

GEOGRAPHICAL MOBILITY AND ACADEMIC ACHIEVEMENT  
OF A GROUP OF JUNIOR HIGH STUDENTS

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## CHAPTER I

### THE PROBLEM AND ITS IMPORTANCE

Americans are a nation of movers. The National Education Association Research Bulletin (16) reports that one in every five Americans, (32 million people), changed their place of residence in the year 1956 to 1957. Mobility may be defined in the reader's mind in terms of migrant people seeking work. This is one reason for moving; however, there are other reasons for moving. An address concerning "Modern Mobility and Its Effects on People" given by Clague (6) to the National Travelers Aid Association as late as 1960 stated that "A major reason [for moving] is either to find a better job or to find some job." (p.5)

Cowgill (7) reports that "Perhaps the most surprising results of the recent census data are those indicating very little differences among occupational groups in the amount of mobility." (p. 34) This indicates that professional people were as prone to move as unskilled laborers. The only occupational groups which had mobility rates significantly lower than the average were those with a proprietary interest in their jobs.

The findings of Sexton's (18) study seems to conflict with Cowgill's report as the following statement indicates:

A recently completed study of all elementary schools in a large mid-western city shows that in the lowest income areas of the city, the "transaction" [meaning mobility] rate during one semester was 59.6 percent of the total school membership. The lowest "transaction" rate was found in the highest income group, where the rate of turn over was only 13.1 percent. (pp. 131, 132)

Sexton (18) concluded from the foregoing statements that there was a close relationship between turnover rates and family income.

Clague (6) reporting on census data indicated that approximately twenty percent of the population move and that there is a tendency for the better educated to be more mobile:

Nationally in 1950, only four percent of those with no more than a grade school education moved, compared with six percent among high school graduates to ten and one-half percent among college graduates. (p. 6)

Martinson (14) supports Clague's point of view for in his study of 1,289 graduates from five Minnesota high schools he found that "... academic achievement in high school and urban oriented interests were more important in the complex of factors resulting in the migration of boys." (p. 102)

Bollenbacher (2-1961) presents another point of view for he states in his findings that: "Pupils included in this [his] study who moved most often were consistently the least capable, as measured by a group intelligence test." (p. 360) The two foregoing points of view, one which indicates the less capable move, the other that the more capable move, lends support for a fertile field of study for any investigators concerned with mobility and its effect upon students' welfare. Bollenbacher's study is reported fully in the review of the literature. ( page 8)

When surveying the age of mobile people, Cowgill (7) states that "Young adults are still the most mobile elements in the population but, with earlier marriage, they are now moving with their families, including young children, rather than as separate individuals." (p. 34) In summary Cowgill reports that percentage-wise, 42.6 percent of adults

20 to 24 years of age moved in March of 1958 to March of 1959. During this same period of time, 22.2 percent of children five to six, 17.8 percent of children seven to thirteen, and 15.6 percent of children fourteen to seventeen years of age, moved.

No one questions that young adult Americans and their children are moving; however, because of these moves children of all school ages are forced to enroll in and adapt to new schools. This raises the question: How does this mobility affect the child's school work? More specifically, do geographically mobile students differ in their academic achievement from students who have never moved? This investigator will explore this pertinent problem which confronts the American family as well as the American school system.

#### Need for Study

Although statistics show that one in every five Americans changed their place of residence in 1956 to 1957, a part of this mobility can be accounted for by repeated moving on the part of a smaller segment of the general population. Goldstein (9) in a survey of an eastern medium-sized town's population from 1910 to 1950 revealed that "...out-migrants tended in large measure to be the same persons who were previously in-migrants." (p. 538) The out migration rate of the in-migrants was over twice that of the continuous residence group. Goldstein's (9) study further indicated that "...there remains a large segment of the population which by its continuous residence in the community provided continuity and stability to the basic population and the social organization." (p. 536) The fact that people who move are more likely to continue to move only intensifies whatever problems are



inherent in mobility. This seems to indicate the need for much research to help parents and other adults who must through the nature of their roles guide the young who may be caught in a geographically mobile family.

Causes for Geographical Mobility. Two major reasons for moving were presented in an Association for Childhood Education International bulletin entitled "When Children Move from School to School." (1) "First, there is an age-old desire to better oneself. Secondly, there are increasing numbers of families who move because of some change in a parent's occupation." (p. 2)

Clague (6) supports this same point of view but adds other reasons when he states that "The reasons for moving can be for economic advantage, or for pleasure, or for health, or to escape the police, or for adventure or out of sheer wanderlust." (p. 2)

Attitudes toward Moving. A quote from the aforementioned bulletin, "When Children Move From School to School" (1-1960) indicated the attitudes children, parents, and educators have toward moving as follows:

The concerns most frequently expressed by the children had to do with fear of failure in school work, fear of failure to make friends, and fear of being different. Parents saw little or no advantage in change. Most felt that it was not good for children to be uprooted and transplanted during their elementary years. All were uncertain as to the lasting effects. A number of administrators and others expressed regret that so few studies have been made of the problem of changing schools. They felt that the time is overdue for research scientists and others to point out the problem, to study it, and to prepare literature for the guidance of parents and teachers. (p. 4, 5, 6)

This only brings to the foreground how important the need is for scientific knowledge on which to operate as parents and educators.

