A STUDY OF RELATIONSHIPS BETWEEN VOCATIONAL PREFERENCES OF
NINTH GRADE STUDENTS AND CERTAIN SELECTED VARIABLES

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By

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CHAPTER I
INTRODUCTION

In modern society practically every individual must choose an occupation. The right of the individual to choose his work is one of the outstanding characteristics of the American culture. This right is in direct contrast to rights in some totalitarian societies in which the state directs the destinies of the individual.

The typical high school in this country is so organized that some anticipatory or actual vocational decisions are made at the beginning of high school, which is usually the freshman year or ninth grade. The individual student has to decide, with the help of his teacher or counselor, among different curricula, such as college preparatory, general or vocational. The subjects which the student places on his choice card or his planning sheet for the four years should be indicative of his eventual goals. For example, a student who aspires to become a linguist would follow an unwise or inappropriate curriculum if he chose the industrial arts or agricultural courses instead of courses in the languages.

It is important to the individual and to society that time and resources not be wasted in unnecessary educational or vocational floundering. Counselors and teachers in some schools employ various vocational interest tests and
provide students with much vocational and occupational information upon their entrance into the high school.

In choosing a vocation it is believed that the more intelligent an individual is, the more capable one would expect him to be in dealing with developmental tasks in various areas, including the vocational. It is also believed that the more planful types of behavior are encouraged at the higher socio-economic levels and that planfulness is indicative of vocational maturity. It is also believed that students making the higher achievement scores will have higher intelligence quotients and will therefore make vocational choices more wisely.

Ninth graders, who are approximately fourteen years of age, are sometimes given questionnaires asking them to choose an occupation which they would like to follow. These vocational preferences give the counselor or teacher some idea of the type of curriculum in which the student is interested. Super (16) reported the findings of Strong (1955) and MacArthur and Stephens (1955) that vocational preferences made by students during the adolescent years have considerable predictive value for adult occupations. One's vocational plans at the ninth grade level or at any level may be left flexible enough so that the goal can be shifted in the light of information he may gain later about his qualifications and opportunities, but vocational information at this level can be beneficial in the counseling program of the school.
Statement of Problem

This problem involved a study of relationships between vocational preferences and certain selected variables of ninth grade students in a junior high school in a large city school district. The selected variables were intelligence, socio-economic status or parental occupational level, school achievement, participation in school activities, only or non-only child status, parental vocational aspiration for the child, educational level of parent or guardian, and family cohesiveness.

Hypotheses

The following null hypotheses were tested statistically in the study:

I. There would be no significant relationship between the intelligence quotients of the boys and girls and the level of their vocational choice.

II. There would be no significant relationship between level of the breadwinner's occupation and the level of the student's occupational choice.

III. There would be no significant relationship between academic achievement level and the level of the vocational choice.

IV. There would be no significant relationship between the sex of the individual and the appropriateness of his choice.

V. There would be no significant relationship between the level of vocational choice and the amount of participation in school activities.
VI. There would be no significant relationship between the level of vocational choice and only-child and non-only child status.

VII. There would be no significant relationship between parental vocational aspiration level for the student and the level of his vocational choice.

VIII. There would be no significant relationship between level of educational attainment of parent or guardian and level of vocational choice of student.

IX. There would be no significant relationship between family cohesiveness and level of vocational choice.

Basic Assumptions

1. It was assumed that the vocational choices made would be made as a result of a variety of determinants, and among these determinants were intelligence, socio-economic status, achievement, participation in school activities, only and non-only child status, parental vocational aspiration for the child, educational level of parent or guardian, and family cohesiveness.

2. It was assumed that the test instruments used would obtain the information desired.

Definition of Terms

Socio-economic status. The parent's position in the social structure or the level of his occupation as found in The Minnesota Scale for
Parental Occupations and based on Hamburger's revision to include the breadwinner's occupation.

Appropriate Choice. A vocational choice made by students whose intelligence quotient fell within one-half standard deviation (6.5) in either direction from the midpoint on The Otis Gamma Intelligence Test for the preferred occupation chosen by the student. (See Appendix C).

Inappropriate choice. A vocational choice which fell more than one-half standard deviation in either direction from the midpoint of the range on the OGIT which corresponded with the chosen vocational preference made by the student. (See Appendix C).

Achievement scores. Standard scores as measured by The Iowa Test of Educational Development (ITED) rather than the regular grade placement scores.

Family cohesiveness. In this study family cohesiveness refers to whether child lives with his own parent(s) or with others in loco parentis.

Parental occupational level. The occupational level of the parents refers to The Minnesota Scale for Paternal Occupations' categorization of the breadwinner's occupation which is found ranging from class I to class VII.

Participation in school activities. Participation in school activities refers to whether student takes part in any school activities or whether he is actively involved in one or more activities.
Only-child and non-only child status. Only-child and non-only child status refers to whether the child is the only child in his family or whether there are other siblings in which case he would be classed as a non-only child.

Educational level of parent or guardian. The educational level of the parent or guardian refers to the amount of education the parent or guardian has in terms of the number of years in school or college (See Appendix B).

Parental vocational aspiration for the child. The vocational aspiration of the parent or guardian for the child refers to the classification of the vocation that he selects or suggests that his child follow.

Limitations to the Study

This study was limited to an investigation of relationships between vocational preferences of 230 ninth grade boys and 220 ninth grade girls in a junior high school of more than 2100 pupils of which approximately 500 were ninth graders, and factors of intelligence, socio-economic status, academic achievement, participation in school activities, only or non-only child status, parental vocational aspiration for the child, educational level of parent or guardian, and family cohesiveness. This study was also limited to students with average I.Q.'s slightly below the normal and with a preponderance of parental occupations falling in the semi-skilled and unskilled categories.
Background and Significance of the Study

Ginzberg (7) designated the period of eleven to seventeen as a period of tentative choices for youth in choosing a vocation. The first stage of this period was classified as the "interest stage" — the preadolescent makes his choice primarily in terms of his likes and interests. During the "capacity stage" from thirteen to fourteen the individual becomes more and more aware of the necessity to introduce realistic elements into his considerations. He begins to consider his capacities objectively and for the first time becomes aware of external factors—different occupations, different returns, and different preparation and training. When students place commercial courses, industrial arts courses, agricultural courses and the like on their choice cards, or planning sheets, they are making choices which are clearly prevocational in nature.

There are indications that Billet and Yeo (1) believed that the best time for most students to begin planning is during their early teens in the junior high school, and they gave three reasons why students should think realistically and seriously about their future. First, one will need time to learn about his interests and about the occupation he desires to enter. Secondly, one will need time to learn about the various types of occupations that are available and the requirements for different kinds of occupations. Thirdly, one will need to have at least a tentative vocational goal in order to make choices of high school courses and activities that will contribute to his preparation and employment.
When students enter the ninth grade, many of them have some vocational preferences, however impractical, but one would expect these preferences to be founded on some degree of reality. A boy's interests, for example, may be similar to those of an engineer while his intelligence is not high enough for success in a college or his funds are not sufficient for the extra years of schooling. Whether boys and girls are ready to make vocational choices which match their scholastic aptitude, socio-economic status of their families, achievement scores, participation in school activities, only child and non-only child status, parental vocational aspiration for the child, education of parent or guardian, and family cohesiveness, this study attempted to answer even while recognizing that the answers could only be tentative. Whether these choices are based upon fantasy or feasibility, they should give the teacher or counselor an opportunity to present information concerning careers, because having a vocational objective is important in a society in which occupational roles are of major significance, and in which education is, in effect if not avowedly, occupationally oriented.

Fryer, Carter, Schmidt, and Rothney (Super, 16) questioned the significance of expressed vocational preferences in early adolescence, but Dyer (6) and others have shown that expressed preferences do have practical significance. Dyer (6) found that among college students, vocational preferences which had been constant over a period of years were related to subsequent occupational choice. Super (16) reported the findings of Strong, McArthur, and Stephens in which they found that expressed vocational
preferences of students at Harvard and Stanford had considerable predictive
dependence value for adult occupation. The practice of inquiring about the vocational
preferences and ambitions of junior and senior high school students in
helping them to make educational or prevocational choices and plans is
widespread and based on compelling arguments.

Roe (11) and Super (17) found in their study of birth order that natural
scientists tended to be only children and eldest sons. They concluded
that if position in family is a factor in selecting natural science as an
occupational field, it might also be a factor in selecting or choosing other
occupational fields.

Participation in school activities was also considered indicative of
vocational maturity. Participation in school activities indicates involvement,
and involvement indicates interest, and Hudson (11) believed that interest
should be considered in making vocational choices.

Hurlock (12) believed that family cohesiveness should be considered
as a predictor of vocational maturity on the assumption that a cohesive
family or a family that stays together and plans together will offer a favorable
environment for development in all of the areas including the vocational.

Krippner (13) found that parents' vocational aspiration level for their
children, as a rule, was usually higher than that of their own occupation.
Even the child from the lower socio-economic stratum is expected to rise
above his level by the process of social mobility. The middle classes are
ever striving to improve themselves and the upper classes expect their
children to certainly maintain the status quo or go beyond their own level occupationally. Pressures in the form of expectations are often exerted by parents or guardians. The educational level of the parent or guardian also influences the selection of a vocation, because the higher the degree of training of the parent or guardian, the greater will be the expectations of the parents both educationally and occupationally for the child.

Interest in the problem of choosing a career at the ninth grade level has its origin in the belief that vocational counseling in the junior high school will be more meaningful to students when they realize that different preparation is required for different occupations and that different abilities are also required or called for in different occupations. Socio-economic accessibility to some occupations also varies considerably. These are not the only factors involved in selecting a vocation, but it is believed that these are among the most important. Much greater participation by the student in the counseling session is possible when he is able to look at himself and his qualifications objectively.

Information derived from this study may be used by teachers, counselors, psychologists and others who counsel with students in helping to provide guidance in search of further evidence concerning the selection of a vocation. Since the study of vocational choices is developmental according to Super (16), further evidence would help to substantiate research in this field. A student who has high intelligence and chooses a vocation that does not require much intelligence or one whose socio-economic status is high but chooses a vocation on the lower end of the scale could be told
of his potential and given information concerning persons who have his qualifications and have been successful in other fields. This does not imply that the student is told that he cannot follow his chosen vocation, but it does imply an attempt to help the student find himself and consider his capacities objectively, and become aware of external factors—different occupations, different returns, and different preparation and training.

Since hypotheses are defined as shrewd guesses or inferences which are adopted to explain observed facts and conditions and to guide in further research, the hypotheses in this study may or may not be sustained. If the hypotheses are not sustained, this failure to find significant relationships in the hypothesized directions is evidence of the lack of psychological and hence of practical significance of relating these factors with vocational preferences at this stage of development.

However, Super (17) does not believe the preferences themselves, even if inconsistent or unwise, should be disregarded because many counselors believe, and research shows, that the best way to let this information help the student is to aid him in assimilating it into his concept of himself. If the level of the student's occupational choice is too far removed, that is, more than one-half standard deviation above his intelligence level, if his grades are D's and C's, and if his socio-economic status is such that no finances are in sight, he might be counselled with and informed of the relationship between his abilities and his preferences and the socio-economic
accessibility of his preferred occupation. This does not mean, however, that there are not exceptions to this type of reasoning. Some students receive federal grants and stipends of one kind or another and are able to enroll in the school of their choice and enter their preferred vocation, but if their abilities are low or limited and if their grades are poor, it is doubtful whether they will remain very long or succeed in their chosen field. The counselor may indicate to the counselee with a low score the risk of entering an occupation apparently requiring a higher score. For example, he may point out to a counselee with an I.Q. of 85, who is interested in writing as a career, that 50 per cent of the writers score at least 114 (See Appendix C).

