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THE EFFECTS OF SCHOOL MOBILITY ON THE GRADES
AND ACHIEVEMENT OF MILITARY CHILDREN
(TITLE)

BY

Dorotha Gordon
B. Ed. Eastern Illinois University

PLAN B PAPER

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I HEREBY RECOMMEND THIS PLAN B PAPER BE ACCEPTED AS
FULFILLING THIS PART OF THE DEGREE, M.S. IN ED.

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DATE

[REDACTED]

ADVISER

May 10, 1965
DATE

[REDACTED]

acting DEPARTMENT HEAD

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CHAPTER I
INTRODUCTION

Statement of the Problem

America has become a mobile society. The National Education Association reports that in the period from 1956 to 1957 one in every five Americans changed his place of residence.¹ According to the Census Bureau forty million people in the United States move each year.² Cowgill states that the families of young married adults are the most mobile element of the population.³ One segment of the population which makes frequent moves is the armed forces and their families. Most of these people are young adults with children. The frequent moving of these children raises the question, "Do the children of service men who move often differ in academic achievement from students who have never moved?"

The prevailing opinion of parents and teachers seemed to be that school mobility has an unfavorable effect on children. The

¹National Education Association, "America on the Move," NEA Research Bulletin, XXXVI (December, 1958), 99.

²Elsie Hayes, "Changing Neighborhood, Changing School," Educational Leadership, XVII (February, 1960), 298.

³National Education Association, loc. cit., 100.

bulletin, "When Children Move from School to School," states, "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."⁴

Purpose of the Study

This study purported to determine the relationship, if any, existing between school mobility of military children and the amount of success or failure in a classroom by comparing the achievement in classroom grades and standardized tests of a group of Navy children with that of static civilian children.

Definition of Terms

Base - Naval Air Station.

Civilian children - Children whose fathers are engaged in civilian occupations.

Military children - Children whose fathers are members of the United States armed forces. In this study the term refers mainly to the children whose fathers are in the Navy; but some are Marines, and a few belong to the Coast Guard.

Naval Reservation - An area of land on which is located a naval station. In this study it is the land on which the Naval Air Station is located.

⁴Association for Childhood Education International, When Children Move from School to School, Bulletin 105, (Washington, D.C. 1960), 33.

School mobility - Children who change schools often are said to have school mobility.

Static - Refers in this study to children whose families do not move often.

Limitations of the Study

The limitations of the study should be recognized as numerous. Since the basic raw data are based on the population of the fourth, fifth, and sixth grades of a particular elementary school, the present findings are not necessarily applicable to populations and localities differing significantly from the present ones.

Measures of some characteristics, such as marks earned in a particular school subject, are recognized as being less than fully valid. There were weaknesses of test procedures. Some were administered and scored by the individual classroom teachers, and it can only be assumed that prescribed testing procedures were observed.

Social and educational backgrounds were not considered as factors of evaluation in the study.

Related Research

Numerous studies have been made as to the amount and type of mobility, and some studies of school mobility have been reported; but if the writer's experience in locating material pertinent to the effect of mobility on military children is a useful criterion, there

are practically no available studies of the effect on the grades and achievement scores of military children.

Two studies of the effect of mobility on reading achievement were made in Cincinnati. In 1952, a study was made to assess the effect of pupil mobility on achievement in reading and in arithmetic as measured by performance on a standardized test. It was found at this time that when students of similar ability were compared, achievement scores on a standardized test were not negatively effected. During the school year of 1959-1960, a second study of the mobility of the pupils in relation to achievement was conducted. In this study, which used the sixth grade pupils as the sample to be studied, the data were reported in terms of the number of moves made by individual pupils. The Stanford Intermediate Reading and Arithmetic Tests were given to all sixth grade pupils. Reading test data were divided according to the length of time the pupils had attended the Cincinnati schools.

In reporting the results of this research, Bollenbacher⁵ states that the teachers in Cincinnati had "tended to evaluate low reading achievement almost entirely in terms of pupil mobility." However, Bollenbacher's findings indicated that when pupils with

⁵ Joan Bollenbacher, "Study of the Effect of Mobility on Reading Achievement," Reading Teacher, XV (March, 1962), 356-360.

similar intelligence test scores were measured by a standardized test, the achievement in reading and arithmetic was not affected by the pupil's mobility.

