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GEOGRAPHICAL MOBILITY AND ACADEMIC

ACHIEVEMENT OF A GROUP OF NINTH

GRADE JUNIOR HIGH SCHOOL STUDENTS

by

Mary Livingston Stegall

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Approved by

Barbara E. James
Director

APPROVAL SHEET

This thesis has been approved by the following committee of the Faculty of the Graduate School at the University of North Carolina at Greensboro, Greensboro, North Carolina.

Barbara E. James
Thesis Director

J. V. Sperry

Nancy White

William R. Reed

April 25, 1966
Date of Examination

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Geographical mobility has become a behavior pattern of the American culture, as each year millions of United States' inhabitants move from place to place. Although very few research studies have dealt with the mobile student and his academic achievement, the need for such research was emphasized by census data which revealed that the nation's youth comprised a major portion of the mobile society. The purpose of this study was to examine the relationship between academic achievement and geographical mobility.

A questionnaire, constructed to obtain socio-economic data and geographical mobility data, was administered to 321 ninth grade students in Fort Walton Beach, Florida. The final group was comprised of 188 students, as only those students who had scores on the California Achievement Tests and were in the mean IQ range (85 - 114) were included in the study. The students were classified into non-mobile, mobile, and very mobile groups by the number of times they had changed schools. The McGuire-White Measurement of Social Status Index was used to determine the socio-economic status of the students. The total reading scores from the California Achievement Tests were obtained from the school records, and correlated by the multiple correlation coefficient with the coded mobility status and socio-economic status.

The findings were $R_{1,23} = .00012$, indicating that there was no predictable relationship between academic achievement, socio-economic status, and geographical mobility.

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CHAPTER I

INTRODUCTION

Geographical mobility has become a behavior pattern of the American culture. Each year millions of United States' inhabitants move from place to place, many crossing county and state lines. Over half of the population changed their place of residence between 1955 and 1960 (U. S. Bureau of the Census, 1960). When families move, school-age children are often uprooted and transferred to a different school system. Families such as those connected directly or indirectly with the military services move not only from place to place within the United States, but frequently from country to country. It has become increasingly rare for a child to be born and reared in the ancestral home, and to marry and raise his children in that same home. Theory has held that a change of residence might add to the insecurity of young people. They witness a home being dismantled, overhear adults worrying about finding a new place to live, and suffer from having their daily routines badly disrupted. It is not surprising that proponents of this theory would expect relationships between mobility and high delinquency rates, high insanity rates, and other symptoms of maladjustments. Landis' (1966) survey of 100 mobile California families revealed that this traditional view of the family move as an upsetting occurrence is not accurate for most middle class families today. There is a great need for empirical

research in this area. As any condition which creates problems for children is successfully dealt with, wholesomeness is added to thousands of lives. It was the purpose of this study to deal with only one of the factors which may be related to the present mobility pattern. That factor was academic achievement.

Parents and children themselves are often concerned about the possible relationship between mobility and academic achievement. In an informal study (Rasmussen, 1960), a number of children expressed fear of failure in school work when changing schools. Research prior to 1940 dealt primarily with one type of mobile child - the child of the migrant worker. Landis (1966) noted this lack of research on the problems of middle-class migrant families, and Rossi (1955) concluded that many features thought characteristic of mobile populations were more accurately attributed to low socio-economic status. Studies such as "The California Curriculum Study" (Bagley and Kyte, 1926) found a correlation between excessive mobility and school failure, but no attempt was made to control socio-economic status. Research has shown that educational aspirations of students are closely related to the family's level of living status (Educational and Vocational Goals of Rural Youth in the South, 1965), and studies that correlated mobility and academic achievement without controlling socio-economic status were probably inconclusive. Later studies (Fitch, 1964; Bollenbacker, 1962) found no correlation between mobility and school failure when IQ and socio-economic status were held constant. Nevertheless, popular opinion continued to perpetuate the theory that a child's academic progress would suffer if he were moved from school to school. Because educators have

become increasingly concerned with problems of motivating greater academic achievement, geographical mobility should be studied as one of the factors which could contribute directly or indirectly to these problems. The paucity of research in this area and the divergence of viewpoints indicated the need for further research. So far the writer has found no attempt to relate frequency of mobility with academic achievement. With this possibility in mind, the present study has been developed to investigate the relationship between mobility and academic achievement.

For the purpose of this study, mobility was defined as geographical rather than social. A mobile student was one who had attended one or two schools outside of the county in which he was currently attending school. A very mobile student was one who had attended three or more schools outside of the county in which he was currently attending school. A non-mobile student was one who had received his entire schooling in the county in which he was currently attending school. Achievement was defined as total reading scores as measured by the California Achievement Tests. Intelligence was measured by the California Short Form Test of Mental Maturity. Socio-economic was rated upper class, upper middle, lower middle, upper lower, and lower lower as determined by the McGuire-White Measurement of Social Status.

The group studied was limited to the ninth grade, mean IQ (85 - 114) students who were attending W. C. Pryer Junior High School, Fort Walton Beach, Florida, in February 1966. The ninth grade was chosen because the students had completed all of the elementary grades and had been administered both the California Short-Form Test of Mental Maturity and the

Complete Battery, California Achievement Tests.

The major purpose of this study, then, was to examine the relationship between mobility and academic achievement.

REVIEW OF LITERATURE

Geographical mobility is a characteristic of the population of the United States. From April 1956 to April 1957, approximately 1,200,000 persons moved from one state to another. This is a significant increase over the 1,000,000 persons who moved in 1955. (U.S. Census Bureau, 1958, p. 90)

Mobility is not a recent behavior pattern in the United States. In 1870, 25 per cent of the entire-born population was living in states other than those in which they were born. (U.S. Census, 1940, p. 24)

Following the economic depression of the 1930's and a period of increasing the number of white population. (U.S. Census, 1950)

Between the time of the depression and World War II, research has shown that the white population was migrating at that time very rapidly, as the economic crisis offered work which required a high school level. (U.S. Census, 1950)

Research also indicates that the migration of 15 million who changed residence from 1945 - 1977. (U.S. Census, 1977)

U.S. Census (1950) listed as reasons of mobility the increased population and growth in other areas that divide a country. Other sources (U.S. Census, 1950; Himmelman, 1960) listed factors such as a better job through personal choice, escape from social restrictions, desire to live near family or friends, need for education, health reasons, and better facilities including educational facilities. "Not

CHAPTER II

REVIEW OF LITERATURE

The Mobile Society

Geographical mobility is a characteristic of the population of the United States. "From April 1956 to April 1957, approximately 1 in 5 Americans - or 32 million - changed their place of residence. Over 5 million moved to a new state" (NEA Res. Bul., 1958, p. 99). Mobility is not a recent behavior pattern in the United States. In 1930, 23 per cent of the native-born population was living in states other than those in which they were born (Ryan, 1940, p. 24). Undoubtedly the economic depression of the 1930's acted as a catalyst, increasing the number of mobile population. Ryan (1940), who wrote between the time of the depression and World War II, observed that the major forces underlying migration at that time were economic, as our economic system offered work which required almost constant travel. Economic causes alone did not constitute the full 32 million who changed residence from 1956 - 1957. Rossi (1955) listed as causes of mobility the increased population and divorce or other forces that divide a household. Other sources (Ryan, 1940; Rasmussen, 1960) listed: father seeking a better job through personal choice, escape from social estracism, desire to live near family or further from, quest for adventure, health reasons, and better facilities including educational facilities. "Not

only are more families moving but these who move, move more frequently; one out of every seven of its customers, Allied Vans reports, will within a year pick up stakes and move again to a new state and seven out of ten will be repeaters within the next five years" (Foster, 1956, p. 812). Whatever the reasons for the moving, the mobile society cannot be ignored. It is one of the most important forces underlying changes in urban areas (Rossi, 1955, p. 2).