A review of the literature revealed little scientific information

regarding the effect that mobility has on the student's achievement. Many teachers tend to associate low achievement with the mobile student. Bollenbacher (2) reported that "Teachers in Cincinnati tended increasingly to evaluate low reading achievement almost entirely in terms of pupil mobility." (p. 360) Any evidence that can be gained by studying mobility and its relation to academic achievement should be of value to educators and parents as they try to help children meet the demands of a mobile society. The limitations of such a study as the writer purposes are recognized; however, the contributions of this study could provide a basis for further research.

#### Definition of Terms

The following definitions pertinent to this study are presented at this time to clarify for the reader specific terms. Without this interpretation it would be difficult for the reader to identify with this investigator's frame of reference as a departure for this study. The design for this investigation as well as the treatment of the data is based on these terms as they are defined.

Geographical Mobility, as used in this study, refers to three groups; they were classified as:

- (1) inter-city mobile students if they had moved from city to city one or more times since entering first grade, and,
- (2) intra-city mobile students if the students had changed houses within the city causing the students to come to the junior high being studied from grade schools in Albuquerque other than a school that was a feeder

school, and/or attend more than one of the feeder schools, and/or attend more than one junior high. (A grade school is a feeder school if it supplies the population for a junior high within the same school district.)

- (3) inter-intra-city mobile students if they had moved from city to city one or more times since entering first grade, and if the students had changed houses within the city causing the students to come to the junior high being studied from grade schools in Albuquerque other than a school that was a feeder school, and/or attend more than one of the feeder schools, and/or attend more than one junior high.

Non-mobile Students refers to those students who had attended only one of the feeder grade schools and only one junior high school within the school district, and/or who had not moved from one house to another, but had through re-districting been assigned to another school, and/or who had attended parochial and/or private schools but had not moved from one house to another.

Academic Achievement in this study is determined by semester grades assigned to students by classroom teachers and by the standardized achievement scores that were recorded in the students' cumulative records.

Intelligence in this study was assigned on the basis of the score recorded in the students' cumulative record, regardless of whatever test it may have been.

### Assumptions

This investigation was based on the following assumption: that junior high students will cooperate and can accurately recall the moves they have experienced during their school years from first grade to junior high school. This assumption is basic to the method and procedure for obtaining the data for this study.

### Hypothesis

The hypothesis tested in this investigation was that academic achievement of non-mobile students does not differ from the academic achievement of students who have moved one or more times.

### Purpose of The Study

The purpose of this study was to determine if there is a significant difference between the academic achievement of non-mobile students and students who have moved one or more times. The investigation was not to study the migrant families except as they exist in the general population, due to the multiplicity of factors which may affect these children's academic achievement.

## CHAPTER II

### LITERATURE RELATED TO MOBILITY AND ACHIEVEMENT

To this investigator's knowledge there is no scientific research to determine what effect geographical mobility has on the academic achievement of junior high students. Bollenbacher (2) contributed the one lone piece of research concerning academic achievement; however, he only studied the reading and arithmetic achievement of sixth grade students. Bollenbacher (2) compared the scores of the Stanford Intermediate Reading and Arithmetic Tests which he secured from the students' cumulative records with the information he obtained from the subjects concerning the number and location of schools they had attended. The findings from his study revealed that:

When the differences in the intelligence test scores of the groups were taken into consideration, the results of the covariance analysis indicated that reading achievement as measured by a standardized test was not affected by the number of schools attended. ...the Stanford Arithmetic Test...revealed essentially the same findings. ...pupils included in this study who moved most often were consistently the least capable, as measured by a group intelligence test. A mobile pupil is likely to be a low achiever in reading but the fact that his low achievement is related to his proportionately low ability is likely to be overlooked. (p. 360)

#### Factors Which May Affect Achievement

Although there was limited research to indicate the effect geographical mobility has on the academic achievement of students, there is research indicating that other factors may affect academic achievement on the junior high level, such as social class, sex, personal and

social adjustment, student attitudes, home condition, peer relations, and academic inclination. Research related to these factors is presented according to the aforementioned headings.

Social Class and Sex. Heimann and Schenk (10) studied one hundred fourteen high school sophomores in Wisconsin using marks (grades assigned by teachers) as a measure of academic achievement. They found that both social class and sex factors have a statistically significant effect on the school performance for the individuals they studied. Heimann and Schenk, however, state that "Clinical evidence of differences in individual performance warn of the danger of over-generalization of group data in relation to social-class and sex differences in achievement." (p. 220)

Ford (8) provided further research regarding the effect of sex of the student on academic achievement when he reported eighth and ninth graders in Kentucky were statistically different (.001 level of confidence) in relation to sex and academic achievement. Ford offers as a plausible explanation for the correlation of the heavy preponderance of girls among over-achievers is that at the junior high school level, academic achievement possesses greater value for girls than for boys.

