers	M	42.4
Dressmakers and seamstresses	F	42.3
Carders and drawing frame tenders	M	42.3
Box and basket makers	F	42.2
Coopers	M	42.2
Sailors	M	42.1
Harness and saddle makers	M	42.0
Nuns	F	41.8

Occupations	Sex	Score[b]
Cooks	M	41.8
Janitors	M	41.6
Laundresses, cleaners and dyers	F	41.4
Sectionmen and trackmen	M	41.4
Charworkers and cleaners	M	41.3
Paper box, bag and envelope makers	M	41.3
Sawyers	M	41.2
Longshoremen	M	41.2
Waitresses	F	41.2
Glove makers	F	41.2
Labourers	M	40.8
Cooks	F	40.5
Messengers	M	40.2
Shoemakers	M	40.2
Ushers	M	40.1
Janitors	F	40.0
Hawkers	M	39.3
Housekeepers and matrons	F	38.9
Hotel, cafe and household workers	M	38.8
Newsboys	M	38.7
Guides	M	38.8
Hotel, cafe and household workers	F	37.8
Farm labourers	M	37.5
Lumbermen	M	37.4
Charworkers and cleaners	F	37.4
Fishermen	M	36.9
Bootblacks	M	36.8
Fish canners, curers and packers	M	36.2
Hunters and trappers	M	32.0
Fish canners, curers and packers	F	36.0

[a] Canada, Dominion of Statistics, Census of Canada, V. Table 21 and IV, Table 11 (Ottawa, 1953), Canada, Dept. of Internal Revenue, Taxation Statistics, 1951 (Ottawa, 1953). Additional information supplied by D.B.S. Census Analysis Section.

[b] The mean of the scores = 50, the standard deviation = 10 (calculated separately for each sex).

[c] N.E.S. = not elsewhere specified.

APPENDIX E

18 Charlottetown Place,
St. John's, Newfoundland,
November 9th, 1976.

Mr. Newman Kelland,
Superintendent,
Avalon Consolidated School Board.

Dear Mr. Kelland,

During an interview with you this summer, I briefly outlined my thesis, which with your approval, will involve students at Prince of Wales Collegiate and MacDonald Drive Junior High School.

The proposal for my thesis has been accepted by the Department of Educational Psychology at Memorial University, and I am now making arrangements for carrying out my research. I have recently discussed with the principals of both schools the rationale of my thesis, the type of data I wish to collect, and the cooperation I would need in collecting the data. Mr. Noel and Mr. Hickman are quite interested in my study and they indicated that they would be happy to cooperate with me. They also expressed the same sentiment as did you this summer that the problems which frequently arise with rural students attending urban schools need to be investigated. With your approval, I would be able to collect some of my data in December and the remainder in January and February of 1977.

If it is necessary to discuss this matter further with you personally, I would be very happy to meet with you and also possibly Mr. Parsons, as he has also shown interest in my thesis. In the meantime, I am enclosing

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Cont'd:

a copy of my proposal which I would appreciate your reading and your offering of any helpful suggestions.

I am looking forward to your response to my request for approval to conduct my research at Prince of Wales Collegiate and MacDonald Drive Junior High School.

Yours sincerely,

David Adams

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