The characteristics of the mobile society cannot be lumped together, as there is no one way of describing it. The writing of some researchers indicated that an undesirable stigma may be associated with the mobile society. Morgan (1946) investigated the importance of several factors that might affect the social relationship of a child in a new community. He found that children who lived in trailers were rejected frequently by other children in other areas of residence. He further noted, however, that the length of residence in a community and place of residence was not as important in influencing social relationships as the father's income and the school achievement of the child.

Studies by Wilson (1930) and Hathaway (1934) found that laxity of moral standards seemed to be associated with high mobility. "This is explained by the lack of primary group contact that in a homogeneous community provide for the informal enforcement of these standards" (Cowgill, 1941, p. 47). Rossi (1955) attributed this, not to mobility, but to socio-economic status. He found that mobility had little effect on the amount of social contacts made by a family. The number of friendships varied more with socio-economic status, with higher

status having more friends. In a study of mobile and stable areas in Philadelphia, Rossi (1955, p. 5) concluded that "on the whole, mobile areas tend to be of considerably lower socio-economic status and many of the features deemed to be characteristic of mobile areas are really more properly attributed to their lower socio-economic status."

The State Report on Children and Youth (1960, p. 3) stated that while both in sociology and in popular writing there was an inclination to emphasize the negative aspects of mobility, occupational and residential mobility was not in itself disorganizing. A great deal depended on the kinds of people who moved, the money they made, and the effect of the move on their status. Contrary to popular opinion, the migrant worker was negligible as a factor in mobile society, and 70 per cent of all moves were the combined managerial group of industry and armed forces personnel. The report further concluded that the more education, the more mobility. Foster (1956) and Suval (1965) also noted that the educational level was higher among migrants than non-migrants. Even in the immediate post-depression years (1935-1940) the most mobile group were professional people (Wattenberg, 1948, p. 338).

The Problem to the Schools

It is not surprising to find that the nation's youth comprises a major proportion of the mobile society. In Rossi's study (1955, p. 6) the most mobile elements in the two mobile areas studied were families with children. "From 1956 to 1957 ... more than 7 million school-age children changed their place of residence. A little over 1 million crossed state lines" (NEA Res. Bul., 1958, pp. 99 - 100).

A change of school usually requires a personal adjustment for the child. This change creates greater problems, for both teacher and pupil, if it occurs during the school year. The problem to the school cannot be ignored. In 1940, Ryan (p. 37) wrote, "There are two major aspects of the educational problems connected with migration: (1) need for adequate educational opportunities in all parts of the nation so as to fit the child for life in his own or in other sections if he should move; and (2) need for adequate educational facilities for children without residence in the community." The Golden Anniversary White House Conference (1960, p. 80) recommended that the Federal Government provide funds to states to assist them in financing education opportunities for interstate migrant children. As this recommendation suggested, the mobile student may have to cope with various school standards. In addition, he may be confronted with prejudices held by the school personnel.

"Discerning observers of schools affected by sudden and dramatic shifts of population - such as those near an expanding air force base ... - have had no difficulty in identifying the existence of some prejudicial attitudes " (Switzer, Hirschberg, Meyers, Gray, Evers, and Forman, 1961, pp. 533-534).

Kopp (1953) observed that the mobility of the population created many problems for the schools as well as for the children. The purpose of his study was to explore the nature and importance of the problems and to suggest transfer procedures that would deal constructively with them. He felt that helping children make wholesome and rapid adjustments to new school situations should be a professional responsibility.

He advocated standardized transfer procedures and cumulative records but not standardized school situations. He also advocated closer communication between home and school to facilitate the child's adjustment to a new situation. Mort and Vincent (1946, p. 44) also were opposed to national school standardization: "The concept of a same set standard for all is unrealistic in the extreme. It fails to recognize that individual abilities are different in more ways than they are alike."

Mobility and Academic Achievement

Very few studies dealt with the mobile student and his academic achievement. In an informal study (Rasmussen, 1960), a number of children, teachers, and parents were consulted about the problem of changing schools. A concern most frequently expressed by children had to do with fear of failure in school work. The teachers were concerned about the difficulty of getting reports on the child from the last school attended and about the wide differences in schools. They felt that over-crowded conditions made it impossible to give needed help to newcomers. The administration expressed regret that there were so few studies made of the problem of changing schools. Most parents felt that it was undesirable for the children to be changed from school to school. The parents were also concerned over the wide differences in schools.

Research in this area revealed conflicting data. "The California Curriculum Study" (1926) found a positive relationship between excessive mobility and school failure. Layton (1952) made a study of 298 students who left high school voluntarily in 1950-1951. Of these drop-outs, 55 per cent had made one to three moves, and 20 per cent had made four to

seven moves. He also found that the larger the number of changes of school, the greater the number of half-grades failed.

A teacher from a school that served children of migrant workers wrote that "few people, young or old, are exposed to so much failure as children whose educational experience consists of a series of short school stops" (Rasmussen, 1960, p. 26). Other sources did not agree that mobility was detrimental to school achievement. Bollenbacker (1962), in a study of sixth graders from the Suburban, Middle, and Basin areas of Cincinnati, found that reading achievement was not affected by mobility. Fitch and Hoffer (1964) found that when junior high school students were matched on age, intelligence, socio-economic status, grade placement, and sex, there was no significant difference in academic achievement between the mobile and non-mobile students.

Gabower's (1960) findings did not indicate that moving from place to place was responsible for retardation in age-grade status in school; however, "changing residence during adolescence was more difficult for children... , since their peer group relationships were of great importance to them" (Gabower, 1960, p. 184). These studies inferred that correlations found between mobility and academic achievement might be the result of other variables that had not been controlled.

Mobility and the Personal Adjustment of the Child

It is possible that mobility might be advantageous to the child. "Children of today may be able to accept change with greater equanimity than their parents" (Switzer, et al., 1961, p. 529). Although few teachers believed that moving was a good way for children to grow up,

they recognized that independence was useful to children no matter what their circumstances. Good schools should try to give this strength to children who must move (Rasmussen, 1960). There were indications that ability to adjust to a move continued to help the child later in life. A report from Columbia College (Coleman, 1962) indicated that inability to adjust psychologically to a new environment was more often the cause for freshman failure than slightly weak preparation.

Research suggested that the predictive variable for academic achievement may not be mobility, but rather reaction to mobility. Gabower (1960) found that data supported the conclusion that the behavior of the child was more closely related to the way in which his parents dealt with him than to the conditions of his physical environment. Parents of children with behavior problems were less active in preparing the child for the move. Levy's study (1959) of children's behavior under stress suggested that when parents train their children to respond to a specific stress situation, the special preparation and training seemed to make the children more comfortable in that situation. "The personality structure of the child and the quality and the amount of parent-child interaction are important factors in determining how a child can cope with threats which are inherent in a family move" (Switzer, et al., 1961, p. 535).