Ford states that:

At this age (junior high) the American boy is frequently seeking to validate his maleness through appropriate behavior, and scholastic achievement probably does not serve this function as well as does performance in other areas - athletics for example." (p. 417)

Personal and Social Adjustment. Wilson (21) studied 1,083 third graders in two cities and maintained:

There are no certain differences in achievement in Spelling, Arithmetic, Reading or intelligence between beginning third grade students who score at or below the tenth percentile on the California Test of

Personality compared with those who score at the fiftieth percentile on the same test." (p. 292)

Student Attitudes. Kurtz and Swenson (12) studied two hundred children in a midwestern town of 6,000 people and found:

...the attitudes tested---(1) attitude toward students' educational achievement, (2) attitude (of student) toward the school situation, (3) attitude toward successful school performances, and (4) attitude toward importance of 'an education'--to be more closely related to the students' achievement scores than to ability scores. (p. 279)

Home Condition. Kurtz and Swenson (11) in a second study involved students in the fourth through twelfth grades of a midwest city under 10,000 population. In this study the "home conditions" of the "plus-achievers" were found to be more favorable. By "home conditions" Kurtz and Swenson were referring to the pride, confidence, affections and interest of parents in their children as shown in instances in which parents read to their children, play with them, or attend school functions. The "plus-achiever" was defined as a student whose achievement was well above expectations on the basis of ability rating; the "minus-achiever" was a student whose achievement was well below the expectations on the basis of ability rating. Kurtz and Swenson point out that "...the same home may have a different meaning for different children of the same family." (p. 474)

Peer Relations. Kurtz and Swenson (11) report that the peer relations of "plus-achievers" seemed to be somewhat more plentiful and especially more supportive than of the "minus-achievers." A number of the "minus-achievers" did not appear to have any close friends at all; seldom is a "plus-achiever" found to be "utterly alone." The number of friends does not always distinguish between "plus-achievers" and "minus-achievers."

Academic Inclination. Kurtz and Swenson (11) also studied academic inclination and found that the "plus-achievers" showed less aversion to book learning, appeared to see a relation between education and future life, and tended to regard an education for more than job value.

Marital Status of Parents. Ford (8) found appreciable differences between the marital status of parents and the "over-achiever" and "under-achievers" that approached the significant level. The probability of occurrence was less than one in five.

Summary of Factors Affecting Achievement. Kurtz and Swenson (11) terminated their study by stating that "Factors relating to school achievement appear to be numerous and interrelated." (p. 478) They further stated that "When the factors are taken in combination; however, "plus-achievers" appear to enjoy decidedly more favorable conditions." (p. 480)

Ford (8) maintains:

Most of the findings of significant difference between "over-achievers" and "under-achievers" can be related to two fundamental propositions. The first is that the academic performance of junior high school students must be viewed within the broader context of socially defined age and sex roles. The second is that parental interests in, aspirations for, and relation with their children exert a powerful influence on the children's school work. (pp. 421-22)

#### Factors Not Affecting Achievement

Ford (8) found a lack of significant difference between academic achievement and family size, occupation of the father, education of the father and mother, and items of social class.

#### Summary

The foregoing findings gave the investigator support for the items



used on the face sheet, the information needed from the cumulative records and the information needed from the homeroom questionnaire.

## CHAPTER III

### PROCEDURE AND METHOD

To achieve the purposes of this study and to test the hypothesis the following steps were followed: (1) subjects were selected, (2) a face sheet was designed and administered to the subjects to obtain specific information and to identify the geographically mobile students, (3) the students' cumulative records and homeroom questionnaires were studied to secure additional information, and (4) data were analyzed. The first three steps will be discussed in this chapter and the fourth step, analysis of data, will be presented in detail in Chapter IV.

#### Selection of Subjects

The students of Garfield Junior High School in Albuquerque, New Mexico were selected as subjects because the investigator was a teacher in that school at the time the data were obtained.

Locale. Albuquerque has several unique characteristics. In population Albuquerque has grown rapidly from a population of 26,570 in 1930 to 96,815 in 1950 to 262,259 in 1960. In 1963 the population was 280,000 which would reveal rapidity in growth. The school population consists of approximately 68,000 students in the public schools and near 8,700 children enrolled in private and parochial schools. Almost one out of every four persons in Albuquerque is enrolled as a student in the public schools.

Of the 262,259 people living in Albuquerque in April of 1960, 64 percent were Anglo (white), 32 percent were Spanish, 2 percent were Negro, 1.2 percent were Indian and the remainder were made up of Japanese, Chinese, Filipinos and other races.

There were 1,011 students enrolled in Garfield Junior High on February 14, 1963, the day on which the face sheet data were collected. Seventh, eighth and ninth grade students were included in this junior high population. The face sheet was administered by all homeroom teachers. No follow-up was made to obtain information from students who were absent on that day. Nine hundred and forty-seven students were present and completed the face sheet. (Appendix A p. 42) Over a period of several weeks, but during the same semester that data from the face sheet were obtained, the investigator obtained information from the students' cumulative records on grades, achievement scores, size of family, marital status, occupational status of the family, and the subjects' intelligence score.

The students were classified on the basis of their responses into non-mobile, intra-city mobile, inter-intra-city mobile, and inter-city mobile students according to the definitions of terms. (Chapter I pp. 5, 6) From the population of 947 students 71 non-mobile subjects were matched with intra-city, inter-intra-city, and inter-city mobile subjects on intelligence, age, sex, occupational status, and grade placement. This made a total of 284 subjects.

A ten-point range was used in matching mental maturity scores. A span of no more than twelve months was used in matching the age of the students. Table I presents the range and the mean in ages and the range and mean in mental maturity scores for each of the three

categories of mobility and the one category of non-mobility.