A study of the relationship between three measures of school mobility and thirty-four characteristics of 434 members of the junior class of the Savannah High School in Savannah, Georgia, was made by Greene and Daughty.⁶ The three measures of school mobility included student moves from one school to another, distance of each move, and the recency of each move. The thirty-four variables dealt with teacher grades earned in twenty subjects, scores on standardized tests of mental ability and school achievement, standardized measures on an adjustment inventory, age, sex, socio-economic status of students, and the number of absences and tardinesses of students during the eleventh grade.

The statistical findings of the Savannah study indicated that the students who had made a relatively large number of moves, in comparison to those who had made fewer moves, were more likely than average to have higher grade placement on the California Arithmetic Achievement Test, to be older, and to have fewer school absences. Students having recently moved were more likely than average to have made a favorable home adjustment as measured by scores on the

⁶James E. Greene Sr. and Shirley Lanier Daughty, "Factors Associated with School Mobility," The Journal of Educational Sociology, XXXV, No. 1 (September, 1961), 35-40.

Bell Adjustment Inventory. Students with a high distance of mobility compared favorably in social adjustment scores on the Bell Adjustment Inventory and earned comparatively favorable marks in biology, Spanish, and music. In general, the authors reported that although prevailing opinion of teachers and parents seemed to be that school mobility had unfavorable effects, the statistically significant relationships were favorable.

Fitch and Hoffer⁷ studied the effects of moving on children's school work and the effect of the children's adjustment. The subjects were 947 junior high school students consisting of seventh, eighth, and ninth graders. Factors measured were grades assigned by teachers and standardized achievement scores.

The findings of this study, the research of Bollenbacher, and the conclusions of Greene and Daughy would all indicate that in those particular locales mobility does not negatively affect the academic achievement of children.

⁷Carla Fitch and Josephine Hoffer, "Geographical Mobility and Academic Achievement of a Group of Junior High Students," Journal of Home Economics, LVI (May, 1964), 334-5.

CHAPTER II

BACKGROUND

The subjects of this study are 262 students of the fourth, fifth, and sixth grades of an elementary school. The population of this school is about equally divided between children whose fathers are civilians and those whose fathers are servicemen. A Naval Air Station of approximately sixteen thousand people is located in the school district and most of the children living on the Naval Reservation attend one of the public schools in the area.

Mobility of the Naval Air Station population is the rule rather than the exception. The average tour of duty of a Navy family is two to three years. Consequently, daily registration and withdrawal are routine. In the fourth grade 8.3 per cent had attended only one school, 25.0 per cent two schools, 36.1 per cent three schools, 19.4 per cent four schools, 2.8 per cent five schools, 5.6 per cent six schools, and 2.8 per cent seven schools. The average number of schools attended by the Navy children in the fourth grade was 4.15 as compared to 1.60 by the civilian children.

In the fifth grade the percentage of schools attended was: 13.2 per cent one school, 21.1 per cent two schools, 26.3 per cent

three schools, 21.1 per cent four schools, 10.5 per cent five schools, 2.6 per cent six schools, and 5.3 per cent seven schools. The average number of schools attended by the Navy children was 3.14 while the civilian children had an average of only 1.57 schools.

In the sixth grade 4.2 per cent of the Navy children had attended one school, 29.1 per cent two schools, 16.7 per cent five schools, and 4.2 per cent six schools. The Navy children had attended an average of 3.25 schools while the civilian children had attended an average of 2.07 schools. The latter figure was influenced by the fact that two children of the same family had moved ten times.

Probably no feature of this school community is as unusual and interesting as the diversity of pupil backgrounds represented by the states and foreign countries in which the children were born or had lived. The Navy children in the three grades studied had been born in twenty-seven different states and three foreign countries. The largest number were born in the states where large naval air stations were located. More children, 16.5 per cent, were born in Florida. California and Tennessee tied for second place with 12.2 per cent. In fourth place was Virginia where 10.4 per cent were born. The states of Hawaii, Illinois, Kentucky, Maryland, Massachusetts, New York, North Carolina, and Washington each had 3.5 per cent. Rhode Island had 2.6 per cent. Alabama, Michigan, Missouri, Oklahoma, Pennsylvania, and Texas each had 1.7 per cent. The smallest number,

.9 per cent, were born in each of the following states: Connecticut, Georgia, Iowa, Kansas, Louisiana, Nebraska, New Jersey, and Oregon. The three foreign countries represented were Casablanca, Africa; London, England; and Cuba.