A Family Service Center set up as an experimental agency to serve a mobile area found that mobile families did not produce problems that were especially different either in number or kind from those known to family agencies in most communities (Scherr, 1956). Of the families who said their problems were caused by mobility, the caseworkers judged

that mobility was not the cause and felt the clients were projecting. The caseworkers found no special shifts in the statistics of divorce and juvenile delinquency, but found that cohesiveness and resilience were characteristic in mobile families.

Regardless of the pro and con factors in the lives of their children, many parents have little or no choice concerning their moving. Their attitudes toward and preparation for moving may affect their children. Switzer, et al. (1961) felt that if the move affected the parent adversely, this would affect the child more than the move itself. The parents should re-examine their parent-child relationships and look for ways to help the child adjust to the move.

Foster (1965, pp. 814-815) felt that little is known about the relationship between mobility and family life. He observed that young people today seemed to be less perturbed by the thought of interplanetary travel than their grandparents were about the automobile. According to the Committee of the California School Supervisors (1951, p. 10), this may not be wholly accurate, as children responded to new situations in different ways. Some children attempted to avoid and withdraw from new situations. Others became aggressive, resisting adult suggestion or interference. Still others met a new challenge with interest and satisfaction.

Some educators (States Report, p. 186) recommended greater emphasis on training for world citizenship, as our migratory population demand education not for the community alone, but for the nation and world as well. Wattenberg in "Mobile Children Need Help" (1948, p. 335) said that the school must give greater attention to preparing young

people to better handle factors which may contribute to their maladjustment and among these factors, mobility. Among the problems mobile children faced, Wattenberg (p. 339) listed change of residence, new playmates, different culture patterns, social adjustment, busy parent, and school differences in teaching procedures and in curriculums. He concluded that thousands of children of mobile families needed all the help that could be given (p. 342).

Academic Achievement and Motivation

Today in the United States there is a new emphasis upon the pursuit of excellence. The status of the "all-American" football hero has been diminished by the fast-arising corps of National Merit Scholarship winners. As the importance of academic achievement has become reemphasized, educators have begun a re-evaluation of the American educational system. In 1959 approximately thirty-five scientists, scholars, and educators gathered at Woods Hole on Cape Cod to discuss how education in science might be improved. Professional educators in other fields of study were also present. This conference stimulated excitement for new educational methods (Bruner, 1963).

Previous to this time, however, social scientists were aware that problems relating to education needed research, and among them, the problem of the non-achiever. McClelland, Atkinson, Clark, and Lowell (1953) accumulated research on the achievement motive and developed a practical method of measuring human motives. They were challenged by the lack of experimental work involving humans and motivation. They concluded that all motives were learned, and that they

developed out of repeated affective experiences committed with certain type of situation and types of behavior. Achievement motivation resulted from standards of excellence presumably imposed on the child by the culture, or more particularly by the parents. McClelland, et al., hypothesized that individuals with high achievement motivation had been forced to master problems on their own more often and earlier than individuals with low achievement motivation. This hypothesis was tested by asking students of known differences in motivation to describe their parents and their upbringing; by relating parent behavior to achievement motivation; and by intensive study of a few individuals with high and low achievement scores. The authors found that both the age at which independence training is begun and the severity of independence training correlated very significantly with the achievement score.

Drews and Teahan (1957) also found a correlation between parental attitude and achievement. Twenty mothers of high IQ high achievers and twenty mothers of high IQ low achievers were administered thirty items taken from the Parent Attitude Survey devised by Shoben. Mothers of high achievers were found to be more authoritarian and restrictive in the treatment of their children than mothers of low achievers. Research by S. E. Asch (1952) suggested that origins of achievement motivation lie in training by the culture or family in which the child is reared. Robert Strom (1964), likewise, attributed aspiration level to familial influence but suggested that peer pressures also had an effect upon individual achievement. "The rationale prompting this new interest in adolescent interaction comes largely from cultural anthropology where predictions are being made that the amount and nature of

the ways children learn from each other will increase" (Strom, 1964, p. 19). Blair, Jones, and Simpson (1962, p. 203) theorized that "the desire for success is derived from ego and social needs. The child craves not only to feel a sense of achievement himself, but also he wants his accomplishments to be admired by others." Studies by Crawford (1930) have shown that mature goals and definite vocational choice are related to academic achievement.

A brief review of certain studies of non-intellectual factors relating to academic achievement indicated that introversion, dominance, self-sufficiency, good motivation, liberal social attitudes, and lack of maladjustment were all characteristics found among achievers (Gough, 1949). Ryan and Davie (1958) found a positive correlation between high achievement and social acceptance. Morgan (1946) also found that the academically successful children were the more favored children in their own social group. Studies by Gough (1946) and Coleman (1940) indicated a positive correlation between high achievement in school subjects and socio-economic status. Nemzek (1940), however, found that occupational status of the father had a negligible value for purposes of predicting academic success. Whereas the Coleman study represented a national sampling with cases taken from all geographic regions and 43 states, Nemzek used a small group of 59 boys and 165 girls from the University High School, University of Minnesota. Edmiston and McBain (1945) administered social and economic background inventories to 150 ninth grade colored students in Dunbar High School, Dunbar, Ohio and concluded that social background improvement was positively related to academic achievement, but that economic improvement without social

improvement was actually detrimental to school achievement.

Wade (1962) found no difference in the school achievement of students with one parent working or with both parents working. Cox (1962) found that higher achievement ratings were related to extent of participation in household tasks. Children from small families tended to have higher achievement motivation than those from large families (Rosen, 1956).

Blair, Jones, and Simpson (1962) suggested that motivation of school learning depended upon the learner's purpose or intent to learn, his levels of aspiration, and his knowledge and appraisal of how well he was doing in relation to his goals. The need to re-inforce motivation for learning by helping the student appraise his work indicated the need for reliable, valid academic measurement of achievement. "... by the use of standardized test scores, specific goals of achievement may be set up, and progress may be measured " (Green, Jorgensen & Gerberick, 1954, p. 7).

The multiplicity of variables that researchers have found positively related to the motivation process and academic achievement may indicate that the list of possible relationships had not been exhausted. McClelland, et al. (1953, p. 80) stated that "there is no necessary connection between high achievement motivation and more efficient performance," but explained that "this would be the exception rather than the rule, since an achievement approach motive at least requires performance that must be fairly close to expectation to yield pleasure...."

CHAPTER III

PROCEDURES

Subjects

The subjects for this study were a group of ninth grade junior high school students who were enrolled at the W. C. Pryor Junior High School, Fort Walton Beach, Florida. Questionnaires concerning mobility status and socio-economic status were administered to 321 ninth grade students. Only those students who had been administered the California Achievement Tests and the California Short-Form Test of Mental Maturity, and who were in the mean IQ range (85 - 114), were included in the study. The final group was comprised of 188 students. Of this group, 73 students were classified mobile, 47 very mobile, and 68 non-mobile.

Questionnaire

A questionnaire (see Appendix A) was constructed to obtain information for subdividing the group of students into three levels of mobility and five levels of socio-economic status. The questions were tested for clarity of statement and representative of purpose in a pilot study of 42 ninth grade students attending Curry School, Greensboro, North Carolina.