TABLE I  
MATCHING OF SUBJECTS BY AGE AND MENTAL MATURITY  
ACCORDING TO MOBILITY AND NON-MOBILITY

	Non-Mobile	Intra-	Inter-Intra-	Inter-
Mean Age	13-11	13-9	14-0	14-0
Range of Ages	12-2 to 15-8	12-2 to 15-6	12-4 to 15-9	12-2 to 15-11
Mean Mental Maturity	97.9	98.3	98.0	98.9
Range of Mental Maturity	59-118	67-118	67-119	67-118

Table II shows the distribution of subjects by levels of occupation as classified by McGuire and White (discussion under Socio-Economic Status p. 22)

TABLE II  
MATCHING OF SUBJECTS BY OCCUPATIONS ACCORDING  
TO MOBILITY AND NON-MOBILITY

Levels of Occupations	Number of Non-Mobile	Number of Intra-	Number of Inter-Intra-	Number of Inter-
Level 1	1	0	1	0
Level 2	1	3	1	4
Level 3	5	3	6	1
Level 4	18	23	18	23
Level 5	23	12	16	15
Level 6	11	14	11	12
Level 7	12	16	18	16
Total	71	71	71	71

## Face Sheet

Design of Face Sheet. A face sheet (Appendix A p. 36) was designed to obtain specific information and to identify the geographically mobile students in the three groups which were inter-city, intra-city, and inter-intra-city. (Definitions given on page 5 and 6.) The following were identified through a review of literature as factors which could affect achievement: sex, age, socio-economic status and intelligence.

At the time the investigator designed the face sheet it was not known exactly what information would be available in the students' cumulative records. The original face sheet was designed to incorporate all needed information for data; however, the investigator anticipated deleting any items if information could be secured from the cumulative records.

Question five (Appendix A p. 34) was to provide information which differentiate the inter-city mobile, intra-city mobile, inter-intra-city mobile and non-mobile students. "Grade and age" were used to help the subject recall all places he may have lived. The investigator felt it would be easier for the subject to remember all moves if he did not omit a grade or age level even though a move was not made. The student was asked to list the schools attended to enable the investigator to identify the mobile and non-mobile subjects.

Question seven was to ascertain further information that would verify that the child actually had moved.

Testing of Original Face Sheet. The original face sheet was given to determine the length of time needed to complete the face sheet and the subject's ability to understand the wording, and to determine if

the questions differentiated between inter-city, intra-city, inter-intra-city mobile and non-mobile students.

The face sheet was administered to an eleven-year-old girl during the summer, who had been promoted to the sixth grade for the coming school year. A sixth grader was chosen because the investigator assumed that if a sixth grade student could understand the questions on the face sheet, the reading level should be satisfactory for the intended seventh, eighth and ninth grade students.

This sixth grade student completed the face sheet in twenty minutes. The student commented that she wished her school work was that easy. She did not, however, understand the meaning of the words, "Anglo" and "Spanish".

The information obtained under question five was sufficient to classify this student as "inter-city mobile". The student revealed on the face sheet that she had attended four schools in four cities or towns prior to this testing date. This information was verified by her parents.

First Revision of the Face Sheet. The wording of questions two and three (Appendix A p. 38) which was "Employment of father or guardian" and "Where and what does he do there?" was replaced by "Where does your father (or guardian) work?" and "What does he do?" to clarify meaning. Question three regarding the employment of the mother was reworded in the same manner.

In question four the word "Anglo" was left out since "White" was comprehensive. Question five and six were reversed to place the related material together.

The investigator devised a three-part question to replace the original question five so it would differentiate the non-mobile and the three categories of mobile students. Question seven was deleted since the information gained did not contribute to the overall purpose of this study.

Second Revision of Face Sheet. The second face sheet (Appendix A p. 40) was given to two subjects, one a fourth grader and one a seventh grader. The information received indicated that the three parts of question six were not as discriminating as the first original question five where the subject was requested to name school, grade and age; therefore, the original question five was modified on this basis to read: "Starting with the first grade please list the schools you have attended and the name of the city where the school was located. If you moved from one house to another house when you changed schools, place a check in the last column."

Third Revision of Face Sheet. When the investigator was able to learn what information could be obtained from the students' cumulative records, then the face sheet was revised accordingly. No mention of race or culture was recorded in the cumulative records and permission could not be given to collect this information through the face sheet. For these reasons, the question related to race or culture was omitted. No information was contained in the cumulative records regarding siblings of the subjects who were over eighteen years of age. Due to this fact information was gathered regarding the siblings under eighteen years of age.

When presenting the design of the study for approval to collect the data, Dr. Caplan, Director of Pupil Personnel Services for the

Albuquerque Public Schools, suggested that in question six, regarding mobility, the students should be instructed to place an "X" if they could not remember the name of a town or school. This suggestion was followed, and it proved to be very valuable in helping the student provide accurate information.

The face sheet at this point consisted of items about the student's background and a question regarding mobility. A separate sheet was prepared entitled "Information from Cumulative Records" (see Appendix A p. 43) on which the investigator recorded additional data.

Validity and Reliability of the Final Face Sheet. The final face sheet was given to 27 students enrolled in McKinley Junior High School in Albuquerque. The students' answers were verified by discussing their answers with each individual student. The face sheet was found to have been understood by the students and the information gained was sufficient to classify the students as non-mobile or inter-city mobile, or intra-city mobile, or inter-intra-city mobile.