This study is significant because the information gained will be of aid to the counselor if he can help the student to assimilate it into his concept of self. The statement of a vocational preference is one way of expressing a self-concept, according to Bordin (3). When one discovers his own strengths and weaknesses, he should then be better able to select the vocation that his ability and the socio-economic status of his parents will permit.

Procedure for Collecting Data

Population

The population sampled included all of the 450 ninth graders on whom information could be obtained in a junior high school with an enrollment of
2100 scholastics in the seventh, eighth, and ninth grades. This junior high school had two Anglo-American students, three Latin American students and 2095 Negroes. The sample of 230 boys and 220 girls was not an equal distribution as Walker and Lev (15) suggested because fewer girls than boys were enrolled in the class. The Chamber of Commerce has designated the community served by this school as consisting of families of low to median income, with approximately 23 per cent of the youth classified as disadvantaged.

Instruments Used

The instruments selected for this study were as follows: The California Test of Mental Maturity (CTMM) was used to obtain the intelligence quotients of the subjects. The CTMM has a mean of 100 and a standard deviation of 16. This test is one of the most widely used tests of intelligence. Its high reliability and validity coefficients have been found for many types of populations. The test has correlations of .84 with The Otis Gamma Intelligence Test and .86 with The Stanford-Binet Intelligence Test.

The Minnesota Scale for Paternal Occupations, which is also called The Scale of Socio-economic Status, was also used. This scale gives a general measure of socio-economic status on the basis of which sampling can be done with some confidence. Goodenough (8) believed that this scale is one of the best methods of determining socio-economic status, and found that the scale remains fairly stable from U.S. census to census
in classified data concerning the class in which the type of occupation of the father falls as shown in appendices. Chapin (5) published his first paper on a quantitative scale for rating the homes and social environment of families and used the results against paternal occupation as a first approximation of socio-economic status. If the father was absent from the home, then Hamburger's revision of the scale was used which included the breadwinner's occupation. Other indices of socio-economic status, such as family heritage, family wealth, and the kind of house each student lived in were not easily obtainable in a school situation.

The Iowa Test of Educational Development (ITED) was given to each student. The ITED test represents one of the most comprehensive achievement tests available for large groups, and yields a reliability coefficient of .91 for students in a given grade. On these test forms were included the students' intelligence quotients, their standard scores in (1) understanding of basic social concepts, (2) general background in the natural sciences, (3) correctness and appropriateness of expression, (4) ability to do quantitative thinking, (5) ability to read and to interpret materials in social studies, (6) ability to interpret reading materials in natural science, (7) ability to interpret literary materials, (8) general vocabulary, (9) uses of sources of information, (10) composite scores, and (11) percentile ranks.

Each student made a selection of a vocation in which he was interested from a vocational choice sheet devised by the school district. The vocational choice sheet listed the vocations in the following categories: art field;
clerical, sales, and related service field; communication field; computational; health services; mechanical (trades and crafts field); outdoor field; personal-social field; protective field; service, trade, and related field; scientific field; and government services. These vocations are categorized according to the **Otis Gamma Intelligence Test**, with the I.Q. requirements given. (see Appendix C). In the case of occupations not listed in the table, two judges selected a listed occupation which they deemed similar in terms of mental ability. This procedure is from Super's (17) method of determining agreement between ability and preference.

The **Otis Gamma Intelligence Test (OGIT)** scores for various civilian occupations were used to determine the relationship between preferences of the students and their intelligence quotients as determined by the CTMM. The lower limits, the midpoints, and the upper limits in terms of intelligence quotients are listed for a great number of occupations. There is much overlapping, as would be expected among the various occupations, but Roe (11) stated that one method of estimating the relationships between occupations and intelligence is to note the minimum I.Q. required for successful (retaining the job) pursuit of various occupations. The OGIT has a mean of 100 and a standard deviation of 13. On the OGIT scale the occupations are grouped into seven categories according to the **Minnesota Scale for Paternal Occupations**. Class I includes the professional occupations; class II includes the semi-professional and the managerial; class III includes clerical, skilled trades, and retail businesses; class IV
Includes farmers; class V includes semi-skilled occupations, minor clerical positions, and minor businesses; class VI includes slightly skilled trades and other occupations requiring little training or ability; and class VII includes day laborers of all classes.

A questionnaire was filled out by each student. On the questionnaire was information concerning birth order, participation in school activities, parent’s or guardian’s vocational aspiration for the child, educational level of parent or guardian, and family cohesiveness.

Procedures for Treating Data

The data selected for this study were the students’ intelligence scores, only-and non-only child status, participation in school activities, parental vocational aspiration for the child, parent’s or guardian’s educational level, and family cohesiveness. The following statistical procedures were employed to test the hypotheses and provide an empirical basis for interpreting the data. The null hypothesis was rejected at the .05 level of significance.

Hypothesis I stated that there would be no significant relationship between the student’s intelligence quotient and the level of his vocational choice. This hypothesis was tested by the product-moment correlation method in which intelligence scores and the seven levels of vocational preferences were used. The critical ratio was determined to test for the significance of $r$. 
Hypothesis II stated that there would be no significant relationship between level of the breadwinner's occupation and the level of the student's occupational choice. This hypothesis was tested by Pearson's product-moment method of correlation. This correlation was between the socio-economic levels of I, II, III, IV, V, VI, and VII of the breadwinner's occupation as described in the appendix by The Minnesota Scale for Paternal Occupations and the categories of vocational choices made by the students on the same scale. The critical ratio was determined to test for the significance of $r$.

Hypothesis III stated that there would be no significant relationship between academic achievement level and the level of vocational choice. The level of the vocational choice was correlated with the students' composite achievement score, made on the ITED. These standard scores ranged from one to thirty-eight. The critical ratio was found to determine the significance of $r$.

Hypothesis IV stated that there would be no significant relationship between the sex of the individual and the appropriateness of his choice. Agreement between ability and preference was assessed by determining whether the individual's tested intelligence fell plus or minus one-half standard deviation ($6.5$) from the midpoint of the preferred occupation. This was the criterion of appropriateness, and the criterion of inappropriateness of the preferred or chosen vocation was determined as positive if the tested intelligence was more than $6.5$ above the midpoint and
negative if more than 6.5 below the midpoint. A 2x3 chi square table was used to test the significance of the hypothesis.

Hypothesis V stated that there would be no significant relationship between vocational choice and amount of participation in school activities. This hypothesis was tested by chi square using the three grouped levels of vocational choices and the amount of participation in school activities. The amount of participation in school activities was categorized as participation in one activity, two activities, three activities, four or more activities. Occupational categories grouped were I and II, III and IV, and VI-VIII.

Hypothesis VI stated that there would be no significant relationship between only child and non-only child status and level of vocational choice. This hypothesis was tested by chi square. A 2x3 contingency table was set up using the two categories of only child and non-only child status and three categories of vocational choices from The Minnesota Scale in which I and II, III and IV, and V-VII have been combined to form three groups.

Hypothesis VII stated that there would be no significant relationship between parental vocational aspiration level for the child and level of vocational choice. This hypothesis was tested by the product-moment method of correlation using the seven categories of occupations selected by the parents or guardians of the child and the vocational preferences made by the child. The critical ratio was found to test for the significance of $r$. 
Hypothesis VIII stated that there would be no significant relationship between level of educational attainment of parent or guardian and the vocational choice made by the student. This hypothesis was tested by the product-moment correlation method. The educational attainment of the parent or guardian was given a number from one to eight (one for four years of college or university and eight for less than grade school graduation) which scale is found in Appendix B, and the seven categories of occupations as found on The Minnesota Scale. The critical ratio was determined to test for the significance of $r$.

Hypothesis IX stated that there would be no significant relationship between family cohesiveness and vocational choice. This hypothesis was tested by chi square. This 2x3 table used two categories of family relationships; student lives with parent(s) or student does not live with parent(s), and the three grouped categories of levels of vocational choices.
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CHAPTER II

Related Literature

The review of the literature is presented in eight parts: (1) studies concerned with intelligence and vocational choice, (2) studies concerned with socio-economic status and vocational choice, (3) studies concerned with parental occupational aspiration for the child and vocational choice, (4) studies concerned with academic achievement and vocational choice, (5) studies concerned with participation in school activities and vocational choice, (6) studies concerned with family cohesiveness and vocational choice, (7) studies concerned with only-child and non-only child status and vocational choice, and (8) studies concerned with parental educational level and vocational choice.

Intelligence and Vocational Choice

Jones (23) found that one of the first considerations in fitting the man to the job should be the insistence that the person has a high enough level of ability to qualify for the training and later requirements of the position he is considering. He stated that since World War I, psychologists have been informed about the general level of ability of each major occupational field as measured by standard intelligence tests. According to the Army
Alpha Examination, certain levels of I.Q.'s are expected in every important occupation. With an I.Q. of 100 assumed as the normal level of ability of all Americans, the median I.Q. in selected occupations is as follows:

**TABLE I**

MEDIAN INTELLIGENCE QUOTIENTS FOR SELECTED OCCUPATIONS

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Median I.Q.</th>
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<tbody>
<tr>
<td>Physician, Lawyer</td>
<td>120</td>
</tr>
<tr>
<td>Teacher (Grammar School)</td>
<td>110</td>
</tr>
<tr>
<td>Accountant, Nurse</td>
<td>110</td>
</tr>
<tr>
<td>Retail Store Manager</td>
<td>105</td>
</tr>
<tr>
<td>Pattern Maker, Detective (Supervisor)</td>
<td>100</td>
</tr>
<tr>
<td>Counter Sales Person</td>
<td>95</td>
</tr>
<tr>
<td>General Painter, Truck Gardener</td>
<td>90</td>
</tr>
<tr>
<td>Factory Worker</td>
<td>85</td>
</tr>
<tr>
<td>Dairy Hand, Deliveryman</td>
<td>80</td>
</tr>
<tr>
<td>Laundry Worker, Farm Laborer</td>
<td>75</td>
</tr>
</tbody>
</table>

Jones (23) did not hold that the I.Q. was the only requisite for a particular job nor did he know which was more important, sheer brilliance or academic status, but he suggested that one is not likely to become a doctor or a scientist without some academic status and some demonstrable scholastic aptitude. Most of the professions require some degree of training, and persons without this training rarely achieve these positions.
Persons with low I.Q.'s rarely successfully complete college or graduate schools and are thereby denied these positions except in extreme cases.

Studies were conducted by Terman and Oden (39) in which they found a positive relationship between intelligence and appropriate vocational goals. They believed that one would expect to find a positive relationship between intelligence and behavior considered indicative of vocational maturity, because the more intelligent an individual is the more capable would one expect him to be in dealing with developmental tasks in various areas of behavior, including the vocational. Roe (31) concurred with these findings and stated that it is a common sense observation to designate intelligence as a factor in occupational selection. She found that there was a positive correlation between intelligence and the amount of education and that generally high status occupations require higher levels of both intelligence and amount of education.