The questions were designed so that the number of times the student moved could be checked against the list of places the student had attended school since the first grade (see questions 29 and 30 in Appendix A). A discrepancy could occur in the answers to these questions, with the

number of times moved being greater than the number of places filled in on the chart. The discrepancies would probably occur only with those students who had moved more than three times, resulting from the student no longer remembering the names of the places he attended school. As all students who had attended three schools other than the one currently attended were classified very-mobile, accuracy beyond that point was irrelevant for this study.

Questions 31 and 32 were constructed to obtain student opinion on mobility and reasons for family mobility. Whereas they were not necessary for the correlational study, they provided insight into problems of mobility and offered suggestions for future research.

The McGuire-White Measurement of Social Status Index was used to determine the socio-economic status of the students. This index was developed by Carson McGuire and George D. White, Department of Educational Psychology, The University of Texas, in 1955. It is useful in placing subjects in subclasses of sample populations for various kinds of behavior research. The indices described were based upon questions commonly asked by people seeking to "place" one another: questions that refer to occupation, amount of schooling, area of dwelling, and church attended. The researcher may choose from three indices: index of status characteristics - Standard Form, index of social status - Short Form, and index of Value Orientations. Each index depends upon a combination of ratings from three or more scales. The individual or parents of the family are rated on each component scale. The ratings are multiplied by appropriate weights and the products summed for the total index score. The approximation of either probable social class or life style

is obtained from a table.

For this study, the index of Value Orientation (Appendix B) was used. This index did not include type or area of dwelling. Fort Walton Beach does not resemble the cities and towns with old, established neighborhoods. The town grew with Eglin Air Force Base, which was established during World War II. Consultations with realtors in the area confirmed that categorizing of area of residence would not give an accurate measurement of socio-economic status. The index of Value Orientations included ratings on education, religious affiliation, occupation, and source of income. This scale was found to be particularly applicable to the information obtainable from ninth grade students. Whereas many students may not know the exact family income, the majority would probably know where the head of the household worked. The subjects were categorized by mobility status and socio-economic status as shown in Table 1.

TABLE 1

Mobility of Students According to Socio-economic Status

Mobility Status	UC*	UM	LM	UL	LL	Totals
Non-mobile	3	17	39	8	1	68
Mobile	1	24	37	11		73
Very-mobile	3	11	28	5		47
	7	52	104	24	1	188

*see Table 3 for interpretation of abbreviations

Measures Used

The California Short-Form Test of Mental Maturity, 1957 S-Form,

devised by Elizabeth T. Sullivan, Willis W. Clark, and Ernest W. Tiegs, and the California Achievement Tests, Complete Battery, Forms W.X.Y, devised by Ernest W. Tiegs and Willis W. Clark were administered by the guidance department of W. C. Pryor Junior High School to all eighth grade students. These scores were recorded on the permanent cumulative record of each student and filed in the guidance department office. The investigator obtained the IQ score and the total reading score, as measured by these tests, from the cumulative record of each ninth grader. Ninth graders who had not been measured by these tests during the eighth grade were not included in the group.

Description of the Reliability and Validity of the California Short-Form Test of Mental Maturity, 1957, S-Form

The California Short-Form Test of Mental Maturity is part of a larger parent test called the California Test of Mental Maturity. It is an instrument for appraising mental development or mental capacity. The two summary scores, language and non-language, with the four factor scores - spatial relationships, logical reasoning, numerical reasoning, and verbal concepts - produced the interpretive data of the test. The scores of the four factors were derived from seven tests. All tests were of the multiple-choice type.

The reliability coefficient for the California Short-Form Test of Mental Maturity, computed by use of the Kuder-Richardson formula on 200 cases, for the total test was .88. The coefficient of reliability was also computed by the split-halves method and corrected by the Spearman-Brown formula. The total coefficient of correlation, for 400 cases grades nine through twelve was .94.

The standard errors of measurement on these populations indicated that the chances were two to one that an individual's IQ would not vary more than 6.2 points and 19 to one that it would not vary more than 12.4 IQ points from his true IQ.

The California Tests of Mental Maturity have been outstanding as group tests. They have maintained a consistently high correlation with the Stanford-Binet, some correlations as high as the test-retest with the Stanford-Binet when different administrators have done the Binet testing. Several correlations have exceeded .88. The validity of CTMM has also been attested to by high correlations with the Wechsler-Bellevue and the Wechsler Intelligence Scale for Children. Studies devoted to validation of "culture fair" tests of intelligence indicated that CTMM was as free of bias as any. In predictive studies, CTMM compared favorably with the Stanford-Binet and the two Wechsler tests for predicting successful performance in school and other criteria where intelligence was an important variable.

The CTMM was integrated with the California Achievement Tests to make the results more meaningful when the results of the two tests were used together.

Description of the Reliability and Validity of the California Achievement Tests, Complete Battery, Forms W.X.Y.

The California Achievement Tests are instruments designed for measuring, evaluating, and diagnosing school achievement. Each of the three equivalent forms of the CAT is composed of three tests: Reading, Mathematics, and Language. These three tests are further subdivided into

Reading Vocabulary, Reading Comprehension, Mathematics Reasoning, Mathematics Fundamentals, Mechanics of English, and Spelling.

The average reliability of the six tests, using the Kuder-Richardson formula 21, was .98. The data used were compiled from a single grade range, grade 11. In interpreting individual scores, the standard error of measurement was usually more helpful than the reliability coefficient. Using grade 11 data, the standard error of measurement indicated the chances on the Reading Vocabulary Test were two to one that the examiner's grade placement on the test would not vary more than seven months, and 19 to one that it would not vary more than 14 months from his true grade placement.

The items in the CAT were selected to measure the extent of student mastery of the fundamental skills and the ability of the student to make intelligent use of the facts and skills at his disposal. The 1957 Editions were based on tests given to students in all sections of the United States. Five of the six tests in the battery were submitted to experts in the educational field for critical review. The experts were asked to evaluate each item on the following criteria.

- A. Essential concept or information: should be known by every high school student;
- B. Of major importance: high significance;
- C. Fairly significant: in most well-rounded high schools;
- D. Comparatively unimportant or inappropriate for high school;
- E. Inconsequential, trivial: should be deleted from the tests.

The percentages of items with each letter designation were determined. On this basis, inferior items were removed and the acceptable ones retained. The items were then arranged in three forms and administered to

a common population. The discriminating power and difficulty of each item was computed and the items were arranged into three comparable forms. This procedure was repeated twice.

The spelling tests were devised from a survey of 17 basic word lists and spellers used in schools. Experimental studies were used to determine the multiple-choice items that would most nearly approximate dictation-type spelling tests.

Validity was illustrated by relating achievement to mental age on the basic assumption that there should be a strong positive correlation between school achievement and intelligence or mental maturity. The correlation coefficients for the CAT, Advanced, and the CTMM, Advanced, Grade 11 (200 cases), ranged from .92 between language data and reading comprehension to .61 between non-language data and spelling.

Summary

The data for each subject secured from the questionnaires were mobility status and socio-economic status. Mobility status was subdivided and coded as shown in Table 2.

Socio-economic status was determined by the McGuire-White Measurement of Social Status. It was subdivided into five categories and coded as shown in Table 3.

The mean IQ was determined by the California Short-Form Test of Mental Maturity, with the mean scores ranging from 85 - 114 inclusively. Only those students whose IQ fell within that range were used in the study.