Administration of the Final Face Sheet. The face sheet was administered by the homeroom teachers since students had previously filled in requests for school information in their homerooms and good rapport had already been established. (The instructions for the face sheet are contained in Appendix B p. 45)

#### Additional Information

The students' cumulative records and homeroom questionnaire were studied to secure the following additional information: achievement scores, grades, mental maturity scores, family occupational status, mobility information verification and items regarding marital status,



and family size.

Academic Achievement. In this study academic achievement was measured by a standardized achievement test and through grades (marks assigned by teachers).

The California Achievement Test was given to all students enrolled at a specified date in the Albuquerque Public School System in the third, sixth and eighth grades. The achievement test scores recorded in the students' cumulative files were the scores available for the majority of the students. The scores were accepted as a measurement of achievement in this study. The California Achievement Test scores were occasionally not available for a student. (Student may have been absent on testing date or may not have been enrolled). Phillips (17) reports that one of the problems of mobility is to get pertinent information concerning the pupils past performance. If the student did not have a California Achievement Test score the most recent available score and the pupil's grade in school at the time of testing were recorded.

Buros (4) evaluates the California Achievement Test by stating: "The single grade reliability coefficients for these tests are satisfactory, the values for the six basic components at the four levels ranging from .83 to .96 with a medium of .90. (pp. 3, 4) Buros (4) further states that these tests "May be used to determine achievement, grade placement, and percentile rank of pupils in relation to the general school population...." (p.6)

Grades. Grades were used in addition to a standardized achievement score as a measure of achievement for two reasons. One, research has been completed using achievement tests as a measure of achievement and no relationship was found between mobility and achievement scores

in that particular community (Bollenbacher 1962). Secondly, to the student his success or the lack of it depends more on his daily work in class and the subsequent periodic grades assigned to his work than on an achievement test score. Grades and an achievement test score should provide a more complete image of a student's academic achievement than if either were used alone.

In the school being studied no standard grading scale is used by teachers and this investigator accepted grades recorded, since they are accepted by the student and his parents.

California Mental Maturity Test. In this study intelligence was measured by the California Mental Maturity Test which is given to all students enrolled in the Albuquerque Public Schools in the third, sixth and eighth grades. The intelligence scores were recorded in the students' cumulative records and were accepted by this investigator as a measure of mental maturity since they were the scores available for the majority of the students. Seventh-grade students had two mental maturity scores and eighth and ninth graders had three scores available which were averaged to provide one mental maturity score. If a student did not have a California Mental Maturity score the recorded scores, regardless of the test, were used since they had been accepted by the school.

Buros (3) states in referring to the validity of the California Mental Maturity Test that "Validity is chiefly inferred but a correlation of .88 with the Stanford-Binet test is stated...." (p. 224) Buros (3) also reported concerning the California Mental Maturity Test that "...the reported coefficients of validity...and of reliability are high, the former ranging from .50 to .70 and the latter being .95." (p. 224)

Socio-Economic Status. Employment information was collected from the cumulative records in order to classify students' socio-economic status. The homeroom questionnaire sheets were checked to gain additional information about employment.

The McGuire and White's Measurements of Social Status (Appendix C p. 47) was used to determine socio-economic status. This scale is a revision of Warner, Meeker and Eells (20) Revised Scale for Rating Occupations and was chosen over the latter as the population used was more representative of the population in the current study (Texas and New Mexico) The occupation of the head of the family was the basis for determining the category rank into which each family was placed. Marshall and Eckart (13) found that the regular occupation of the head of the family was the best single index to economic and cultural level of a home. Warner and Lunt (19) found a high correlation between choice of occupation and class status.

Mobility Information Verification. About ten percent of the total school's population face sheets were compared with the cumulative records in order to verify information about mobility. The face sheets were found to be generally accurate with the most often omission being the enrollment in the current school. This omission could be completed by the investigator since the student had to be enrolled to complete a face sheet.

Marital Status and Family Size. Marital Status was eliminated as a factor for matching of subjects because the information received was insufficient for accurate classification. Family size was also eliminated as a factor for matching since the findings by Ford (8) indicated no relationship between family size and achievement and because the

matching in this factor further reduced the sample.

## CHAPTER IV

### ANALYSIS OF DATA

The purpose of this study was to determine if there is a significant difference between the academic achievement of non-mobile students and students who have moved one or more times.

#### Organization Guide for Interpreting Data

In order to organize the data and interpret the findings two steps were followed: (1) the achievement scores and grades were analyzed and the data were treated by chi-square and (2) the grades of the research group were compared with the grades of the total group and scores were given in percentages.

Analysis of Achievement Scores. The reader is reminded that academic achievement was measured by a standardized achievement score and grades assigned by teachers. In order to facilitate comparing the achievement score of the students, the scores were classified into three groups for each of the three categories of mobile students and the one category of non-mobile students.

The most recent achievement score was always used and even through the scores had been recorded for different grade levels, the investigator felt that the scores were indicative of the students' achievement. By this method a third grade score became as indicative of a child's achievement as a sixth or eighth grade score. The student was

classified as being an "above" if his achievement score was above his actual grade. A student was classified as being "average" if his score was the same as his grade in school. If the student's score was below his grade in school he was classified as "below". Thus a score of 3 to 3.9 for third grade level would be counted in the "average" group. A score below 3 would be placed in the "below" group and a score above 3.9 would be placed in the "above" group. This same procedure for classification applied to the sixth grade level or the ninth grade level to identify the above, average, and below students. The number in each group is presented in Table III.