Although thirteen states were listed as the birthplaces of the civilian children, 87.1 per cent had been born in the state in which the school is located. Other states mentioned were: 2.0 per cent were born in each of the states of Florida, Massachusetts, and Mississippi; 1.4 per cent in Arkansas; and .7 per cent in each of the states of Alabama, Indiana, Maryland, Missouri, North Carolina, Oklahoma, Rhode Island, and Virginia.

The elementary school which was chosen for this study has an enrollment of between six and seven hundred students, and there is a sizable number of civilian children whose economic status approximates that of the Navy children. No child who had changed schools more than once was considered in the study of the more permanent children.

The Navy rank held by the fathers of the children and the percentages holding each rank is listed as follows:

Commissioned Officers	Per Cent
Captain.....	2.4
Commander.....	12.9
Lieutenant Commander or Marine Major.....	16.5
Lieutenant, Marine Captain, or Army Captain.....	16.5
Lieutenant, junior grade.....	1.2

Non-Commissioned Officers	Per Cent
Chief Petty Officer or Marine Sergeant.....	32.9
First Class Petty Officer.....	8.2
Second Class Petty Officer.....	12.9

The above percentages include the Marine fathers with the equivalent Navy rank and, also, the one Army father whose family is living in the area.

The occupations of the civilian students' fathers and the number of children whose fathers have that occupation are listed. Numbers of children are given because the small number engaged in most occupations makes the use of percentages impractical. The North-Hatt Scale, which ranks occupations according to prestige, is used as a guide in determining the order of listing.⁸

Occupations of Civilian Parents	Number
Physician.....	4
Minister.....	3
Dentist.....	1
Electrical engineer.....	1
Building contractors.....	3

⁸Carrole L. Shartle, Occupational Information: Its Development and Application (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1959), 56-57.

Occupations of Civilian Parents (continued)	Number
Public school teachers.....	5
County agricultural agent.....	1
Farm owner operator.....	10
Veterinarian.....	1
Owners small stores.....	4
Manager telephone company.....	1
Electricians.....	4
Trained machinist.....	6
Manager small store.....	1
Bank teller.....	1
Bookkeeper.....	1
Insurance agent.....	1
Real estate agent.....	1
Clerical worker.....	1
Tenant farmer.....	2
Salesman.....	5
Private detective.....	1
Deputy sheriff.....	2
Fireman.....	1
Mail carrier.....	2
Carpenter.....	6
Plumber.....	1
Mechanic.....	10

Occupation of Civilian Parents (continued)	Number
Owners of service stations.....	4
Owners small businesses.....	5
Manager riding stable.....	1
Machine operator in factory.....	3
Factory worker.....	11
Meat packing company.....	2
Barber.....	2
Cashier.....	1
Clerk in store.....	6
Stock clerk.....	2
Distributor for newspaper.....	1
Bus driver.....	1
Truck driver.....	6
Filling station attendant.....	1
Loader.....	1
Laborer.....	2
Farm hand.....	1
Taxi driver.....	2
Maintenance.....	3
Night watchman.....	3

CHAPTER III
METHOD AND TREATMENT OF DATA

Source of Data

For this study the records of the 242 pupils of grades four, five, and six were considered. The "Accumulative Record Sheet" of each child was used to secure information as to sex, chronological age, achievement test scores, intelligence quotient, and the number of schools attended.

Treatment of Data

The basic data involved in this study consisted of four measures: student marks earned in specific school subjects and each student's average for all subjects, scores on the Metropolitan Achievement Tests, scores on the Lorge-Thorndike Intelligence Tests, and ages.