Reading achievement was determined by the California Achievement

TABLE 2

Mobility Status: Description and Coding

Mobility Status	Description	Code Number
non-mobile	student who had received his entire schooling in the county in which he was currently attending school	1
mobile	student who had attended one or two schools outside of the county in which he was currently attending school	2
very-mobile	student who had attended three or more schools outside of the county in which he was currently attending school	3

TABLE 3

Socio-economic Status: Coding

Socio-economic Status	Abbreviation	Code Number
upper class	UC	1
upper-middle class	UM	2
lower-middle class	LM	3
upper-lower class	UL	4
lower-lower class	LL	5

Tests, Complete Battery. Only the total reading score was used.

The scores for each subject included in the correlations and analysis of data were:

- a. coded mobility status
- b. coded socio-economic status
- c. total reading score as determined by the California Achievement Tests, Complete Battery.

CHAPTER IV

ANALYSIS OF DATA

A questionnaire, constructed to obtain information for subdividing the subjects into three levels of mobility and five levels of socio-economic status, was administered to 321 ninth grade students. Of these, 133 of the questionnaires could not be used because the subjects were either outside the mean IQ range (85 - 114) or did not have scores on the California Achievement Tests. The remaining 188 questionnaires were analyzed and rated on mobility status and socio-economic status. Of the 188 subjects, 68 or 36 per cent were non-mobile, 73 or 39 per cent were mobile, and 47 or 25 per cent were very mobile. The analysis of socio-economic status revealed that 3.7 per cent of the subjects fell in the upper class category, 27.7 per cent in the upper middle class category, 55.3 per cent in the lower middle class category, 12.8 per cent in the upper lower class category, and .5 per cent in the lower lower class category.

The interrelationships of the variables of this study were compared by means of the Pearson product-moment correlation coefficient (Table 4). The intercorrelations were computed for the three variables, mobility, socio-economic status, and academic achievement, using the computing formula (Ray, 1962, p. 148):

$$r_{xy} = \frac{\sum XY - \frac{\sum X \sum Y}{N}}{\left(\sum X^2 - \frac{(\sum X)^2}{N} \right) \left(\sum Y^2 - \frac{(\sum Y)^2}{N} \right)}$$

TABLE 4

Intercorrelations of Mobility, Socio-Economic
Status and Academic Achievement

x (achievement)	y (socio-economic status)	z (mobility)
x	.0006	
y		.0008
z	.0004	

The multiple correlation was computed from the formula (Guilford, 1965, p. 394):

$$R^2_{1.23} = \frac{r^2_{12} + r^2_{13} - 2r_{12}r_{13}r_{23}}{1 - r^2_{23}}$$

This formula is applicable only for intercorrelations between the dependent variable and any two independent variables. This coefficient of multiple correlation, R_{123} , indicates the strength of relationship between one variable and two others taken together (Guilford, 1965). In this study the computed correlation between the dependent variable academic achievement and the independent variables mobility and socio-economic status was $R_{1.23} = .00012$. This negligible relationship, closely approaching the point of zero, strongly suggested that there was no predictable relationship between the variables academic achievement, socio-economic status, and mobility. The three intercorrelations of the variables (Table 4) indicated that there was no predictable relationship between mobility and socio-economic status, between mobility and academic achievement or between academic achievement and socio-economic status. Of the three intercorrelations, the least relationship was

between mobility and academic achievement. In summary, it was found that the multiple correlation and all three intercorrelations yielded negligible results, closely approaching the point of zero, or no relationship.

Each mobile and very mobile student was asked to indicate his feelings toward mobility by checking yes or no on five statements (Appendix A). Analyses by percentages indicated that 29 per cent of the mobile students stated that moving from school to school was very difficult for them, 58 per cent stated that moving was enjoyable and something to look forward to, 23 per cent stated that moving put them behind in their school work, one per cent stated that moving caused them to be retained in a grade, and 14 per cent stated that moving was hard on their family (Table 5). The mobile group's responses to these statements were further analyzed by socio-economic status, as shown in Table 5. Inspection of the table indicated that, disregarding the upper class which consisted of only one subject, a higher percentage of lower middle class subjects in the mobile group stated that moving was difficult for them, that moving was enjoyable, that moving caused them to be retained, and that moving was hard on their families, whereas a higher percentage of upper lower class subjects stated that moving put them behind in their school work. The seemingly contradictory responses from the lower middle class probably indicated only that a higher percentage of students from that social class marked responses to those questions. The combined percentages exceeded 100, because the students were free to mark more than one response within the five categories.

TABLE 5

Opinions of Mobile and Very Mobile Students on Relative Difficulty of Moving

	Mobile										Very Mobile										
	UC*		UM		LM		UL		Total		UC		UM		LM		UL		Total		
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	
Do you feel that moving was:																					
very difficult for you?	1	100	5	21	12	35	3	27	21	29	1	33	5	46	6	21	1	20	13	26	
enjoyable and something to look forward to?	0	0	13	54	23	62	6	55	42	58	1	33	6	55	22	79	3	60	32	68	
put you behind in your classwork?	0	0	5	21	9	24	3	27	17	23	1	33	2	18	4	14	3	60	10	21	
caused you to be retained in a grade?	0	0	0	0	1	3	0	0	1	0	0	0	1	9	2	7	0	0	3	6	
was very hard on your family?	0	0	1	4	7	19	2	18	10	14	2	66	3	27	3	11	0	0	8	17	
total population	1	0	24	0	37	0	11	0	73	0	3	0	11	0	28	0	5	0	47	0	

*upper class (UC), upper middle (UM), lower middle (LM), upper lower (UL), lower lower (LL)

Analysis by percentages indicated that 26 per cent of the very mobile group stated that moving was very difficult for them, 68 per cent that moving was enjoyable, 21 per cent that moving put them behind in their school work, six per cent that moving caused them to be retained, and 17 per cent that moving was hard on their families. The very mobile group's responses to these statements were further analyzed by socio-economic status, as shown in Table 5. Inspection of the table revealed that a higher percentage of upper middle class subjects stated that moving was difficult for them, a higher percentage of lower middle class stated that moving was enjoyable, a higher percentage of the upper lower stated that moving put them behind in their school work, a higher percentage of upper middle stated that moving caused them to be retained, and a higher percentage of upper class stated that moving was hard on their families. When total populations were analyzed, the percentage of subjects who indicated that moving was enjoyable was greater than percentages in the other four categories for both mobile and very mobile students.

Biographical data on the subjects were summarized as shown in Table 6. Interpretation by percentages revealed that of the very mobile subjects, 13 per cent had been retained one year in school, 83 per cent lived in homes owned by their parents, 81 per cent lived with both parents, 47 per cent attended church weekly, 70 percent had moved because father was transferred by the military, and 11 per cent had parents who were divorced.