TABLE III  
DISTRIBUTION OF SUBJECTS ACCORDING TO  
ACHIEVEMENT AND MOBILITY

Achievement Classification	Non-Mobile	Intra-	Inter-Intra-	Inter-	Total	Chi-Square
Above	14	11	16	12	53	1.113 (n.s.)
Average	18	20	23	26	87	1.690 (n.s.)
Below	39	40	32	22	144	1.389 (n.s.)
Total	71	71	71	71	284	

Treatment of data by chi-square as presented in Table III indicates that there were no significant differences between the non-mobile and the various groups of mobile students according to the achievement scores.

Analysis of Grades. The first semester grades of all students were classified into three groups to facilitate analysis of academic achievement by grades. These three groups were formulated on the basis that

four points equaled an "A" grade. Students with an average grade of "B" through "A" for all six academic subjects were classified as "3 to 4" inclusive, students with a "0" average were classified under "2 to 2.9" inclusive, and students with an average grade of "D" or less were classified under "0 to 1.9" inclusive. The number in each group was tabulated and presented in the following Table IV.

TABLE IV  
DISTRIBUTION OF SUBJECTS ACCORDING  
TO GRADES AND MOBILITY

Grade Classification	Non-Mobile	Intra-	Inter- Intra-	Inter-	Total	Chi-Square
3 to 4	13	9	11	8	41	1.439 (n.s.)
2 to 2.9	27	26	32	32	117	1.051 (n.s.)
0 to 1.9	31	36	31	31	126	1.047 (n.s.)
Total	71	71	71	71	284	

Treatment of data by chi-square as presented in Table IV indicated that there were no significant differences between non-mobile and the various groups of mobile students according to grades. On the basis of the chi-square scores derived by relating mobility to academic achievement scores and relating mobility to grades the results indicated that there is no significant difference between the non-mobile students and the students classified by various kinds of mobility. On this basis the investigator accepts the hypothesis that the academic achievement of non-mobile students does not differ from the academic achievement of students who have moved one or more times.

Comparison of Research Group and Total School Group. An observation

of data presented in Tables III and IV indicates the research group is not representative of the general population. For this reason the research group was compared with the total school population that was studied to determine if the research group was representative of at least this particular school population. The findings are presented in Table V. The evidence indicates that the group is representative of the general school population used in this investigation.

TABLE V  
GRADE COMPARISON OF RESEARCH GROUP  
AND TOTAL SCHOOL GROUP

Grade Classification	Total School Group Number	Total School Group Percent	Research Group Number	Research Group Percent
3 to 4	137	14	41	14
2 to 2.9	359	38	116	41
0 to 1.9	451	48	127	45
Total	947	100	284	100

The achievement scores and grades of non-mobile and mobile students according to sex is presented in Table VI (Appendix D p. 49). This information is included for those readers that would desire additional information.

The findings of this investigation concerning academic achievement and mobility agree with the findings of Bollenbacher (2) in that no significant relationship was found to exist between mobility and academic achievement as measured by sixth grade students' achievement test scores in reading and arithmetic. Bollenbacher (2) found that the most mobile students were consistently the least capable. The findings



of this investigation do not substantiate this particular finding of Bollenbacher's. In this investigation the average mental maturity score for all mobile students was 96.06. The average mental maturity score for all non-mobile students was 96.85. The most mobile group, the inter-intra-city mobile students, had an average mental maturity score of 99.50 which was the highest average of all groups.

## CHAPTER V

### SUMMARY

The major purpose of this study was to determine if the geographical mobile students differ in their academic achievement from students who have never moved.

A face sheet was designed and administered to obtain specific information and to identify the geographically mobile students. The students' cumulative records and homeroom questionnaires were studied to secure additional information regarding the students' background. The grades assigned by teachers and standardized achievement test scores that were recorded in the students' cumulative records were used as a measurement of academic achievement. Standardized test scores were accepted as a measure of mental maturity and the McGuire and White's Scale of Social Status was accepted as a measure of socio-economic status.

The final subjects were 284 students enrolled in the seventh, eighth, and ninth grades of a public school in Albuquerque, New Mexico. Seventy-one of these subjects, who were non-mobile, were matched on intelligence, age, sex, occupational status, and grade placement with subjects in the three categories of geographic mobility, inter-city, intra-city, and inter-intra-city.

The data were treated by chi-square analysis to determine if there was a significant difference between the academic achievement of the non-mobile students and students who have never moved.

## Findings

The findings of this study show that when academic achievement is measured by grades and a standardized test that there is no significant difference between the academic achievement of students who have never moved and students who have moved one or more times. This gave justification for the acceptance of the hypothesis of this investigation.

The grades of the research group were found to be representative of the total school population in this study.

## Implications for Educators and Parents

Teachers may well look to other factors for low achievement than that of using mobility as a "scapegoat". This means when a mobile child is having difficulty with academics that there may be more dynamic factors involved than that of moving.

Parents may take courage, when faced with moving a child from one school to another, by realizing that the move itself will not affect grades. Of course this would not rule out other factors such as the parent's attitudes in general toward the move.

Personnel responsible for planning curricula for students to achieve their potential may well recognize the need to measure as many aspects of children's behavior as possible to be used by both teachers and administrators.