Terman (40) believed that it would be necessary to find the actual ranges of intelligence represented in the different types of vocations, especially the lower limits of intelligence which permit reasonable success. He believed that it would be necessary to determine for each typical occupation the level of mental ability which represents the "point of diminishing returns" in order to prevent superior ability from being wasted upon vocations which make only moderate intellectual demands.

Super (36), in his Career Studies, found that the intelligence was related to educational success and therefore indirectly related to job
opportunities and job level. He found a low but positive correlation, significant at the 0.01 level. The more intelligent pupils did have a tendency to think more about the choices they needed to make. Intelligence, school achievement, family cohesiveness, cultural stimulation, and adolescent independence had statistically significant positive coefficients of correlation with the selection of vocational choices. Age, house rating, parental mobility, father identification, and peer acceptance were not significantly related to vocational choice. In his Career Studies, Super (36) found that intelligence of 46 boys out of 105 was appropriate for the occupations chosen by them, but the other 59 chose occupations that seemed inappropriate in terms of intelligence required.

Intelligence is influential in vocational development in several ways. Jersild (22) found that since intelligence is related to academic success and attainment, it is an important factor in determining how much education a person will be able to acquire, because the amount of education affects entry into many occupations, especially the professions. Intelligence is also related to the occupational level at which a person will have the best chance to compete. Jersild (22) further states that it has been demonstrated that the average intelligence of members of different occupational groups varies in such a way that occupations may be arranged in an hierarchy according to these figures. However, he quoted Fryer (1) and Stewart (34) in cautioning that there is considerable overlapping of these intelligence scores between different occupational groups.
Clark and Gist (8) reported their findings on 2423 persons who were given the Terman Group Test of Mental Ability and classified them according to the occupations they were following and their intelligence quotients. They also found some overlapping, but found the higher percentage of professional workers with I.Q.'s above 104 to be 37.35. The percentages for unskilled workers, for farmers, for housekeepers and unemployed were 14.17, 11.31, and 5.06 respectively.

Gribbons and Lohnes (14) reported their findings on occupational preferences and measured intelligence of junior high school students. The students were classified as follows: (1) students with I.Q.'s of 115 and over, who were capable of doing college work, (2) students with I.Q.'s ranging from 105 to 114, who were considered college caliber, and (3) students with I.Q.'s below 105, who would find it difficult to survive most four-year colleges. Of the 111 students studied, sixty-one per cent preferred occupations at the professional level. This percentage is out of proportion with the number who will be able to enter and remain in occupations of this type. Recent evidence indicates that approximately one-fourth or twenty-five per cent of all workers in 1962 were in professional, administrative and related occupations according to the Occupational Outlook Handbook (41). Most striking, perhaps, was the fact that twenty-three of the forty-three students with I.Q.'s below 105 chose occupations in one of the professions. Gribbons and Lohnes (14) also reported the findings of Holden (16), in which he found the bright students making choices which were considered consistent
with their measured intelligence. The percentage of those whose I.Q.'s were 115 and above who chose a profession as an occupation never fell below 82, over a five-year period. Only five students preferred occupations that were classified as non-professional, and only two stated a preference for service-type occupations.

Baer (3) reported his findings on intelligence and vocational choice, and came to the conclusion that the level of intelligence required in different occupations is an important factor in choosing a vocation. Although a wide range of intelligence is represented in every occupation and although the distribution in one vocation overlaps in part that in another, there are distinct differences between the means of intelligence scores in such occupations as medicine and unskilled labor. He stated that an individual who enters an occupation in which the majority of individuals have a higher or lower degree of intelligence than he possesses will find himself at a competitive disadvantage or will find his work and associations not satisfying to him. However, he stated that the counselor must be aware that some factors other than intelligence must be considered in selecting a career and that the intelligence scores suggest the approximate occupational level at which an individual is likely to perform satisfactorily in competition with others.

Fryer (11) and Stewart (34) made the first comprehensive study of intelligence levels of men who represented different occupations during World War I. The Army Alpha (verbal) and the Army Beta (non-verbal)
tests were administered to men drafted into military service. Fryer (11) constructed tables of intelligence scores for various civilian occupational groups. Stewart (34) made a report of World War II draftees in which she studied the relationship between civilian occupations and the standard scores made by men in the Army General Classification Test (AGCT). Her study included 81,533 enlisted men in 227 different occupations, and she grouped the occupations according to one-half standard deviation intervals from the means. This study is believed by Baer (3) to be more useful in indicating the occupations a counselee should not enter than in pointing to the occupation which he should enter.

Brewer (7) found that general intelligence will indicate chances of success; however, he stated that it is sometimes possible for a person of only average ability in mathematics to become an architect, but it is certainly not very common, and the chances are great that a person of low ability in mathematics would fail as an architect. He believed that one who scores very low on intelligence tests might have some difficulty in occupational life, at least in one of the higher status occupations. Grace (13) and Sparling (33) found in their studies that the more intelligent individuals tended to select occupations more wisely. They felt that not only will dissatisfaction be felt when an individual attempts to handle a job beyond his capacity and thus puts himself under constant stress, but that there is evidence that ability in excess of that demanded by the job can also lead to frustration and loss of interest.
Socio-Economic Status and Vocational Choice

Hollingshead (17) made a cross-sectional approach in his study of Elmtown's youth in which he set out to ascertain the effects of the parental socio-economic status in structuring the role of the adolescent in various situations. He found that the socio-economic status of the parents played an important part in determining their children's role in early work careers. In other words, belonging to a given social class structured an individual's life and patterned his educational, social, and vocational behavior. He found that the social structure of the family could be classed as the independent variable and the behavior of the adolescent - whether it was educational, social, or vocational - the dependent variable. He used chi square to test for the significance of the relationship, and adopted the one per cent level of probability as his criterion. He found a chi square of 93.3748 significant at the 0.01 level of probability. Therefore, he was able to conclude with confidence that there was a real, rather than a chance relationship between the behavior of the adolescent and the class his family occupied in the social structure.

Roe (13) stated that in the present culture, social and economic status depends more upon occupation than upon anything else. She believed that sociological studies as well as psychological studies are practically unanimous on this point, although there are, of course, exceptions. People whose life situation is especially difficult may find the status and prestige conferred by their occupation, or receive from fellow workers the greatest
sources of satisfaction for their ego-needs. This applies particularly to members of minority groups of all types, who may receive an acceptance occupationally which they cannot achieve socially, or who may gain social acceptance through occupational status. Occupations in the American culture have a fairly definite and constant hierarchy of prestige. It has been noted that professions generally are at the top of this hierarchy and that this probably accounts for their consistent over-selection as occupational goals.

Jersild (22) found that the socio-economic status of the father, in terms of occupation, had a direct influence upon the occupation his son follows. He found that although the majority of sons do not enter the same occupation as their fathers, they are more likely to enter the occupation followed by their fathers than any other. He quoted Jenson and Kirchner (22) who found that sons tend to follow the general type of occupation that their fathers have engaged in but when they do not, they tend in general to enter an occupation at a higher socio-economic level. Hollingshead (17) found that family socio-economic status affects the young person's social status in the community and influences vocational choices, because the financial situation of the family determines to an extent how far the individual will go in school. Many children from poor homes do not finish high school because of economic necessity.

Ginzberg and Ginsburg (12) found that limited resources operate both directly and indirectly on the process of choosing a vocation, and almost
without exception students of the upper income groups are enrolled in academic courses which prepare them for college, while the opposite is true of the lower income groups who are found in vocational schools in large numbers. The limitations which the lower income group must take into account in making occupational choices are many and varied, particularly in considering a career that will involve a long period of formal education.

Mowsesian (28) reported in his research some findings which corroborated the findings of Krippner (1963), in which he found the occupational aspirations of students related to parents' socio-economic status and thus, implicitly, to parents' vocational level. He also found in his study of superior students that the fathers' occupational areas were biased in favor of professional, skilled and semi-skilled occupations and do not appear to represent the working population at large.

Parental Occupational Aspiration for the Child and Vocational Choice

Krippner's (24) investigation dealt with the father's or the mother's vocation and the influence it had on their children. Data were obtained from 351 junior high school students in an upper middle class Chicago suburban community. The scale used to classify the vocation was Roe's scale which provided for six occupational levels which varied in degree of personal autonomy exercised on the job and in the amount of skill, training, and education required. The president of a large corporation, for example,
was ranked at the first level, while an unskilled worker was ranked on the sixth level. He found the most popular careers chosen by the boys were engineer, scientist, doctor, professor, athlete, lawyer, and aviator. The girls favored teacher, secretary, nurse, airline stewardess, model, and doctor, in this order. The fathers' occupational levels were significantly related to both their sons' (0.01), and their daughters' (0.05), career preferences.

1. Fathers whose occupational level was 1.00 suggested that their sons enter occupations with an average level of 1.00.

2. Fathers whose occupational level was 2.00 suggested that their sons enter occupations with an average level of 1.87.

3. Fathers whose occupational level was 3.00 suggested that their sons enter occupations with an average level of 2.20.

4. Fathers whose occupational level was 4.00 suggested that their sons enter occupations with an average level of 2.9.

5. Fathers whose occupational level was 5.00 suggested that their sons enter occupations with an average level of 3.67.

The importance of the father's occupation was striking because it was significantly related to his wife's job level, to his children's occupational preferences, and to the vocation he would like for his son to enter. The aspiration of the father for his son's occupation always indicated upward mobility. The level of the mother's job was significantly related (0.05) to her daughter's, but not to her son's career preferences.

The old clique, "Like father, like son," may therefore still be true to some extent. In this study, Krippner (24) found a significant relationship
between the level of the students' vocational preferences and the level of parental suggestions as well as the occupational strata for the same-sexed parent. The son's vocational choice, therefore, will reflect his father's niche in the occupational hierarchy, and although boys and girls may prefer different vocations than those suggested or engaged by their parents, it is likely that these preferences will reflect the family's occupational level, and therefore, the students' socio-economic milieu.

Hanson's (15) research dealt with ninth grade girls from a middle class socio-economic area. His studies dealt with vocational choices of girls and the occupational levels of their parents. The range of occupations as measured by The Minnesota Scale was from 2 to 5, with 3.45 as the mean. The results indicated that, (1) The pupils' preferences were significantly higher than their fathers' vocations; (2) The pupils' preferences were significantly higher than their mothers' vocations; (3) The fathers' suggested vocations for their daughters were significantly higher than their own vocations; (4) The mothers' suggested vocations for their daughters were significantly higher than the fathers' vocations; (5) There was no significant differences between fathers' and mothers' vocations when both were employed; (6) Fathers' and mothers' suggestions were not significantly different from their daughters' preferences.

Montesano and Geist (26) reported their findings from vocational choices made by thirty boys in grades nine to twelve who were equated for reading ability and fathers' socio-economic status. They found that
in the ninth grade there was a tendency for the students to relate one or two major reasons for choice making. There seemed to be little status consciousness among the ninth grade boys. In assessing the rewards of an occupation, only one boy alluded to prestige or status. The major determinants of choice were interest and personal need satisfaction. The twelfth grade boys expressed concern with identified interest, personal need satisfaction, the problem of an occupation suiting them, and anticipated monetary rewards, but the factors of prestige and status were stated almost as often as the monetary reward. Neither the ninth nor twelfth grade boys made great use of the assessment of their own abilities as a means of explaining their vocational choices. Implicit assumptions made by the authors concerning vocational development were two: (1) Vocational choice-making results from, and is interwoven in, a maturational process. (2) The process of vocational choice making proceeds in an identifiable and possibly predictable direction. The findings suggest that tentative reliance may be placed upon the possibility of identifying steps in vocational development but that attention must be given to qualitative and intensity factors. Implications for a descriptive body of information at various developmental levels were also suggested.