TABLE 6

Demographic Data from Group Studied

	Very Mobile				Mobile				Non-Mobile				
	UC*	UM	LM	UL	UC	UM	LM	UL	UC	UM	LM	UL	LL
Number Retained	0	2	4	0	0	0	2	4	0	0	4	1	1
Home Owned	2	9	24	3	0	21	33	10	2	17	35	7	1
Home Rented	1	2	2	1	1	2	4	1	1	0	2	1	0
Trailer	0	0	2	1	0	1	0	0	0	0	2	0	0
Both													
Live with: Parents	3	9	22	4	0	22	31	8	3	15	35	8	1
Father Only	0	0	0	0	0	0	0	0	0	0	1	0	0
Mother Only	0	0	3	1	0	0	1	1	0	1	2	0	0
Mother and Stepfather	0	2	2	0	1	2	4	2	0	0	1	0	0
Father and Stepmother	0	0	1	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	1	0	0	0	0	0	0
Attended church:													
Weekly	0	7	12	3	0	18	20	4	2	11	25	4	0
Monthly	0	3	4	0	0	2	2	1	1	2	5	1	0
Seldom	3	1	9	2	1	2	14	3	0	4	6	3	1
Never	0	0	3	0	0	2	1	2	0	0	3	0	0
Reason for Moving:													
Military transfer	2	8	21	2	1	6	19	1	0	0	0	0	0
Civilian transfer	1	0	1	1	0	5	3	0	0	0	0	0	0
Better job	0	0	2	1	0	5	6	2	0	0	0	0	0
Illness	0	0	0	0	0	0	0	1	0	0	0	0	0
Divorce	0	0	2	0	0	1	2	1	0	0	0	0	0
To be near relative	0	1	0	0	0	3	2	3	0	0	0	0	0
Other Reasons	0	2	2	1	0	4	4	3	0	0	0	0	0
Parents Divorced	0	1	4	0	1	2	4	3	0	0	2	0	0
Total Population	3	11	28	5	1	24	37	11	3	17	39	8	1

*upper class (UC), upper middle (UM), lower middle(LM), upper lower (UL), lower lower (LL)

Of the mobile students, eight per cent had been retained one year in school, 88 per cent lived in homes owned by their parents, 84 per cent lived with both parents, 58 per cent attended church weekly, 37 per cent had moved because father was transferred by the military, and 14 per cent had parents who were divorced.

Of the non-mobile students, nine per cent had been retained one year in school, 91 per cent lived in homes owned by their parents, 91 per cent lived with both parents, 62 per cent attended church weekly, and three per cent had parents who were divorced.

Certain patterns or trends emerged from this analysis. Home ownership, the two-parent home, and church attendance all increased as mobility decreased. Two of the patterns were not consistent. The highest percentage of retainees was in the very mobile group, the lowest percentage of retainees was in the mobile group. The mobile group had the highest percentage of divorces; the non-mobile group the lowest percentage.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The Problem

Geographical mobility has become a behavior pattern of the American culture, as each year millions of United States' inhabitants move from place to place. Theory has held that this mobility might add to the insecurity of children, and proponents of this theory have related geographical mobility with such social problems as high delinquency rates and high insanity. Studies by Wilson (1930) and Hathaway (1934) found that laxity of moral standards seemed to be associated with high mobility, while Rossi's study (1955) concluded that many phenomena frequently related to the mobile society should more accurately be related to the lower socio-economic strata of our society. It was the purpose of this study to examine the possible relationship between geographical mobility and academic achievement.

Although very few research studies have dealt with the mobile student and his academic achievement, the need for such research was clearly emphasized by census data which revealed that the nation's youth comprised a major proportion of the mobile society. Available data on the mobile society and academic achievement were both limited in scope and conflicting in findings. Kyte and Bagley (1926) found a positive relationship between excessive mobility and school failure, but later studies (Bollenbacker, 1962 and Fitch and Hoffer, 1964) found no relationship between mobility and academic achievement when socio-economic status and general ability were controlled.

Procedures and Results

A questionnaire, constructed to obtain socio-economic and geographical mobility data, was administered to 321 ninth grade students in Fort Walton Beach, Florida. The final group was comprised of 188 students, as only those students who had scores on the California Achievement Tests and were in the mean IQ range (85 - 114) were included in this study. Of this group, 47 students were classified very mobile as they had attended three or more schools outside of Fort Walton Beach, Florida, 73 were classified mobile as they had attended one or two schools outside of Fort Walton Beach, and 68 were classified non-mobile as they had obtained all of their schooling in Fort Walton Beach.

The McGuire-White Measurement of Social Status Index was used to determine the socio-economic status of the students and five levels of status were categorized: upper class, upper middle, lower middle, upper lower, and lower lower.

The total reading scores from the California Achievement Tests were obtained from the school records and used as indicators of academic achievement. The reading scores, the coded mobility status, and the coded socio-economic status were correlated by the multiple correlation coefficient, and the intercorrelations by the Pearson product-moment coefficient of correlation. The findings were $R_{1.23} = .00012$, $r_{xy} = .0006$, $r_{xz} = .0004$, and $r_{yz} = .0008$. All correlational findings were negligible, indicating no predictable relationship between academic achievement, socio-economic status, and geographical mobility.

Additional data from the questionnaires were analyzed by percentages for patterns and trends within mobility status. On the opinion

question the trend was very similar between the mobile and very-mobile students, indicating that a higher percentage of them enjoyed moving, and that a lesser percentage felt that moving was difficult, put them behind in their school work, caused them to be retained, or was difficult for their family. Biographical data revealed that home ownership, the two-parent home, and church attendance all increased as mobility decreased. No pattern could be established from the percentages of retainees or percentages of parent divorces.

Discussion

The negligible relationship between academic achievement and geographical mobility found in this study was in agreement with the findings of Bollenbacker (1962) and Fitch and Hoffer (1964), but did not agree with the findings of Bagley and Kyte (1926) or Layton (1952). In 1940, Ryan (p. 37) wrote, "There are two major aspects of the educational problems connected with migration: (1) need for adequate educational opportunities in all parts of the nation so as to fit the child for life in his own or in other sections if he should move; and (2) need for adequate educational facilities for children without residence in the community." As 39 per cent of the ninth grade students in this study had changed schools once or twice and 25 per cent had changed schools three or more times and had maintained academic excellence comparable to the 36 per cent of the students who were non-mobile, it appeared that those education problems were being solved.

The negligible relationship between socio-economic status and academic achievement was not anticipated. Both the Bollenbacker (1962)

and Fitch and Hoffer (1964) studies controlled socio-economic status in finding no relationship between academic achievement and mobility. More research is needed to determine whether popular theory that categorized the lower socio-economic classes as underachieving needs revision. This study made no attempt to determine the percentage of the enrolled lower socio-economic status who were in the mean IQ range, but of the mean IQ students used in this study, 13 per cent were in the lower socio-economic group.

While the negligible relationship between socio-economic status and mobility did not support Wattenberg's report (1948) that the most mobile groups were professional people, neither did it support Rossi's findings (1955) that mobile areas tended to be low socio-economic areas. No attempt has been made to generalize from the findings of this study, and it may be that the Fort Walton Beach area is atypical. It was interesting to note, however, that the lowest percentage (11 per cent) of lower class subjects was in the very mobile group.

Whereas certain patterns or trends, such as home ownership, the two-parent home, and church attendance increasing as mobility decreased, appeared by mobility group categorization, no distinctive socio-economic trends emerged.

The highest divorce rate, 14 per cent, was in the mobile group, with 11 per cent in the very-mobile group and three per cent in the non-mobile group. The contrast between the mobile and non-mobile divorce rates was accentuated not by the higher rate of divorce among the mobile society but by the atypically low divorce rate among the non-mobile group in this area.

The number of students who had been retained in any grade was extremely low in all mobility groups. The practice of social promotion may discredit "grades failed" as a variable in research studies.

Recommendations

The problem of the middle class migrant families remains relatively unresearched. Landis and Stoetzer (1966) suggested that the changing of residence may not be an unsettling occurrence but rather a pattern of behavior that is readily adapted to. The entire mobile population has too long suffered under the image of the migratory worker, and more research is needed to alleviate this problem.