## Limitations of the Study

Due to the particular qualities of the city being studied, no generalizations can be made to other cities regarding the findings of

the study; however, since these findings coincide with those of Bollenbacher, they strengthen the confidence that can be placed in the findings of either study.

#### Recommendations for Further Research

The findings of this study as well as the findings of Bollenbacher's study would indicate that in these two locales that mobility does not affect the academic achievement of children. Further research is needed in other locales before generalizations can be made.

Studies should be made to determine the effect of mobility on the personal and social adjustment of children and the effect that the supportive measures employed by parents may have on their children's adjustment process. Mobility, although not affecting academic achievement in this study, could affect these other areas in the lives of children. It would be of value to have this aspect studied.

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APPENDIXES

APPENDIX A



## ORIGINAL FACE SHEET

NAME \_\_\_\_\_ HOMEROOM TEACHER \_\_\_\_\_

SEX: MALE \_\_\_\_\_ FEMALE \_\_\_\_\_ AGE \_\_\_\_\_ BIRTHDATE \_\_\_\_\_

GRADE \_\_\_\_\_ ADDRESS \_\_\_\_\_

1. Do you live with your father and mother? \_\_\_\_\_ If not, with whom do you live? \_\_\_\_\_ What relation are they to you? \_\_\_\_\_

2. Employment of father or guardian \_\_\_\_\_ Where and what does he do there? \_\_\_\_\_

3. Employment of mother or guardian \_\_\_\_\_ Where and what does she do there? \_\_\_\_\_

4. Check the following words that apply to you:

_____ Anglo	_____ Japanese
_____ Spanish	_____ Indian
_____ Negro	_____ Other (please specify) _____
_____ White	

5. List all the schools you have attended and the grades you were in when you went to that school:

SCHOOLGRADEAGE

6. List your brothers and sister's names and ages.

NAMES

AGES

7. When you moved from one school to the next, were all of your classmates new?

## FIRST REVISION OF FACE SHEET

NAME \_\_\_\_\_ HOMEROOM TEACHER \_\_\_\_\_

SEX: MALE \_\_\_\_\_ FEMALE \_\_\_\_\_ AGE \_\_\_\_\_ BIRTHDATE \_\_\_\_\_

GRADE \_\_\_\_\_ ADDRESS \_\_\_\_\_

1. Do you live with your father and mother? \_\_\_\_\_ If not, with whom do you live? \_\_\_\_\_ What relation are they to you? \_\_\_\_\_

2. Where does your father (or guardian) work? \_\_\_\_\_  
What does he do? \_\_\_\_\_

3. Where does your mother (or guardian) work? \_\_\_\_\_  
What does she do? \_\_\_\_\_

4. Check the following words that describe you?

_____ Spanish	_____ Japanese
_____ Negro	_____ Indian
_____ White	_____ Other (Please specify) _____

5. List your brothers and sister's names and ages:

<u>Names</u>	<u>Ages</u>
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INSTRUCTIONS FOR QUESTIONS 6, 7 AND 8

If you have moved from one city to another please answer question number 6.

If you have moved from one house to another house within one city please answer question 7.

If you have never moved since you started to school please answer question number 8.

If you have moved from one city to another and have also moved from one house to another house within one of those cities please answer only question number 6.

6. If you have moved from one town to another indicate all the places you have attended school, the grade you were in while you lived in the city and how old you were at the time.

<u>CITY</u>	<u>SCHOOL</u>	<u>GRADE</u>	<u>AGE</u>
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7. If you have moved from one house to another house within one city name the schools you attended, what grades you were in while you lived there, and how old you were in each grade.\*

<u>SCHOOL</u>	<u>GRADE</u>	<u>AGE</u>
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8. If you have never moved since you started to school tell me how you feel about not moving.\*

\*Questions 6, 7, and 8 were originally on separate sheets of paper but are incorporated here on one sheet to save space.

## SECOND REVISION OF FACE SHEET

NAME \_\_\_\_\_ HOMEROOM TEACHER \_\_\_\_\_

SEX: MALE \_\_\_\_\_ FEMALE \_\_\_\_\_ AGE \_\_\_\_\_ BIRTHDATE \_\_\_\_\_

GRADE \_\_\_\_\_ ADDRESS \_\_\_\_\_

1. Do you live with your father and mother? \_\_\_\_\_ If not, with whom do you live? \_\_\_\_\_ What relation are they to you? \_\_\_\_\_

2. Where does your father (or guardian) work? \_\_\_\_\_  
What does he do? \_\_\_\_\_

3. Where does your mother (or guardian) work? \_\_\_\_\_  
What does she do? \_\_\_\_\_

4. Check the following words that describe you:

_____ Spanish	_____ Japanese
_____ Negro	_____ Indian
_____ White	_____ Other (Please specify) _____

5. How many brothers and sisters do you have now living at home? \_\_\_\_\_

Living at home I have:

_____ older brothers.	How many? _____
_____ older sisters	How many? _____
_____ younger brothers.	How many? _____
_____ younger sisters.	How many? _____
_____ a twin brother or sister.	
_____ no brothers or sisters.	

How many brothers or sisters do you have that are not living at home? \_\_\_\_\_ I have:

_____ older brothers.	How many? _____
_____ older sisters.	How many? _____
_____ younger brothers.	How many? _____
_____ younger sisters.	How many? _____
_____ a twin brother or sister.	
_____ no brothers or sisters.	

6. Starting with the first grade please list the schools you have attended and the name of the city where the school was located.