Lee and King (25) reported their findings of 179 ninth grade girls at a technical high school located in a relatively low socio-economic community. They attempted to answer the following questions: (1) Do girls prefer occupations at a higher level than the level of their parents'
occupations? (2) Do girls whose mothers are housewives prefer occupations at a higher level than do girls whose mothers are employed outside the home? (3) Do girls have higher occupational preferences than occupational expectancies? The scale used to classify occupations was Roe's scale in which she classified all occupations from 1 to 6. The results indicated that the fathers' occupational levels were 4 and 5. The mean occupational level of the 84 mothers who were employed was 5.24. It was found that the girls' occupational preferences were significantly higher than the occupational level of either father or mother. Question number one was answered affirmatively. No significant difference was found between the level of occupational preference of girls whose mothers were housewives and girls whose mothers were employed. Question number two was answered negatively. The mean level of occupational preference of the girls was significantly higher than the level of the occupation they expect to enter. Question number three was answered affirmatively. The fathers and the mothers suggested occupations for their girls with more prestige than they had actually attained themselves, but the girls seemed to be more realistic in their choices than their parents were in their suggestions as indicated by their choosing occupations at somewhat lower level (less prestige) than the ones the parents suggested. The level of the girls' occupational expectancies were lower than the level of their occupational preferences. Statistical significance was reported at the 0.01 level.
Stevic and Uhlig (35) conducted a study in which they sought the aspiration level of students in an Appalachian district in Kentucky in a low socio-economic area among children of migrant workers and among native groups. They found the aspiration level of the Appalachian group considerably lower than in the other two groups of migrant and native students. The mean of the Appalachian group was significantly lower than the mean of the migrant and native groups at the .001 level. The occupations most desired and least desired by the Appalachian group were as follows: filling station attendant, farm hand, coal miner and similar occupations were numbered one, or their first choice; truck driver and machine operator were second, while county judge, minister or priest, civil engineer, airline pilot, and supreme court justice were their seventh, eighth, and ninth place choices respectively. The authors believed that there was a relationship between moving out of the Appalachian area and occupational aspiration, because the migrant group was more like the native group in choosing occupations of higher status.

Krippner (24) studied the vocational aspiration of the parent for the child and found that when he asked, "What kind of work does your father want you to do?" the boys most frequently reported medicine, sales, business law, and engineering, in that order. The girls replied that their fathers wanted them to become teachers, nurses, doctors, and housewives. The boys stated that their mothers wanted them to become doctors, lawyers,
engineers, and business executives. The mothers wanted their girls to become teachers, housewives, secretaries, nurses, and doctors. There was a significant (0.01) relationship between the occupational choices of the students and their parents' preferences. Roe (31) found that the influence of the parents ranked first and the influences of other relatives and friends ranked second with students when they were making vocational choices.

Academic Achievement and Vocational Choice

Roe (31) found a relationship between scholastic achievement and vocational choice but only of a very general nature. She found, on the whole, those with higher grades tend to achieve higher level occupations. She also found a fairly consistent correspondence between average scholastic achievement and subsequent occupation, with the professional group showing higher academic records; yet there was marked overlapping of grades between occupational groups.

Nelson (29) found that there is a tendency for superior students whose fathers work at the professional level to state occupational preferences at that level. He also found that there is an even greater tendency for superior students whose fathers are employed at all other levels to state preferences different from their fathers' occupational level.
Bedford (5) believed that achievement scores indicated one's probable success, not only in college but in life, because the character, qualities, and intelligence required or necessary to make good grades are almost the same as those which are demanded for success in life. He believed that the grades one makes are permanent records of his industry and character. Many employers recognize these records and will hire only those persons with the higher marks or grades.

Jones found in his research that a bright person with a high I.Q. is likely to be a handicap to any industry if he has received poor grades in school. He believed that he has operated far below his intellectual capacity, that he is lazy or easily distracted, and that a student with a lower I.Q. and better grades would be a much better risk for most jobs.

Worthy (42) found that with extra studying, if one can change a C grade to a B grade it might mean the difference between getting a job and not getting it. He also found that some employers pay no attention to the grades a prospective employee makes while other employers place much stress on grades. He found that if one's educational training is directly related to the job he wants, the prospective employer is bound to be interested in his school record. Good grades will be an indication to him of interest in the subject. In many white-collar jobs, particularly those which involve contact with the public or which may lead to executive or supervisory positions, intellectual ability is very important, and the best indication of such ability is the grade level maintained at school.
There is one thing to keep in mind; poor grades have not usually helped anyone to obtain a job; good grades frequently have.

Stewart (34), of the War Department, made a report of World War II draftees in which she studied the relationship between civilian occupations and the standard scores made by men in the Army General Classification Test (AGCT). Her study included 81,553 enlisted men in 227 different occupations. In her table she took the mean of median scores made in all of these occupations and grouped the occupations according to half-sigma intervals from the mean. For example, the occupations of teamster, miner, farm worker, and lumberjack lie between 2.0 and 2.5 sigmas below the mean, while at the other extreme, the occupations of accountant, mechanic, engineer, personnel clerk, medicine, chemist, et cetera, fall between 2.00 and 2.50 sigmas above the mean of all the medians.

Eckert (9) found that, in general, those with more education and better marks tend to get jobs more readily, and those from academic and trade curricula are favored. There is a tendency on the part of employees to consider the academic curriculum superior to the commercial, even when filling clerical jobs; and there is a similar preference in filling semi-skilled and skilled jobs, to prefer the candidate who has demonstrated in his schooling that he is shop-and factory-oriented rather than office-oriented.
Participation in School Activities and Vocational Choice

Super (37) found that participation in curricular and extracurricular activities is also related to job-getting in areas in which ability to meet and work with people is considered important. A record of participation in club activities is seen as evidence of skill in working in groups and of leadership ability. It helps in getting sales, junior executive, and educational positions.

Hudson (18) found in his study of correlates of vocational maturity, that participation in school activities was one variable which was related to the amount of involvement in out-of-school activities. Variety of activities and intensity of involvement were considered in assigning the ratings. Participation in school activities was significantly related to peer acceptance ($r = .51$) and to participation in out-of-school activities ($r = .38$). Those who tended to be active in sports or organizations within a school setting were also somewhat more active in out-of-school activities than were the others. The ratings were based on the number of organizations to which an individual belonged and the extent of his participation in terms of attendance, offices held, and rank achieved.

Family Cohesiveness and Vocational Choice

Roe (31) found that factors in the general family climate not directly related to socio-economic status may be of prime importance in vocational choice and adjustment. She stated that whether or not a worker makes
special demands of the job or needs special appreciation and status depends upon the amount of deprivation during his early life. Family integration and attitude toward father are important in adjustment, but make little difference in adjustment; antagonism toward mother, however, is positively associated with both.

In further study of the cohesiveness of the family, Hurlock (19) found that the influence of parents takes three distinct forms. 1. The family's influence will help to determine the behavior of the child whether this behavior is vocational or otherwise. The child imitates to a great extent what he sees and observes. 2. By approval or disapproval, reward or punishment, the family teaches the child in a socially desirable manner. Social mobility which is expected in the hierarchy of jobs is one of the goals of the lower and middle classes. 3. The family does much to motivate the child not only in the selection of a vocation but in other developmental tasks.

Only-Child and Non-only Child Status and Vocational Choice

Hurlock (19) reported that Gilford and Worcester (1931) found in a comparison of only children with non-only children in junior high school, the only-child received better marks in school subjects and had a higher I.Q. than the non-only child. The only-child's health attitudes and habits were better, and he was superior also in personal orderliness and cleanliness. Only in participation in school and extracurricular activities was the only child found to be equal or slightly inferior to the non-only child. If only
children have higher I.Q.'s than non-only children, then according to Holden (16), Baer (3), and Gribbons and Lohnes (14), they will make vocational choices which are considered consistent with their measured intelligence.

Hurlock (19) reported the findings of Arthur (1926), in which he found that the younger siblings had higher I.Q.'s than the first-born. She also reported the findings of Thurston and Jenkins (1931), which maintained that intelligence increases, on the average, with order of birth in the same family. Genius, on the contrary, occurs more frequently among first-born than among later-born siblings. Cattell (1921) found a disproportionate frequency of the first-born among the American men of science. Ogburn (1927) reported that in Who's Who the eldest child is most frequently represented, and the middle children least frequently. Terman (1925), in his study of child genius found a disproportionate frequency of geniuses among the first-born. If position in family is a factor in selecting men of science, persons in Who's Who, and geniuses, then it might be a factor in occupational choice.

Altus (1) found that, consistent with some previous studies, talented students in the merit scholarship programs tended to be first-borns in their families. Among merit finalists from two-child families there were about twice as many first-born as second-borns. In three-child families, there were about as many first-borns as second-borns and third-borns combined, and the second-borns outnumber the third-borns. The same trend holds true for four and five-child families. The earlier born the students were in their family, the higher were their average test score. These able students
differed from average students in their interests and career plans. They chose college majors in physical science, mathematics, electrical engineering, English, history, and modern languages. For careers they chose scientific research, college teaching, writing, law, and medicine.

Moss (27) reported the findings of Galton, who found more only and eldest sons among the fellows of Britain's Royal Society. Oldest brothers and sisters are more likely to achieve eminence, possess high intelligence, and land a challenging occupation according to her research. First-borns have an over representation in Who's Who, and sixty per cent of national merit scholarship finalists, who rate in the top five per cent of the population, were first-born members of two to five-child families. All seven of the original Astronauts were first-born or eldest sons in their families, and twelve of the fifteen candidates for the Gemini program were eldest sons or only-children in their families.

Olson (30) found that in many studies, only-children show a variety of superiorities. Most of these seem, however, attributable to the fact that they tend to be born into families of upper socio-economic status with parents who have larger incomes and more advanced education. But Apperly (2) found in studying Rhodes Scholars in America that they tended to be elder sons from small families. Teargarden (38), however, disagreed with most of these findings and reported that no generalizations regarding first-born, second-born, last-born, and onlies can be made with regard to intelligence, competency and other factors indicative of superiority.
Schachter (32) found that the child's ordinal position in the family does play a significant part. He believes that birth order will have a great effect on not only his sibling relationships, but also his parental relationships. He believes that the first and only children differ significantly from second and later-born children. He believes that the first and only children have generally higher levels of anxiety and affiliative needs. He found that first and only children are more realistic in choosing vocations which require higher levels of intelligence.

Fischer's (10) research was a test of the hypothesis that oldest daughters are more likely to become pediatric nurses than girls in other sibling positions. A test of this hypothesis was made on a sample of 109 student nurses at the children's hospital School of Nursing. The hypothesis was accepted for students who come from large sibling groups (4 or more siblings), and rejected for students who come from siblings groups of 3 or fewer members. The theory advanced to account for this phenomenon was that the oldest daughters were more likely to be strongly identified with their mothers and chose occupations with a feminine orientation. It is felt that more evidence is needed to substantiate the theory, although there are indications that it may be valid.