An individual data record was made from each child's "Accumulative Record Sheet." On the following page is a copy of the record sheet from which was compiled this information: grade, sex, age, birthplace, father's occupation, classroom grades, achievement test scores, intelligence quotient, and number of schools. As the accumulative records did not contain information as to the number of schools attended, it was necessary to obtain such information by personal interview.

GRADE 4 5 6

BOY GIRL

DATE OF BIRTH _____

BIRTHPLACE _____

PARENT'S OCCUPATION:

CIVILIAN _____

NAVY - RANK _____

	Teacher Grades	Standardized or Achievement Test
ARITHMETIC	[]	[]
ENGLISH	[]	[]
SOCIAL STUDIES	[]	[]
READING	[]	[]
SCIENCE-HEALTH	[]	[]
SPELLING	[]	[]
WRITING	[]	[]

ACHIEVEMENT TEST AVERAGE OR MEAN _____

I.Q.
NONVERBAL _____

VERBAL _____

NUMBER OF SCHOOLS ATTENDED _____

The information from these individual record sheets was tabulated. The first data considered were the teacher grades. Although no actual grade point average value is given to the classroom grades earned by the pupils in the elementary school where the study was made, in order to facilitate compiling of data, a four point value scale was used; A, four points; B, three points; C, two points; D, one point; and F, no points. Using these point values, the mean for seven specific subjects and the average for all subjects were computed.

The Lorge-Thorndike Intelligence Tests are given as a part of the school's regular testing program. The tests are given only in grades three and five. Because of the transit quality of the Navy population of grade six, an insufficient number of scores were available for comparison in that grade.

The Metropolitan Achievement Tests are given in grades four and six; therefore, achievement test results were unavailable in grade five.

A careful study of the assembled data, charts, and analysis was made.

CHAPTER IV
FINDINGS OF THE STUDY

The statistical evidence in this chapter is the result of a detailed tabulation of the specific data for each pupil in the fourth, fifth, and sixth grades. The results of this tabulation are given in table form. The first four tables give the mean of seven specific subjects for both the military and civilian children. The mean is expressed in grade points using the four point system.

The comparison of the Metropolitan Achievement Test Scores is given as grade placement. In order to simplify recording, the related subjects are combined into one grade placement. In the fourth grade word knowledge, word discrimination, and reading are combined and listed as reading. English includes language usage, language punctuation and capitalization. Arithmetic computation, arithmetic problem solving, and concepts are listed as arithmetic.

The sixth grade grade placement headings include the following: reading, word knowledge and reading; English, language total and language study skills; arithmetic, arithmetic computation and arithmetic problem solving and concepts; and social studies, social studies information and social studies skills.

TABLE 1
 COMPARISON OF CLASSROOM GRADES
 IN THE FOURTH GRADE

Subject	Navy Children	Civilian Children
Arithmetic.....	2.78	2.42
English.....	3.03	3.01
Social Studies.....	2.61	2.20
Reading.....	2.66	2.54
Science.....	2.38	2.00
Spelling.....	3.20	2.83
Writing.....	2.70	2.72
Average.....	2.77	2.53

In the fourth grade, writing was the only subject in which the grade point average was higher for civilian children.

TABLE 2
 COMPARISON OF CLASSROOM GRADES
 IN THE FIFTH GRADE

Subject	Navy Children	Civilian Children
Arithmetic.....	2.15	2.12
English.....	2.47	2.40
Social Studies.....	2.25	2.65
Reading.....	2.48	2.36
Science.....	2.35	2.24
Spelling.....	2.84	2.43
Writing.....	2.38	2.84
Average.....	2.42	2.43

Table 2 shows that the static children of grade five had a slightly higher mean for social studies, writing, and grade average.

TABLE 3
 COMPARISON OF CLASSROOM GRADES
 IN THE SIXTH GRADE

Subject	Navy Children	Civilian Children
Arithmetic.....	2.70	2.26
English.....	2.88	2.31
Social Studies.....	3.04	2.11
Reading.....	2.63	1.92
Science.....	3.13	2.45
Spelling.....	3.29	3.08
Writing.....	2.63	2.42
Average.....	2.90	2.37

As shown in Table 3, the best showing of all the grades of Navy children was in the sixth grade in which they were slightly higher in all subjects. The social studies mean was almost one grade point higher.