If you moved from one house to another house when you changed schools, place a check in the last column.

GRADE

SCHOOL

CITY

CHANGE IN HOUSE

## THIRD REVISION OF FACE SHEET

Name \_\_\_\_\_ Homeroom Teacher \_\_\_\_\_

Sex: Male \_\_\_\_\_ Female \_\_\_\_\_ Birthday \_\_\_\_\_

Grade \_\_\_\_\_ Age \_\_\_\_\_

Starting with the first grade please list the schools that you have attended and the name of the city where the school was located.

When you changed schools, if you moved from one house to another house please write "YES" in the last column. When you changed schools, if you did not move from one house to another house, please write "NO" in the last column.

If you have forgotten the name of the school or the name of the town where you attended a grade, please place an "X" for that school or town.

GRADESCHOOLCITYCHANGE OF HOME





APPENDIX B

INSTRUCTIONS FOR ADMINISTRATION  
OF FACE SHEET

The attached face sheets are to be given to the student in each homeroom class on February 14, 1963. The following are instructions for administering the face sheet.

Explain the purpose of this study (read introduction given below and try to obtain the cooperation of your students).

Introduction: "Many students move from one school to the next each year. Sometimes students feel that this moving makes their school work harder. Others feel that they learn interesting things from moving and that it makes school work easier.

The information you give on this paper will help a teacher learn if moving helps you in your school work."

Give each student a face sheet.

Read through the face sheet aloud with the students. Stress that there are no "right or wrong" answers but that they should work for accuracy in their answers.

Answer the student's questions.

Have students fill out face sheet. (Teachers should emphasize the fact that these questions should not take more than 20 minutes.)

Collect face sheets and clip together with teacher's name.

Upon completion of the face sheet please return them to room 115.

If you have questions regarding the administration of the face sheet please feel free to contact me.

Carla Fitch

APPENDIX C

McGUIRE AND WHITE'S MEASUREMENTS OF SOCIAL STATUS\*

Rate					Farm People	
1.	Lawyer, judge, physician, engineer, professor, school suptd., et al	Large businesses valued at \$100,000 or more depending on community.	Top executives President, et al of corporations, banks, pub. utilities	CPA; editor of newspaper, magazine; executive secretary of status org'n.	Gentleman farmer or landowners who do not supervise directly their property's	
2.	High school teachers, librarians, and others with 4-year degrees	Business valued at \$50,000 to \$100,000.	Asst., office, and dept. managers or supervisors; some mnfr.'s agents	Accountant; insurance, real estate, stock salesmen; editorial writers	Land operators who supervise properties and have an active urban life.	
3.	Grade school teacher, registered nurse, minister without 4-yr. degree	Business or equity valued from \$10,000 to \$50,000.	Managers of small branches or buyers and salesmen of known mchdse.	Bank clerks, auto salesmen, postal clerks, RR or tel. agent or supvsr.	Small contractor who works at or supervises his jobs	Farm owners with "hired help;" operators of leased property who supervise.
4.		Business or equity valued from \$5,000 to \$10,000.	( Stenographer, book-keeper; ticket agent, sales people in dept. stores, et al.	Foreman; master carpenter, electrician, et al; RR. engineer.	Police captain, tailor, railroad conductor, watchmaker, etc.	Small landowner; operators of rented property hiring "hands"
5.		Business or equity valued from \$2,000 to \$5,000.	(Dime store clerks, grocery clerks; telephone and beauty operators, et al.	Apprentice to skilled trades; repairmen; med. skilled workers	Policemen; barbers; practical nurse; brakeman, et al.	Tenants on good farms; foreman; owners of farms who "hire out"
6.		Business or equity valued at less than \$2,000.	( Semi-Skilled factory and production workers; assistants to skilled trade warehousemen, watchman.		Taxi and truck drivers; waiter or waitress; gas stn. atttd.	Sharecroppers; established farm laborers; subs'ce farmers.
7.	"Reputed Lawbreakers"		(Heavy labor; odd-job men; mine or mill hands; unskilled workers.		Domestic help; bus boy; scrub women; janitor's helper.	Migrant workers; "Squatters" and "nesters"

\*For an original table, consult Warner's revised scale (12, pp. 140-141).

APPENDIX D

TABLE VI  
THE ACHIEVEMENT SCORES AND GRADES OF NON-MOBILE AND  
MOBILE STUDENTS ACCORDING TO SEX

Moves	Grades					Achievement Scores					
	Non-Mobile	Intra-	Inter-Intra	Inter-	Total	Non-Mobile	Intra-	Inter-Intra	Inter-	Total	
Boys	3	2	5	3	13	Above	5	4	6	3	18
Girls	10	7	6	5	28		9	7	10	9	35
Total	13	9	11	8	41		14	11	16	12	53
Boys	13	10	10	12	45	Average	5	8	4	14	31
Girls	14	16	22	20	72		13	12	19	12	56
Total	27	26	32	32	117		18	20	23	26	87
Boys	13	17	14	14	58	Below	19	17	19	12	67
Girls	18	19	14	17	68		20	23	13	21	77
Total	31	36	28	31	126		39	40	32	33	144
Boys	29	29	29	29	116	Total	29	29	29	29	116
Girls	42	42	42	42	168		42	42	42	42	168
Total	71	71	71	71	284		71	71	71	71	284

VITA

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