Bayer (4) conducted a follow-up study examining the magnitude and direction of birth order on educational attainment. Only children were found to be the most likely to attend college, while children of intermediate ordinal positions were least likely to further their educations.
Contrary to previous research, first-borns emerge as no more likely to attend college than last-borns from the same family size and the same socio-economic status. If only children are more likely to attend college than non-only children as Bayer has found, and if only children make higher grades in school and have higher I.Q.'s as reported by Hurlock (19), then they are more likely to receive the jobs that require college training and higher intellectual abilities.

Educational Attainment of Parents and Vocational Choices Made by Their Children

Super (37) found that the educational level attained by the parents of 105 boys in his study, entitled, The Vocational Maturity of Ninth Grade Boys, had a low but statistically significant correlation with vocational choices made by the boys. The level of education attained by the fathers was 5.42 and 4.99 for the mothers. The 5.42 indicated more than eight grades of school and the 4.99 indicates some high school training but less than high school graduation, (See Appendix B).

Mowsesian (28) made a study of the occupational preferences of 147 Wisconsin high school students and their fathers' occupations. When he asked the question, "What is your father's occupation?" He found the responses were professional, semi-skilled and skilled, all of which required a higher educational level than the high school. He found: a. Slightly more than two-thirds of the students preferred professional fields, b. No choices
of unskilled vocations were chosen, c. No major differences in preferences for occupations between the sexes appeared. A phi correlation of .0011 (18) was found for the relationship between those students who chose only professional and non-professional areas and their fathers' professional or non-professional vocations. Mowsesan believed that there is a clear tendency for superior students whose fathers work at the professional level to state occupational preferences at that level. He found this to be true in the ninth as well as in the twelfth grades. He also found that there is an even clearer tendency for superior students whose fathers are employed at all levels to state preferences different from their fathers' level.
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CHAPTER III

Presentation and Analysis of Data

This study was an investigation to determine the relationships between vocational choices made by ninth grade students and certain selected factors of intelligence, socio-economic status, academic achievement, participation in school activities, parental aspiration for the child, only-child and non-only child status, educational attainment of parent or guardian, and family cohesiveness. An analysis of the findings is presented by examining each of the hypotheses.

Hypothesis Testing

Hypothesis I stated that there would be no significant relationship between the intelligence quotients of the boys and girls and the level of their vocational choices. Based on the results of the correlation and calculation of the critical ratio (CR) when the verbal and non-verbal intelligence quotients were correlated with the vocational choices of the boys (r=.22 and r=.26), the null hypothesis could be rejected at better than the .001 level of significance. The critical ratios were 3.13 and 3.75, respectively. Though the correlations were significant, they were low.
The correlations for the girls were .06 and .05, respectively for the verbal and non-verbal intelligence quotients when correlated with their vocational choices. The critical ratios were .83 and .67, respectively, and the probability was 41 and 50 chances in 100 that the values could occur on the basis of chance variations, therefore, the null hypothesis was accepted.

TABLE II

NUMBER OF BOYS AND GIRLS SELECTING AND MEDIAN INTELLIGENCE QUOTIENT REQUIREMENTS OF VARIOUS LEVELS OF VOCATIONS

<table>
<thead>
<tr>
<th>Level of Vocation</th>
<th>Median I. Q. Requirements</th>
<th>Number Making Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Boys</td>
</tr>
<tr>
<td>1</td>
<td>117</td>
<td>33</td>
</tr>
<tr>
<td>2</td>
<td>114</td>
<td>27</td>
</tr>
<tr>
<td>3</td>
<td>111</td>
<td>51</td>
</tr>
<tr>
<td>4</td>
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<tr>
<td>5</td>
<td>103</td>
<td>66</td>
</tr>
<tr>
<td>6</td>
<td>92</td>
<td>23</td>
</tr>
<tr>
<td>7</td>
<td>82</td>
<td>5</td>
</tr>
</tbody>
</table>

N=230  N=220
The I.Q. requirements used in Table II are conversions from the Army General Classification Test to the Otis Gamma Scale, in which the means and standard deviations were used in making the conversions, (3). In Table II is found the distribution of boys and girls who chose each of the seven vocational levels. Fifty-eight students chose careers on the professional level and seventy-seven chose careers on the semi-professional level. Thus 30 per cent of the students in the study chose careers in which college graduation is required. At the other end of the scale, forty-two students chose the slightly skilled trades and seventeen chose day laborers of all classes. This was 13 per cent of the students in the study.

It was reported in The Occupational Outlook Handbook (3), in its statistical abstracts in 1967, that only 12.9 per cent of American workers were employed in professional and technical occupations, levels 2 and 1, and predicted that by 1975 only about 20 per cent of the American workers would be found in these fields. According to the same source, about one-fifth, or 20 per cent, of American workers were found in levels 6 and 7, which included the unskilled trades and day laborers of all classes. The prediction for 1975 is that this ratio will hold for these blue-collar jobs. The impression that these figures give is that many of the students stated preferences which have prestigious status in the hierarchy of job classification, but which are unrealistic in terms of actual entry because of the I.Q. requirements for the various jobs as found on the OGIT.
Hypothesis II

Hypothesis II stated that there would be no significant relationship between level of the breadwinner's occupation and the student's occupational choice. A correlation was run between the seven categories of vocations of the parent or guardian and the seven categories of vocations selected by the students. (See Appendix A). In Appendix A can be found the various ratings of vocations; for example, if a student chose mechanical engineering as a vocation, the rating was one, but if he chose laboring as a vocation, the rating was seven.

Based upon the results obtained, there was no significant correlation in the two samples. For the boys, \( r = 0.01 \) and a very slight correlation of \( 0.11 \) was found for the girls. A critical ratio of 0.19 was found for the boys and 1.65 for the girls. These critical ratios have probabilities of 92 and 10 respectively in 100 that the results of this experiment could occur on the basis of chance variations. Therefore, the null hypothesis was accepted. It was concluded that the occupations of the parent or guardian had little influence on the child in causing him to choose an occupation similar to that held by his parent or guardian. The lack of a significant correlation could perhaps be attributed to the small portion of parents or guardians in the higher occupational categories and to the large portion in the seventh category.

In Table III it can be seen that the mean occupational level of the parent or guardian was 5.1 and the standard deviation was 0.28. This mean
occupational level means that on the average, the parent or guardian had occupations a little below the semi-skilled and the slightly skilled occupations which require little training or ability.

TABLE III

OCCUPATIONAL LEVEL OF PARENT OR GUARDIAN

<table>
<thead>
<tr>
<th>Level</th>
<th>Classification</th>
<th>Number</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Professional</td>
<td>20</td>
<td>4.4</td>
</tr>
<tr>
<td>II.</td>
<td>Semi-professional and Managerial</td>
<td>42</td>
<td>9.3</td>
</tr>
<tr>
<td>III.</td>
<td>Clerical, skilled trades and retail business</td>
<td>56</td>
<td>12.4</td>
</tr>
<tr>
<td>IV.</td>
<td>Farmers, and other agricultural and horticultural pursuits</td>
<td>29</td>
<td>6.4</td>
</tr>
<tr>
<td>V.</td>
<td>Semi-skilled occupations, minor clerical positions and minor businesses</td>
<td>76</td>
<td>16.9</td>
</tr>
<tr>
<td>VI.</td>
<td>Slightly skilled trades and other occupations requiring little training or ability</td>
<td>82</td>
<td>18.2</td>
</tr>
<tr>
<td>VII.</td>
<td>Day laborers of all classes</td>
<td>145</td>
<td>32.2</td>
</tr>
</tbody>
</table>

M=5.1    N=450
TABLE IV

DISTRIBUTION OF MOST PREVALENT VOCATIONAL CHOICES
MADE BY STUDENTS

<table>
<thead>
<tr>
<th>Career</th>
<th>Boys</th>
<th>Girls</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse</td>
<td>0</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Secretary</td>
<td>0</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Detective (FBI)</td>
<td>21</td>
<td>1</td>
<td>22</td>
</tr>
<tr>
<td>Teacher</td>
<td>3</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>Professional Sports</td>
<td>18</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Mechanic</td>
<td>16</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>Physician</td>
<td>8</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Pilot</td>
<td>10</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Laundry</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Mathematician</td>
<td>5</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Grocery Checker</td>
<td>3</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Chemist</td>
<td>5</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Dentist</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Beautician</td>
<td>1</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Model</td>
<td>0</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Engineer</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Musician</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Airline Hostess</td>
<td>0</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Interior Decorator</td>
<td>0</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Draftsman</td>
<td>6</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Armed Forces</td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Cook (Chef)</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Dressmaker</td>
<td>0</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Architect</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Coach</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Electrician</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Artist</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Designer or Craftsman</td>
<td>5</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Waiter</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Lawyer</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Truck Driver</td>
<td>5</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Social Worker</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Cartoonist</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Actor</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Radio- TV Repairman</td>
<td>5</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Fashion Designer</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>
In Table IV is shown only the most frequent choices made by students. In selecting vocational careers the girls had the greater number of choices in the occupations which have traditionally been held by women. There were thirty-six who chose nursing and thirty who chose secretarial work. The boys chose most frequently those careers that the male sex usually holds. There were eighteen boys who chose professional sports, twenty-one chose detective work, ten chose piloting planes and sixteen chose the mechanical trades. There were seventeen girls and three boys who chose teaching as a career.

Krippner (2) found in his studies that girls chose the professions of teaching, nursing, and secretarial work most frequently, but many chose to be housewives and doctors. Only six girls chose the medical profession, but none chose housewife, as such, as a career. Stevic and Uhlig (6) found that boys in a Kentucky, Appalachian district chose filling station hand, farm worker, coal miner and similar occupations, but only a few

<table>
<thead>
<tr>
<th>Career</th>
<th>Boys</th>
<th>Girls</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Boy</td>
<td>5</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Barber</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Key Punch Operator</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Data Processing</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>X-Ray Technician</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Factory Worker</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
boys from this lower socio-economic area in this study chose unskilled trades. As Table IV indicates, only five boys chose laundry working, five chose work as bus boys, two chose to be waiters, and one chose to be a factory worker. The most prevalent vocation chosen by both sexes requires some college and university training or some special training beyond the high school level.

TABLE V

DISTRIBUTION OF VOCATIONAL PREFERENCES OF STUDENTS BY LEVELS

<table>
<thead>
<tr>
<th>Level</th>
<th>Classification</th>
<th>Number Making Selection</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Boys</td>
<td>Girls</td>
</tr>
<tr>
<td>I.</td>
<td>Professional</td>
<td>33</td>
<td>25</td>
</tr>
<tr>
<td>II.</td>
<td>Semi-professional and managerial</td>
<td>27</td>
<td>50</td>
</tr>
<tr>
<td>III.</td>
<td>Clerical, skilled trades and retail business</td>
<td>51</td>
<td>65</td>
</tr>
<tr>
<td>IV.</td>
<td>Farmers, and other agricultural and horticultural pursuits</td>
<td>25</td>
<td>21</td>
</tr>
<tr>
<td>V.</td>
<td>Semi-skilled occupations, minor clerical positions, and minor business</td>
<td>66</td>
<td>33</td>
</tr>
<tr>
<td>VI.</td>
<td>Slightly Skilled trades and other occupations little training or ability</td>
<td>23</td>
<td>19</td>
</tr>
<tr>
<td>VII.</td>
<td>Day laborers of all classes</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>

N=230 N=220 N=450

Boys..M=3.7 Girls..M=3.3 Combined..M=3.5
Although no hypothesis was made, a $t$ test was performed to determine the significance of the difference between the means of the two samples of boys and girls. A $t$ of 11.4 was found and it was concluded that the difference was significant at something better than the .01 level. It can be seen that the mean occupational level for all the students in the study was 3.5. In Appendix A it can be seen that these vocations fall between clerical and sales occupations which is level 3, and farmers, which is level 4.