Morgan (1946) found that children who lived in trailers were rejected frequently by other children in other areas of residence. Mobile homes have become more numerous since Morgan's study and his study should be replicated. Only six of the 188 students in the investigator's study lived in trailers, although the Yellow Pages of the 1965 Telephone Directory of Fort Walton Beach listed 22 trailer parks. Families with older children may find that trailers are no longer suitable for them; and therefore, studies on children and trailer life could perhaps be more realistically directed toward the elementary school child.

Research studies on geographical mobility must improve if the findings are to be meaningful. The State Report on Children and Youth (1960) emphasized that disorganization in the mobile society depended a great deal on the types of people who moved, the money they made, and the effect of the move on their status. More rigid control of extraneous variables is needed.

Experimental researchers should not neglect the area of geographical mobility. Whereas popular opinion has implied causal relationships between geographical mobility and social phenomena such as juvenile delinquency, only through experimental research can such relationships be tested.

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APPENDIX A

1. _____
 2. _____
 3. _____
 4. _____
 5. _____
 6. _____
 7. _____
 8. _____
 9. _____
 10. _____
 11. _____
 12. _____
 13. _____
 14. _____
 15. _____

Questions 13 - 24 apply to your father (or stepfather) if you live with him. If you live with neither father nor stepfather, leave these blank.

13. Occupation of father? _____
14. Name of father's employer? _____
15. Does your father work for civil service? yes _____ no _____
His grade is _____ (leave blank if unknown to you)
16. Is your father in the military service? yes _____ no _____
If yes, give branch _____ rank _____ retired? _____
Number of years in service _____
17. Is your father self-employed? yes _____ no _____
If yes, give name of his business _____
18. Did your father drop out of school before the 8th grade?
yes _____ no _____
19. Did he complete at least 8 years of school? yes _____ no _____
20. Did he graduate from high school? yes _____ no _____
21. Did he attend college? yes _____ no _____
22. Did he complete 2 years of college? yes _____ no _____
23. Did he graduate from a 4 year college or university? yes _____ no _____
24. If he has a degree higher than a 4 year college degree, what degree does he hold? _____
25. Occupation of mother _____
26. Name of mother's employer _____
27. Last grade in school completed by mother (circle one) 4 5 6 7 8 9
10 11 12 13 14 15 16 more than 16
28. Has all of your schooling been in Ft. Walton Beach, Florida?
yes _____ no _____ If answer is no, please answer the following questions.
29. What is the total number of times you have moved from one city to another since you began first grade? _____

30. Fill in the chart for places you have attended school, other than Ft. Walton Beach, Florida.

city	state (or foreign country)	how long there?	what grades attended there?
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

31. Check yes or no:

Do you feel that moving from school to school

yes

no

_____	_____	was very difficult for you?
_____	_____	was enjoyable and something to look forward to?
_____	_____	put you behind in your school work?
_____	_____	caused you to be retained in a grade?
_____	_____	was very hard on your family?

32. Did your family move to Ft. Walton Beach because:

_____	father was transferred by the military?
_____	father was transferred by a civilian company?
_____	father had a better job offer? (or mother)
_____	illness in the family made moving necessary?
_____	divorce of mother and father made moving necessary?
_____	family wanted to be near other relatives?
_____	other reasons?

Appendix B includes excerpts from the McGuire-White Measurement of Social Status Index. Only portions relevant to this study were included. The complete index may be obtained from the University of Iowa.

APPENDIX B

THE MEASUREMENT OF SOCIAL STATUS*

Carson McGuire and George E. White
The University of Texas

Research Paper in Human Development No. 1 (revised), Department
of Evolutionary Psychology, The University of Texas, March, 1955.

Appendix B contains excerpts from the McGuire-White Measurement of
Social Status Index. Only portions relevant to this study were
included. The complete index may be obtained from the University
of Texas.

...the "position" of a person with regard to one
of the groups of reference people employ to place one another (1)
...level, (2) social class participation and reputation,
(3) family or individual life style, (32, pp. 2-3; 3, pp. 197-200)

...social behavior tends to vary with what according to status. The
relationship between "what one feels, thinks, and does" and "what one
is" however, is not a direct one. Social roles are a functional
aspect of status. Role behavior appropriate to one's age-grade, and
social status are learned according to place and through time. And
there are also learned differences among persons adhering to an ethnic
group or a religious sect, or belonging to a value caste which is earned,
or stability factors. As a consequence of role experiences according to
status, systematic variations in cognitive discriminations, in aesthetic
preferences, and in value-appreciations appear and persist unless changed
by changing a shift in status (social mobility). Some discrepancies

THE MEASUREMENT OF SOCIAL STATUS*

Carson McGuire and George D. White
The University of Texas

*Research Paper in Human Development No. 3 (revised), Department of Educational Psychology. The University of Texas, March, 1955.

Indices of social status and family life style are described in the present paper and directions are given for their calculation. An index is simply an empirical construct, derived by a scientist, to estimate values of a variable which is found in the real world. A status index approximates the "position" of a person with regard to one of the frames of reference people employ to place one another: (i) socioeconomic level, (ii) social class participation and reputation, (iii) family or individual life style. (12, pp. 3 - 32; 5, pp 199 -200)

Human behavior tends to vary some what according to status. The relationship between "what one feels, thinks, and does" and "where one fits in," however, is not a direct one. Social roles are a functional aspect of status. Role behaviors appropriate to sex, age-grade, and social status are learned according to place and through time. And there are added learned differences among persons adhering to an ethnic group or a religious sect, or belonging to a color caste which is marked, by visibility factors. As a consequence of role experiences according to status, systematic variations in cognitive discriminations, in cathectic attachments, and in value-apprehensions appear and persist unless changed to accompany a shift in status (social mobility). Hence discrepancies

in status indicate potential differences in role behaviors and in psychological attributes.

An index is useful in placing subjects in subclasses of sample populations for various kinds of behavior research. Comparisons can be made among the several subsamples in an investigation to determine just what are the probable sources of variation in behavior. In broad terms, the sources of variation can be looked upon as biological discrepancies (age, sex), cultural patterns (life styles, ethnic groups), social characteristics (status, role) and psychological attributes (e.g., motives, attitudes). A number of studies completed at The University of Texas have demonstrated that status classifications are helpful in research (2, 3, 4, 10, 14) and that they clarify much that is involved in work with people.

Status indices, at least the ones described here, are based upon questions commonly asked by people who are seeking to "place" one another. Most persons indirectly "find out about" other people to approximate their social position before interacting with them. Questions such as "What do you do?" "Where do you work?" "Where do you live?" "Where did you go to school?" and "What church do you go to?" are asked in many different ways. The queries usually are designed to fit people into one's status map (14) or system of reference groups (6, pp. 162 - 163) so as to anticipate how to act toward and about the other person.

Each index depends upon a combination of ratings from three or more scales. To employ an index only three steps are required. First, the individual or the "status parents" of the family to be placed is rated on each component scale. Second, the ratings are multiplied by

appropriate weights (Determined in previous studies) and the products are summed to secure a total index score. Third, a table for estimating status levels from total index scores is employed for an approximation of either probable social class or life style.