TABLE 4
 COMPARISON OF CLASSROOM GRADES
 FOR GRADES FOUR, FIVE, AND SIX

Subject	Navy Children	Civilian Children
Arithmetic.....	2.54	2.27
English.....	2.79	2.57
Social Studies.....	2.63	2.32
Reading.....	2.59	2.27
Science.....	2.62	2.23
Spelling.....	3.11	2.78
Writing.....	2.57	2.66
Average.....	2.70	2.44

The results recorded in Table 4 show the mean grades of all subjects for all grades to be slightly higher for the more mobile children. The results of the comparison of classroom grades, as shown in Tables 1, 2, 3, and 4, were favorable to the Navy students.

TABLE 5
 METROPOLITAN ACHIEVEMENT TEST
 GRADE PLACEMENT SCORES
 FOURTH GRADE

Test	Navy Children	Civilian Children
Arithmetic.....	4.1	4.1
English.....	5.0	4.8
Reading.....	4.7	4.5
Spelling.....	5.1	4.7
Mean.....	4.7	4.5

Although the military children seemed to have a slight advantage over the civilian children, both Navy and civilian children had grade placement scores higher than the national sample of pupils on which the Metropolitan norms are based. At the time the test was given in this school, the average grade placement score for the national sample was 4.1. The score of the Navy children was 4.7 and of the civilian children 4.5.

TABLE 6
 METROPOLITAN ACHIEVEMENT TEST
 GRADE PLACEMENT SCORES
 SIXTH GRADE

Test	Navy Children	Civilian Children
Arithmetic.....	6.6	6.2
English.....	7.6	7.2
Reading.....	7.6	7.0
Spelling.....	7.2	6.5
Social Studies.....	7.9	6.9
Science.....	7.6	6.9
Average.....	7.4	6.8

As in the fourth grade, the mean grade placement score for grade six was higher than that of the national sample on which the Metropolitan norms are based. The grade placement score for the national population was 6.1. The scores of the Navy children were higher with a 7.4 mean while the average of the civilian children was 6.8. As in the classroom grades, the social studies scores showed the largest amount of difference. The score of the mobile

students was almost one grade higher. Specifically, the Navy pupils had a score of 7.86 while the less mobile pupil's score was 6.88.

TABLE 7
THE LORGE-THORNDIKE INTELLIGENCE TESTS
SCORES FOR GRADE FOUR

	Navy Children	Civilian Children
Intelligence Quotient	109	105

TABLE 8
THE LORGE-THORNDIKE INTELLIGENCE TESTS
SCORES FOR GRADE FIVE

Tests	Navy Children	Civilian Children
Non-verbal	109	104
Verbal	117	112

The intelligence test scores for grades four and five are also a little higher for the mobile students than for the less mobile pupils.

TABLE 9
 COMPARISON OF AGES
 YEARS AND MONTHS

Grade	Navy Children	Civilian Children
Fourth Grade	9 - 4	9 - 5
Fifth Grade	10 - 4	10 - 4
Sixth Grade	11 - 4	11 - 7

Except in the sixth grade, where there is a difference of three months, there is very little difference between the mean of the ages of the Navy children and the civilian children.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The basic data here involved consists of a comparative study of educational measures earned by children who move often as a result of their father's military career and children who move very little, if any. Pupils who continuously attended elementary school seemed to perform no better on either classroom earned grades or achievement tests than those who moved into the district as a result of their father's tour of duty at the Naval Air Station.

Although the findings of this study tend to disprove the opinion that achievement is affected negatively for pupils who move from school to school, mobility does present problems. In addition to adjusting to a new teacher, to pupils strange to him, and to new classroom work; the military child has many more problems which are peculiar to the modern military life. There is the constant changing school environment made necessary by periodic changes of duty stations. The children must also adjust repeatedly to changing community environment. Because of constant moving from town to town, the child has no feeling of "belonging." This perhaps leads to a feeling of insecurity and emotional maladjustment.

Although the comparison in this study is favorable as to the effect of school mobility, it is recognized that there are other factors besides the amount of mobility which influence the academic achievement of these students. In view of the number of service men whose families move often, it seems that further research of the education of these children is advisable.

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