The data in Table V reveal that 25, 50, and 65 girls chose prestigious occupations ranging from one to three respectively, and that 33, 27, and 51 boys chose occupations at the same level respectively. These occupations include the professional, the semi-professional, and the clerical. More than one-half of the girls and almost one-half of the boys chose these occupations which require college or university training. It is thus apparent that while the parent or guardian is typically employed in one of the lowest three occupational levels, the vocational choice of the child is typically in one of the highest three categories. This would seem to indicate a great disparity between aspiration and potential, and a possible source of frustration when the realities of occupational possibilities must be finally faced.

In Table V it can be seen that 135 students chose vocations in the professional and semi-professional fields which require college graduation. The I.Q.'s of many of the students are too low by some standards for
success in college, but the American Council on Education Psychological Examination for College Freshman was administered in some 300 college, and yielded a median score of 122 in the highest ranking college and a median I.Q. score of 94 in the lowest ranking college. This means that one-fourth of the freshmen in the lowest ranking college had I.Q.'s of less than 90, Thorndike (30). There were 385 students in this study who had I.Q.'s which were 90 and above.

A first impression that one gets from an examination of the data in Table IV is the high percentage of students who stated preferences in the professional and semi-professional fields. Thirty per cent chose these occupations; this is, of course, out of proportion to the number who will be able to enter and remain in occupations of this type. Only 54 students, which is 12 per cent, chose level six and seven. According to The Occupational Outlook Handbook, in 1975, one-fifth of the people employed will be in what is described as blue-collar jobs, which includes these levels.

Hypothesis III

Hypothesis III stated that there would be no significant relationship between academic achievement level and the level of the vocational choice made by the student. The vocational choices were correlated with the academic achievement scores of the students. These scores were standard scores ranging from one to thirty-eight made by the students when they took The Iowa Test of Educational Development.
The coefficient of correlation for the boys was found to be .01, and .03 for the girls. The critical ratio for the boys was .21, and the chances in 100 that a critical ratio as large or larger could have occurred from chance variations alone was 83. The critical ratio for the girls was found to be .50, and the chances in 100 that a critical ratio could have occurred in this magnitude by chance was .62. Therefore, the null hypothesis cannot be rejected at the .05 level. No relationship was demonstrated between the selection of a vocation and academic achievement.

Hypothesis IV

Hypothesis IV stated that there would be no significant relationship between the sex of the individual and the appropriateness of his choice. This hypothesis was tested by using a 3x2 chi square table. The two categories of sex and the three categories of appropriateness were employed in a contingency table. Appropriateness was assessed when there was agreement between ability and vocational choice. If the student's intelligence test score fell within or on one-half standard deviation (6.5 points) from the midpoint of the chosen vocation the score was considered appropriate. If the score fell more than one-half standard deviation below the midpoint, the measure was considered inappropriate negatively, and if the score was more than one-half standard deviation from the midpoint, the measure was considered inappropriate positively as can be seen in Table VI.
### TABLE VI

**CHI SQUARE TABLE FOR THE SEX OF THE INDIVIDUAL AND THE APPROPRIATENESS OF HIS VOCATIONAL CHOICE**

<table>
<thead>
<tr>
<th>Appropriate Choice</th>
<th>Sex of Student</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>83</td>
<td>57</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(71.6)</td>
<td>(68.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inappropriate Choice</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(More intelligence than required)</td>
<td>13</td>
<td>80</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(18.4)</td>
<td>(17.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inappropriate Choice</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Less intelligence than required)</td>
<td>134</td>
<td>140</td>
<td>274</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(140)</td>
<td>(134)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>230</td>
<td>220</td>
<td>450</td>
<td></td>
</tr>
</tbody>
</table>

**Degrees of Freedom (df) = 2**

**Chi Square = 7.52**

In calculating chi square the results yielded a score of 7.52. The hypothesis that there would be no significant relationship between the sex of the individual and the appropriateness of his vocational choice was rejected. To be significant at the .05 level with two degrees of freedom, chi square had to reach 5.99. The results indicated that a significant relationship existed between the sex of the individual and the appropriateness of his vocational choice.
### TABLE VII

THE NUMBER AND PER CENT OF APPROPRIATE AND INAPPROPRIATE CHOICES MADE BY STUDENTS

<table>
<thead>
<tr>
<th></th>
<th>Boys Number</th>
<th>Per Cent</th>
<th>Girls Number</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appropriate Choice</strong> (I.Q. plus or minus 6.5* from the midpoint of chosen occupation)</td>
<td>83</td>
<td>36</td>
<td>57</td>
<td>26</td>
</tr>
<tr>
<td><strong>Inappropriate Choice</strong> (I.Q. is more than 6.5 above the midpoint)</td>
<td>13</td>
<td>6</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td><strong>Inappropriate Choice</strong> (I.Q. is more than 6.5 below the midpoint)</td>
<td>134</td>
<td>58</td>
<td>140</td>
<td>64</td>
</tr>
</tbody>
</table>

N *= 230  
N = 220

*6.5 is one-half of the standard deviation on the OGIT for various civilian occupations.

From an analysis of the data in Table VII, boys chose vocations slightly more wisely than the girls, as indicated by the percentages of 36 and 26 respectively for appropriate choices. It can also be seen that 64 per cent of the boys chose vocations deemed inappropriate as compared with 74 per cent of the girls who chose inappropriate vocations.

**Hypothesis V**

Hypothesis V stated that there would be no significant relationship between participation in school activities and vocational choice. This
A hypothesis was tested by using a chi square table. A 3 X 4 table was set up by using three groups of occupations, groups I and II in one group, groups III and IV in another group, and groups V, VI, and VII together. For participation in school activities, a zero was assigned for participation in no activity, a one for participation in one activity, a two for participation in two activities, and a three for participation in three or more activities.

**TABLE VIII**

**CHI SQUARE TABLE FOR PARTICIPATION IN SCHOOL ACTIVITIES AND VOCATIONAL CHOICE**

<table>
<thead>
<tr>
<th>Occupational Categories</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3 or more</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-II</td>
<td>18</td>
<td>41</td>
<td>46</td>
<td>30</td>
<td>135</td>
</tr>
<tr>
<td></td>
<td>(19.2)</td>
<td>(45.0)</td>
<td>(36.9)</td>
<td>(33.9)</td>
<td></td>
</tr>
<tr>
<td>III-IV</td>
<td>21</td>
<td>56</td>
<td>40</td>
<td>40</td>
<td>157</td>
</tr>
<tr>
<td></td>
<td>(22.3)</td>
<td>(52.3)</td>
<td>(42.3)</td>
<td>(39.4)</td>
<td></td>
</tr>
<tr>
<td>V-VI-VII</td>
<td>25</td>
<td>53</td>
<td>37</td>
<td>43</td>
<td>158</td>
</tr>
<tr>
<td></td>
<td>(22.5)</td>
<td>(52.7)</td>
<td>(43.2)</td>
<td>(39.7)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>150</td>
<td>123</td>
<td>113</td>
<td>450</td>
</tr>
</tbody>
</table>

DF = 6  
Chi Square = 5.12

A chi square of 5.12 was found, as shown in Table VII. The hypothesis that no significant relationship existed between participation in school activities or vocational choice was accepted since the results were not statistically significant. For statistical significance at the hypothesized
level of .05, chi square with six degrees of freedom would have had to reach 12.592.

Hypothesis VI

Hypothesis VI stated that there would be no significant relationship between vocational choice and only-child and non-only child status. This hypothesis was tested by using a 2 X 3 chi square table testing for significance by using the two categories of only-child and non-only child and the three grouped categories of vocational preferences used in Table IX. These levels of occupations were grouped so that no cell would have zero as a factor.

### TABLE IX

<table>
<thead>
<tr>
<th>Status</th>
<th>Occupational Categories</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>I-II</td>
<td>III-IV</td>
<td>V-VI-VII</td>
<td>Total</td>
</tr>
<tr>
<td>Only-Child</td>
<td></td>
<td>20</td>
<td>20</td>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(20.8)</td>
<td>(23.8)</td>
<td>(25.4)</td>
<td></td>
</tr>
<tr>
<td>Non-Only</td>
<td></td>
<td>114</td>
<td>133</td>
<td>133</td>
<td>380</td>
</tr>
<tr>
<td>Child</td>
<td></td>
<td>(113.2)</td>
<td>(129.3)</td>
<td>(137.6)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>134</td>
<td>153</td>
<td>163</td>
<td>450</td>
</tr>
</tbody>
</table>

df = 2  Chi Square = 1.77

The calculation yielded a chi square of 1.77. The null hypothesis that there would be no significant relationship between vocational preferences...
and only-child and non-only child status was accepted. With two degrees of freedom a chi square of 1.77 is less than the required level of rejection of the null hypothesis.

Hypothesis VII

Hypothesis VII stated that there would be no significant relationship between parental vocational aspiration level for the child and the level of his vocational choice. This hypothesis was tested by the product-moment correlation method and the calculation of the critical ratio to test the significance of the $r$.

From the correlation data it was found that the boys had a low correlation of .24, and the girls had a low correlation of .23. The critical ratios were found to be 3.41 and 3.34, respectively. The chances in 100 that the values of the critical ratio as large or larger than these could occur on the basis of chance variations alone were .0007 and .0097, respectively. Therefore, the hypothesis of no relationship was rejected at $P < .05$. It is then quite probable that a relationship did exist between the parental aspiration level of the vocational choice for the child and his own vocational level.

These results of the parents' vocational aspiration level for the child tend to agree, though not perfectly, with the research of Krippner (2) and others who found that if the parent or guardian had jobs in the top hierarchy of occupations he usually chose a vocation for the child in the same general
It can also be seen that parents in the lower level occupations chose vocations as much as two, three, or four levels above their own. In all probability these were people in the lower, the upper lower, and the middle socio-economic strata who are advocates of social mobility, or of the opinion that occupationally children should rise above their parents.

### Table X

**Parental Aspirational Level for Child**

<table>
<thead>
<tr>
<th>Occupational level of Parent or Guardian</th>
<th>Mean Parental Aspirational Level For Boys</th>
<th>Mean Parental Aspirational Level For Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>2.6</td>
<td>2.0</td>
</tr>
<tr>
<td>II</td>
<td>2.6</td>
<td>2.1</td>
</tr>
<tr>
<td>III</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>IV</td>
<td>3.2</td>
<td>3.8</td>
</tr>
<tr>
<td>V</td>
<td>2.6</td>
<td>2.8</td>
</tr>
<tr>
<td>VI</td>
<td>2.7</td>
<td>3.3</td>
</tr>
<tr>
<td>VII</td>
<td>3.0</td>
<td>3.3</td>
</tr>
</tbody>
</table>

In Table X, it can be seen that parents or guardians whose level of occupation was found in the lower levels wanted their children to aspire to jobs three or four levels above their own. However, it can not be
determined why parents or guardians who were in level one wanted their children to aspire to jobs which were lower than their own, occupationally.