The index of social characteristics, or ISC, has been developed by Warner and his co-workers at Chicago (11, 12). Modifications of the original index have been tested at Texas (2, 3, 12, 14). The total index score usually depends upon ratings for four components: namely, (i) dwelling area, (ii) house type, (iii) occupation, and (iv) source of income. The first two components have to do with where and with whom a person or family chooses to live in the residential areas of a city (14) or a town (2). The last two have to do with socioeconomic status which is translated into social class position of an individual or family when the estimate can be checked by interviewing (7, 14) or by Warner's method of evaluated participation (12).

In Texas, a good deal of work has been done with the standard ISC in a large city, Centex (6, 7, 14), and in a smaller community Textown (2, 7, 8). The standard index of status characteristics can be employed where time is taken to interview and rate the residential areas and to assess the range of dwelling units. Table I shows the standard form of the index. Components to be rated are described in the Appendixes to the paper. Some modifications of the original Warner ISC have been made as a consequence of research experiences.

INDEX OF VALUE ORIENTATIONS

E...Education.....	Rate 1 to 7 on ED scale...	Weight_x4
R...Religious Ed.....	Rate 1 to 7 on RA scale...	Weight_x1
O...Occupation.....	Rate 1 to 7 on OC scale...	Weight_x4
S...Source of Income....	Rate 1 to 7 on SI scale...	Weight_x3

The index can be employed to estimate a past, a present, or an aspired life style of components are rated approximately. To be comparable to other indices, the weights add to 12 and the total index values can vary from 12 (high) to 84 (low). Life styles can be inferred by entering the contingency table shown as Table IV. Some persons prefer to employ class-typed terms; others, to avoid status terms, can employ life style concepts.

Weights of components in all of the indices have been adjusted so that a common conversion table can be employed. It should be remembered that the predictions of class status or of life style made by using the table are only approximations, probably correct 80 or 90 per cent of the time. To test the correspondence of the construct with reality, a research person can have persons or families placed by Hollingshead's "prestige judge" (r, pp. 25 - 45) or Warner's "Evaluated participation" (12, pp. 36 - 39, 47 - 117) procedures. Table I is a modification of the original conversion table developed by Warner and his associated (12, p. 183). Index scores can be converted into letters to denote relative status level, into social class terms, or into descriptions of probably life styles.

Index Score	Relative Status Level	Social Class Prediction
12	A+	(UC)
13-17	A	Upper Class
18-22	A-	
23-27	B+	
28-32	B	(UM)
33-37	B-	Upper Middle
38-41	C+	
42-46	C	(LM)
47-51	C-	Lower Middle
52-56	D+	(UL)
57-61	D	Upper-Lower
62-66	D-	
67-71	E+	(LL)
72-7	E	Lower-Lower
76-84	E-	

SOURCE OF INCOME

1. Inherited saving and investments; "old money" reputed to provide basic income.
2. Earned wealth; "new money" has provided "transferable" investment income.
3. Profits, fees, royalties; includes executives who receive a "share of profit".
4. Salary, commissions, regular income aid on monthly or yearly basis.
5. Wages on hourly basis; piece work; weekly checks as distinguished from monthly.
6. Income from "odd jobs" or private relief; "sharecropping" or seasonal work.
7. Public relief or charity; non-respectable incomes (reputation).

EDUCATION ATTAINMENT

1. Completed appropriate graduate work for a recognized profession at highest level; graduate of a generally recognized, high status, four-year college.
 2. Graduate from a four-year college, university, or professional school with a recognized bachelor's degree, including four-year teacher colleges.
 3. Attended college or university for two or more years; junior college graduate; teacher education from a normal school; R.N. from a nursing school.
 4. Graduate from high school or completed equivalent secondary education; includes various kinds of "post-high" business education or trade school study.
 5. Attended high school, completed grade nine, but did not graduate from high school; for persons born prior to 1900, grade eight completed.
 6. Completed grade eight but did not attend beyond grade nine; for persons born prior to 1900, grades four to seven would be equivalent.
 7. Left elementary or junior high school before completing grade eight; for persons born prior to 1900, so education or attendance to grade three.
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RELIGIOUS AFFILIATION

1. Episcopalian, Congregational, Unitarian; other membership or family affiliation.
 2. Presbyterian, Quaker, Christian Science (rated lower in some communities).
 3. Methodist, Christian Church "protestant" or "home" or OC ratings "1", "2", "3".
 4. Baptist, Church of Christ. (In some communities RA "3" and "4" are reversed).
 5. Roman Catholic, Lutheran. (High Status people compensate on OC, SI ratings).
 6. Jewish and Orthodox Church. (Compensated by OC, SI, ED ratings).
 7. Pentacostal, Gospel Tabernacle, Free Methodist, Jehovah Witness; "evangelical" churches; also a rating for "none" when OC ratings are "4" to "7".
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OCCUPATIONS: LEVELS AND KINDS

Rate	Professionals	Proprietors	Business
1.	Lawyers, judge, physican, engineer, professor school supt., et al	large businesses valued at 100,000 or more depending on community.	Top Executive President, et al of corp. banks
2.	High School teacher, librarians, and others with 4-year degrees.	Business valued at \$30,000 to \$100,000	Asst., office & Dept. Mang. or supervisors; mfgs agents
3.	Grade School teacher, registered nurse, minister without 4-year deg.	Business or equity valued from \$10,000 to \$50,000.	Managers of small branches or buyers and salesmen of known merchand.
4.		Business or equity valued from \$5,000 to \$10,000.	Stenographer, bookkeeper, ticket agent sales people in dept. stores, et al.
5.		Business or equity valued from \$2,000 to \$5,000.	Dime store clerks, tele. and beauty operators, et al.
6.		Business or equity valued at less than \$2,000.	Semi-skilled factory and production workers; asst. to skilled trade; ware-housemen; watchmen
7.		"Repeated Lawbreakers"	Heavy labor; odd-job men; mine or mill hand, unskilled workers

OCCUPATIONS: LEVELS AND KINDS-Continued

	White Collar	Blue Collar	Service	Farm People
1.	CPA; editor of newspaper, executive sec. of status orgin.			Gentlemen Farmer or landowners who do not supervise directly their property.
2.	Accountant; insurance; real estate, stock; salesmen; editorial writers.			Land operators who supervise properties & have an active urban life.
3.	Banks, clerks auto salesmen, postal clerks R.R. or tel. agent or supervisor.	Small contractor who works at or supervises his job.		Farm owners with hired help; operators of leased property who supervise.
4.	Stenographer, bookkeeper ticket agent sales people in dept. stores, et al.	Foremen; master carpenter, electrician et al.	Police, R.R. condr., watchmaker, tailor	Small landowner; operator of rented property hiring "hands."
5.	Dime store clerks, grocery clerks; tele. and beauty operators, et al.	Apprentice to skilled trades, repairmen; med. skilled workers	Policemen; barbers; prac. nurse, brakemen et al.	Tenants on good farms; foreman; owners of farms who "hire out".
6.	Semi-skilled factory and production workers; asst. to skilled trade; warehousemen; watchmen	Taxi & Truck driv., waiter; gas sta. attent.	Taxi & Truck driv., waiter; gas sta. attent.	Sharecroppers, established farm laborers, subs'ce farmers.
7.	Heavy labor; odd-job men; mine or mill hand, unskilled workers		Domestic help, bus boy; scrub-women; janitor's helper	Migrant workers "squatters" & "nesters".