**Hypothesis VIII**

Hypothesis VIII stated that there would be no significant relationship between the level of educational attainment of parent or guardian and the level of the vocational choice made by the student. This hypothesis was tested by correlating the level of the vocation chosen by the student with the educational attainment of his parent or guardian. A one was given for college or university training, a two for three years of college, and so on until an eight was given for failure to complete grammar school (See Appendix B).

There was a very low correlation when these measures were correlated. The boys had a coefficient of correlation of .08, and the girls had a correlation of .02, and critical ratios of 1.2 and 3.4, respectively. The critical ratio of 1.2 was found at the 23 per cent level and the .34 was found at the 69 to 84 per cent level of significance which did not reach the criterion level of .05. The hypothesis of no relationship was accepted. It is, therefore, probable that the educational attainment of the parent or guardian was not related to the vocational aspirations of the students.

As can be seen in Table XI, the typical parent or guardian had less than a high school education as is indicated by the mean of 5.1. (See Appendix B). The standard deviation of .32 means that the variability of the group is small or rather that they are relatively homogeneous with
Table XI

Educational Level of Chief Breadwinner

<table>
<thead>
<tr>
<th>Educational Categories</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 College Graduation</td>
<td>58</td>
</tr>
<tr>
<td>2 Three Years of College</td>
<td>12</td>
</tr>
<tr>
<td>3 Two Years of College</td>
<td>13</td>
</tr>
<tr>
<td>4 One Year of College</td>
<td>17</td>
</tr>
<tr>
<td>5 High School Graduation</td>
<td>143</td>
</tr>
<tr>
<td>6 Incomplete High School</td>
<td>123</td>
</tr>
<tr>
<td>7 Elementary School Graduation</td>
<td>42</td>
</tr>
<tr>
<td>8 Less Than Elementary School Graduation</td>
<td>42</td>
</tr>
</tbody>
</table>

\[ N = 450 \]

M = 5.1

Standard Deviation = .32

Respect to the amount of schooling each had received, that is, the preponderance or greatest number of parents fell in the two categories of five and six, which is high school attendance to high school graduation. It is significant to note, however, that fifty-eight or 12.9 per cent had completed college or university training.
Hypothesis IX

Hypothesis IX stated that there would be no significant relationship between family cohesiveness and vocational choice. This hypothesis was tested by using a chi square table. The two categories of whether the child lives with his parents(s) or not and the three grouped categories of vocational choices described elsewhere in this study were used. In Table XII, chi square was calculated and found to be 1.92, (P > 0.05).

The null hypothesis that family cohesiveness was not related to vocational choice was accepted since the results obtained were not statistically significant. With two degrees of freedom, for chi square to be signif-

### TABLE XII

**CHI SQUARE TABLE FOR FAMILY COHESIVENESS AND VOCATIONAL CHOICE**

<table>
<thead>
<tr>
<th>Occupational Levels</th>
<th>I-III</th>
<th>III-IV</th>
<th>V,VI, VII</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child lives with Parent(s)</td>
<td>103  (108.01)</td>
<td>126  (125.7)</td>
<td>116  (112.2)</td>
<td>345</td>
</tr>
<tr>
<td>Child does not live with Parent(s)</td>
<td>32    (32.9)</td>
<td>38    (38.3)</td>
<td>29    (33.8)</td>
<td>105</td>
</tr>
</tbody>
</table>

\[ df = 2 \quad \text{Chi Square} = 1.92 \]

At the .05 level, the results would have to be 5.991.
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(4) Otis Quick Scoring Test of Mental Ability, Gamma Form, Yonkers, New York, World Book Company, 1939.


(7) Super, Donald and Crites, John, Vocational Development, Teachers College, Columbia University, 1967.
CHAPTER IV

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to investigate the relationship between vocational preferences and certain selected factors characteristic of ninth grade students. These selected factors were the intelligence quotients of the students, socio-economic status, school achievement, participation in school activities, parental vocational aspiration for the child, educational level of attainment of parent or guardian, only child and non-only child status, and family cohesiveness. The findings concerning the nature of vocational preferences and these factors are summarized to point up more clearly the significance of the factors as measures of vocational preferences.

The subjects of this study were 230 boys and 220 girls in the ninth grade at a junior high school which had 2100 students enrolled in grades seven, eight, and nine. The school community was classified by the Chamber of Commerce as low to lower middle, economically, with 23 per cent of the students classified as disadvantaged. The school community is part of a larger community of over one million in population. The subjects came from homes in which the parents held jobs all along the scale from one to seven, which included professionals at the upper level to day laborers of all classes at the lower level.
The data for this study were taken from several sources. The intelligence quotients of the students were obtained from The California Test of Mental Maturity. The socio-economic status of the students was determined by the occupation held by the parent or guardian as measured on The Minnesota Scale for Paternal Occupations. The vocational preferences of the students were taken from a specially prepared list of over two hundred occupations devised by the school system, which the students checked when they took The Iowa Test of Educational Development. Their achievement scores were also taken from the ITED. A questionnaire was filled out by the students giving the other information asked for in this study such as, parental occupational aspiration for the child, educational attainment of parent or guardian, only child or non-only child status, participation in school activities and whether child lives with parents or others in loco parentis.

The methods of determining the relationship of these eight measures and their vocational preferences were next employed. In each instance the level of the vocational preferences was determined from The Minnesota Scale for Paternal Occupations. The vocational preference was given a number ranging from one for professional to seven for day laborers of all classes (See Appendix A). Correlations were then made between vocational preference and the following: intelligence, parental occupational level, academic achievement, parental occupational aspiration for child, and educational attainment of the parent. The chi square technique was employed in testing the significance of vocational choice and
each of the following: participation in school activities, sex of the individual and his vocational choice, only child and non-only child status, and vocational choice and family cohesiveness. The .05 level of significance was the level utilized in the study to test the null hypothesis that no significant relationship existed between vocational choice and each of the indices.

It was theorized that one would expect positive relationships between intelligence and behavior considered indicative of vocational maturity, because studies by Terman and others have suggested that the more intelligent an individual is, the more capable one would expect him to be in dealing with developmental tasks in various areas of behavior, including the vocational. In Hypothesis I, which dealt with the intelligence quotients of the students and their vocational choices, the correlations were low for the boys. The null hypothesis was rejected. The girls had very low correlations and the null hypothesis was accepted.

Another presumed predictor variable in selecting a vocation was the socio-economic status of the child based upon the parent’s occupation. It was theorized that the more favorable the socio-economic status, the more mature the vocational behavior, on the assumption that more planful types of behavior are encouraged at the higher socio-economic levels and that planfulness is indicative of vocational maturity. Hypothesis II, which dealt with vocational choice and parental occupational level, had an extremely low correlation for the boys and a low but positive correlation
for the girls. The critical ratio was such that the null hypothesis could be accepted with some confidence. The results were not significant at the .05 level. The acceptance of the hypothesis of no relationship was apparently due to the level and homogeneity of the parents' occupations, in which 67 per cent fell in category five, six, and seven, which were semi-skilled to unskilled, but only 21 per cent of the students chose these occupations.

It was theorized that academic achievement level and level of the vocational choice of the child would correlate highly, because students with high academic achievement scores are, for the most part, students with the higher degree of intelligence. Hypothesis III, which dealt with vocational choice and academic achievement, had an extremely low correlation. The null hypothesis could be accepted. The acceptance of the hypothesis of no relationship suggests that grades a student makes on an achievement test have little or no relationship to his eventual selection of a vocation that is based upon high or low intellectual capacities.

It was believed that theoretically girls would select vocational choices appropriate to their sex and boys would do likewise. Various studies have shown that girls select nursing, secretarial work, beauty parlor work and other occupations which are categorized as positions for women, while the boys make selections which have typically been held by men, such as professional sports, detective work, piloting planes, engineers and the like. Hypothesis IV, which dealt with vocational
choice and the sex of the individual, was rejected. The chi square test reached the .05 level of significance. Forty-one per cent of the boys and 36 per cent of the girls had intelligence quotients equal to or greater than that required by the vocation they selected, but over one-half of them selected vocations deemed inappropriate. The lack of agreement between abilities and preferences may be caused by over-estimation of one's abilities or pressures to select prestigious occupations.

Participation in school activities was presumed a predictor variable of occupational choice. The important part of this measure was the amount of involvement in curricular and extracurricular activities. It was assumed that the student who went all out for school activities would be one accepted by his peers, one with a wholesome personality and one with some mental prowess. Hypothesis V, which dealt with vocational choice and the amount of participation in school activities, was tested by a chi square test of significance. The null hypothesis was accepted. This non-agreement of the measures was probably attributable to the fact that the boys and girls on the freshman high school level were not as active in activities as they might become later on in high school, when they find out what activities are available in a school situation.

It was theorized that only children would make wiser choices than non-only children because studies had shown that only sons and first-borns tended to be scientists and astronauts and were found more frequently in Who's Who. It was further theorized that these onlys came
from families, as a rule, of higher educational attainment and higher socio-economic status. Hypothesis VI, which dealt with vocational choice and only child and non-only child status, which was tested by a chi square table was accepted. The acceptance of the null hypothesis of no relationship in this study leads to the conclusion that birth order is apparently not related to making vocational choices. This could be due to inadequate measuring devices or the wrong assumption that there was a relationship in the first place. The theory that these onlies came from parents of the higher socio-economic levels did not hold in this study.

Parental aspiration for the child was theorized as a predictor variable for making vocational preferences. The rationale for this variable was - and studies have shown - that the parents, as a rule, want their children to do better than the parents have done. Social mobility is the word for moving up the occupational ladder, which is an objective of the lower and middle classes. Such a tendency is not surprising in this culture, where upward occupational mobility is encouraged and where a considerable amount of mobility is possible. Hypothesis VII, which dealt with vocational choice and vocational aspirational level for the child, had low but positive correlations for both girls and boys. Therefore, the null hypothesis that no significant relationship existed was rejected at something beyond the .05 level. The results were, therefore, statistically significant. Apparently, whatever pressures the parents put on their children toward
specific goals were associated with vocational choice making. These correlations were the highest calculated in the study, and even though they were modest in size, they did suggest some relationship.

It was theorized that the level of education attained by the parent or guardian would greatly influence the choice made by the child. The rationale for this assumption was that parents or guardians with higher levels of education would expose their children to more of the cultural and esthetic features of the society and thereby acquaint the children with the higher endeavors of life, and as a result the children would come in contact with and learn more about the world of work. Hypothesis VIII, which dealt with vocational choice and educational attainment of parent or guardian, had very low correlations. The determination of the critical ratio led to the acceptance of the null hypothesis. Apparently the parents who had received higher educational status were still in the disadvantaged category because of birth and other ethnic considerations and had not exposed their children to vocations in consonance with their measured abilities. It can also be seen that the average parent had received high school training but not graduation.

It was theorized that family cohesiveness would be a predictor of vocational maturity on the assumption that a cohesive family offers a favorable environment for development in all areas, including the vocational. The family cohesiveness measure reflects the extent to which the family shares activities and interests. The results of some studies suggest
that in cohesive families there was a tendency for boys to accept responsibility for making wise vocational choices. Hypothesis IX, which dealt with vocational choice and family cohesiveness, was tested by a chi square table. The results of the calculation led to an acceptance of the null hypothesis of no significant relationship. This acceptance of the hypothesis of no agreement between family cohesiveness and vocational choice was probably due to the fact that a majority of the students came from matriarchial homes where there could be no father identification and where the mother had little time for family counseling because of her preoccupation with being the breadwinner.

Hypotheses which were rejected led to the conclusion that there is a possibility that relationships existed between vocational choice and parental vocational aspiration level for the child, vocational choice and sex of the individual and appropriateness of choice, and between vocational choice and the intelligence of boys. On the other hand, it is highly probable that vocational choice had little relationship to occupational level of parents, school achievement, participation in school activities, only-child and non-only child status, educational attainment of parent, family cohesiveness, and intelligence of girls since the null hypothesis with respect to each of these factors was accepted. The null hypothesis of no relationship between vocational choice and participation in school activities, only-child and non-only child status, and family cohesiveness was accepted because the criterion level of .05 was exceeded. Therefore,
the conclusion is that in all probability these factors had little influence, if any, on the students when they were making vocational choices.

TABLE XIII

A SUMMARY OF CORRELATIONS BETWEEN VOCATIONAL CHOICE AND CERTAIN LISTED FACTORS

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th></th>
<th>Girls</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
<td>CR</td>
<td>r</td>
<td>CR</td>
</tr>
<tr>
<td>Intelligence (Verbal)</td>
<td>.22</td>
<td>3.13*</td>
<td>.06</td>
<td>.83</td>
</tr>
<tr>
<td>Intelligence (Non-verbal)</td>
<td>.26</td>
<td>3.75**</td>
<td>.05</td>
<td>.67</td>
</tr>
<tr>
<td>Parental Occupational Level</td>
<td>.01</td>
<td>.19</td>
<td>.11</td>
<td>1.65</td>
</tr>
<tr>
<td>Academic Achievement</td>
<td>.01</td>
<td>.21</td>
<td>.03</td>
<td>.50</td>
</tr>
<tr>
<td>Parental Vocational Aspiration for Child</td>
<td>.24</td>
<td>3.41**</td>
<td>.23</td>
<td>3.54**</td>
</tr>
<tr>
<td>Educational Attainment of Breadwinner</td>
<td>.08</td>
<td>1.2</td>
<td>.02</td>
<td>.34</td>
</tr>
</tbody>
</table>

* Significant at the .01 level
** Significant at the .001 level
TABLE XIV

SUMMARY OF CHI SQUARE RESULTS

<table>
<thead>
<tr>
<th>Factor</th>
<th>Vocational Preferences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex of Individual and Appropriateness of Choice</td>
<td>$X^2 = 7.54$  Significance Level .02  df 2</td>
</tr>
<tr>
<td>Participation in School Activities</td>
<td>$X^2 = 5.12$  Not Significant  df 6</td>
</tr>
<tr>
<td>Only Child and Non-only Child Status</td>
<td>$X^2 = 1.77$  Not Significant  df 2</td>
</tr>
<tr>
<td>Family Cohesiveness</td>
<td>$X^2 = 1.92$  Not Significant  df 2</td>
</tr>
</tbody>
</table>

Conclusions

Based on the results obtained from the sample of 450 students in a junior high school ninth grade class, the following conclusions may be drawn from the study:

1. Lack of agreement between abilities as determined by the intelligence quotients and vocational preferences may be caused by overestimation of one's abilities.

2. The small degree of relationship may be due to the fact that practically all students who are intellectually able will tend to choose occupations which may be considered to be prestige occupations.
3. Apparently the typical ninth grader has not yet reached the stage at which vocational preferences can be expected to be in consonance with several of the measures used in this study.

4. Many choices seemed unwise, based upon the scholastic aptitude and socio-economic resources of the student.

5. There seems to be some relationship between the sex of the individual and the appropriateness of his choice.

6. The selection of a vocation seemed to be unrelated and uninfluenced by family cohesiveness, only child and non-only child status, and participation in school activities. The acceptance of the hypotheses of no relationship led to this conclusion.

7. Parental aspiration for the child and vocational choice correlated more highly than any other indices. The aspirations and pressures from the parents seemed to influence the selection of a vocation by the child more than any other factor.

8. The lack of relationships between some of the measures suggests a lack of validity as indices of anything significant in the selection of a vocation by ninth grade students.

9. Taking the student's vocational aspiration at face value may often be a mistake, as some studies have shown, but a reevaluation of his choice is in order to see if it is wise when judged by intellectual and other criteria.
10. When judged by intellectual and other requirements the vocational choices of the students may seem to be unwise, however, they may be significant for exploratory purposes, for they can provide a starting point for orientation purposes.

Recommendations

Recommendations resulting from this study fall into two categories: those which would be of value in a replication of this study and those which would be of value in extending the study.

1. A replication of this study should be made after the seventh and eighth grade students have been exposed to a course in occupations and the world of work, so that they will know about vocations and careers, as is done in the state of New York.

2. Further investigation should be made and the results shared with the students concerning (a) the socio-economic position of the family, (b) the economic pattern of the region, and (c) the conditions prevailing in the labor market before they are asked to select a vocation.

3. Educators should recognize that many factors affect the selection of a vocation, and means should be provided to ascertain as much knowledge as possible about each student and his interest as it relates to vocational choices.
4. Additional studies should be done in which comparisons are made between the appropriateness of vocational choices made by students from lower socio-economic areas and students from higher socio-economic areas.

5. Experimental studies should be undertaken, once significant differences are found from the results of the study of vocational choices. The goal of such studies should be to determine the curriculum revision that could be made which would result in helping the student to more adequately assess his strengths and weaknesses.

6. It is recommended that information about duties, conditions of work, and other important information concerning occupations be discussed before choices are made.
APPENDIX A

Classification of Occupation*

Class I  Professional

Class II  Semi-professional and managerial

Class III  Clerical, skilled trades and retail business

Class IV  Farmers

Class V  Semi-skilled occupations, minor clerical positions and minor businesses

Class VI  Slightly skilled trades and other occupations requiring little training or ability

Class VII  Day laborers of all classes

* The Minnesota Scale for Paternal Occupations
  University of Minnesota
APPENDIX B

Scale for Classifying Education*

1 College plus professional school
2 Three (3) years of college
3 Two (2) years of college
4 One (1) year of college
5 High School graduation
6 Incomplete high school
7 Elementary school graduation
8 Less than grammar school graduation

* Martha Heyde, Teachers College, Columbia University
<table>
<thead>
<tr>
<th>Midpoint</th>
<th>Midpoint</th>
<th>Midpoint</th>
<th>Midpoint</th>
<th>Midpoint</th>
<th>Midpoint</th>
<th>Midpoint</th>
</tr>
</thead>
<tbody>
<tr>
<td>78.5</td>
<td>84.5</td>
<td>89</td>
<td>91.5</td>
<td>94</td>
<td>96.5</td>
<td>101</td>
</tr>
<tr>
<td>Teamster, Miner,</td>
<td>Machine Fireman, Laundry</td>
<td>Tractor Driver, Baker,</td>
<td>Welder, Electric Arc</td>
<td>Machinist's Helper, Locomotive Fireman, Entertainer, Meat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm Worker, Lumberjack, Garbageman,</td>
<td>Machine Operator, Telephone or Telegraph Operator,</td>
<td>Foundryman, Painter,</td>
<td>Plumber, Switchman,</td>
<td>Cutter, Student of High School, Vocational, Cabinetmaker,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day Laborers of All Classes, Bell Boy, Launderer, Stevedore,</td>
<td>Section Hand on Railroad, Household Worker, Stable Hand, Wood Chopper, Ditch Tender, Hay Baler, Charman.</td>
<td>Hospital Orderly, Packer,</td>
<td>Railway Machine Operator, Student</td>
<td>Airplane Mechanic, Heat Treatee, Packer, Fire Fighter,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Construction Equipment Mechanic, Optician, Packer of High Explosives, Petroleum Storage Technician, Ship Fitter, Coppersmith, Diesel Mechanic, Bandman, Lithographic Pressman, Riveter, Pneumatic Power Shovel, Photographic Technician,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midpoint</td>
<td>Midpoint</td>
<td>Midpoint</td>
<td>Midpoint</td>
<td>Midpoint</td>
<td>Midpoint</td>
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<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>105.5</td>
<td>106</td>
<td>107.5</td>
<td>109</td>
<td>110.5</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>Carpenter, Heavy Construction, Dispatcher Motor Vehicle, Gunsmith, Music Instructor, Tool Maker, Nurse, Record Clerk, Photography, Rodman Surveying, Shipping Clerk, Printer, Foreman, Warehouse, Bandman, Projectionist; Dental Laboratory Technician, Microfilming, Stock Clerk, Painter, Machinist, Photographer, Cook's Helper, Student of High School Commercial Courses, Electrician, Policeman, Sales Clerk, Watch Repairman, Camera-man, Telephone Operator, Car Mechanic, Student of High Manual Arts, Foreman of Machine Shop</td>
<td>Switchboard, Installer of Telephone and Telegraph, Cashier, Stock Clerk, General Radio Repairman, Purchasing Agent, Physics Laboratory Assistant, Radio Operator, Linotype Operator, Student of Mechanics, File Clerk, Athletics Instructor, Store Manager, Shop Clerk, Embalmer, Artist, Band Leader, Photostat Operator, Cable Splicer, Blueprinter, Rancher, Student of High School Academics Subjects, Poultry Raiser, Bookkeeper, General Chief Stenographer, Pharmacist, Typist, Draftsman, Chemical Laboratory Assistant, Reporter, Tool Designer, Clerk of Business or Stenographer, Clerk, Meat or Dairy Inspector, Photographer, Photo-lithographic Laboratory Technician, Student of Sociology, Teletype Operator, Nurse, Actor, Mail Clerk, Sportsman, Undertaker, Post Master, Optician's Clerk, Insurance Agent, Veterinarian, Writer, Student of Civil Engineering, Statistical Clerk, Student of Chemical Engineering, Teacher, Lawyer, Student of Electrical Engineering, Physician, Dentist, Editor, Engineer, Architect, Author, Judge, Librarian, Sculptor, Superintendent of Schools, Professor, Surveyor, Personnel and Employment Manager, Clergyman, Nuclear Scientist</td>
<td>Accountant, Student of Mechanical Engineering, Personnel Clerk, Student of Medicine, Chemist, Student of Electrical Engineering, Public Administrator, Physician, Engineer, Architect, Author, Judge, Librarian, Sculptor, Superintendent of Schools, Professor, Surveyor, Personnel and Employment Manager, Clergyman, Nuclear Scientist</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
QUESTIONNAIRE

1. Name ____________________________
   Last    First    Middle    Birthday

2. Check one: I am an only child      1st. born      2nd. born      
                  3rd. born      4th. born      others

3. How many children are in your family? ______________________

4. Do you live with? Parents      Father only      Mother only      
                   or Guardian ___________________________

5. Occupation of Father ________________ Occupation of Mother ______
                   or occupation of Guardian ___________________________

6. Highest grade in school or college attained by father ________________
                   Mother ________________, or Guardian ___________________________

7. What occupation does parent or guardian want you to enter?
                   ______________________

8. How many activities do you participate in. Circle the appropriate number.
   1. 2. 3. 4. 5. others
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