

AN ASSESSMENT OF LEVELS
OF OCCUPATIONAL AWARENESS
OF A SELECTED GROUP OF
HIGH SCHOOL SENIORS

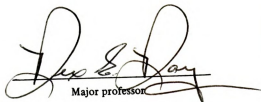
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ABSTRACT

AN ASSESSMENT OF LEVELS OF OCCUPATIONAL AWARENESS OF A SELECTED GROUP OF HIGH SCHOOL SENIORS

By

James Edward Jay

Statement of the Problem

The primary purpose of this investigation was to assess and identify levels of occupational awareness of a selected group of high school students, and determine whether certain selected variables influence their knowledge about the world of work. The study also sought to identify the relationship between three independent variables and three dependent variables and determine whether these variables influence total occupational awareness. The purposes of the investigation were answered in the form of major findings. These findings are as follows: (1) descriptive analysis of students and their parents; (2) primary hypotheses; and (3) secondary hypotheses.

This investigation was undertaken because of the large number of students graduating from high school each year with insufficient knowledge about the world of work.

High school seniors must decide whether to seek immediate employment or continue to pursue a formal education. Students can only choose an occupation based on what they know about jobs, and how they feel about what influences their knowledge of occupations. Therefore, an assessment of occupational knowledge is needed in order to assist individuals in increasing their occupational options.

Methodology

The population included in this investigation consists of high school seniors enrolled in three public secondary schools located in Lansing, Michigan. The schools were (1) Harry Hill, (2) Sexton, and (3) Everett high schools. The survey included a random sample of 167 students from each of the selected schools.

The first phase of the investigation involved an extensive review of literature related to the problem under investigation. The review consists of literature in the areas of (1) self-awareness and self-insight, which serves as a theoretical framework to the study, (2) occupational awareness, (3) occupational information, and (4) vocational choice and occupational preference.

The second phase of the study was concerned with the collection of data. The most important and critical aspect of this stage was the development of the instrument. The instrument used in the study was the Occupational

Awareness Assessment Instrument (OAAI) which was developed by the researcher. Two pretests were conducted for the purpose of refining the instrument before using it to collect the data for the investigation.

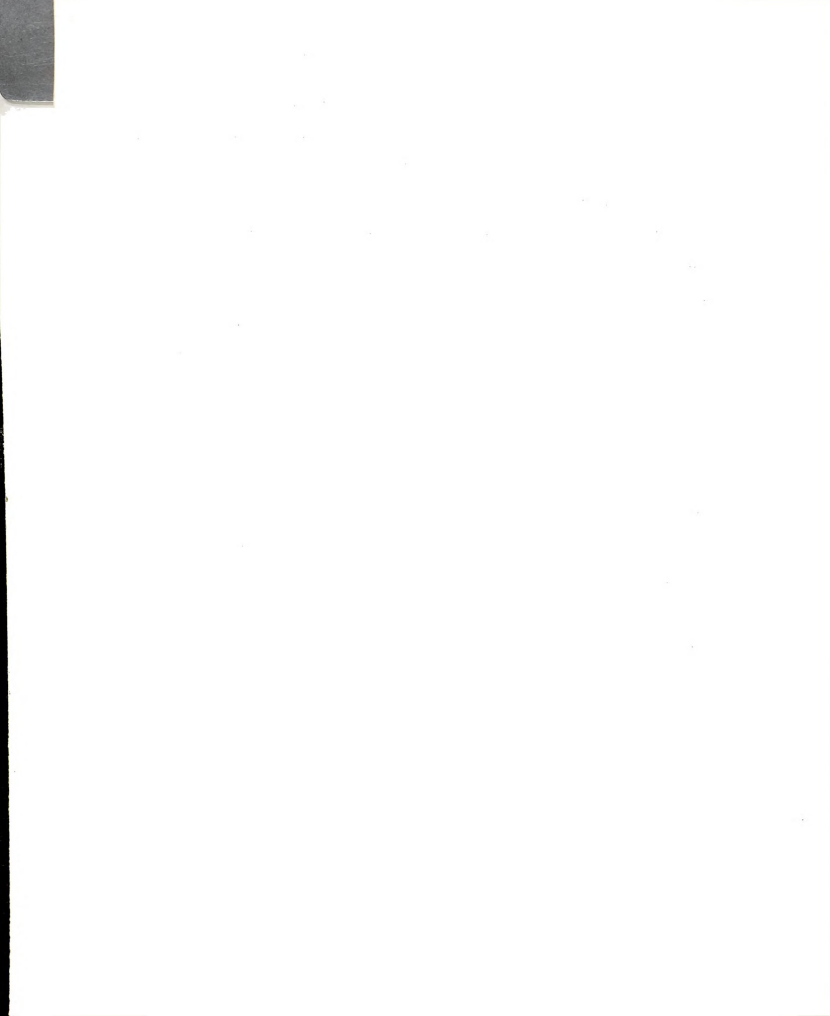
The third phased involved (1) processing and classifying data, and (2) analyzing data by use of statistical procedures in order to establish relationships between independent and dependent variables. The multivariate analysis and univariate analysis of variance were used for all statistical analyses.

Major Findings

Descriptive Analysis

The following findings are regarding the descriptive analysis of the respondents and their parents:

(1) more students had socioeconomic status backgrounds in the medium level than in the high and low socioeconomic status levels; (2) more students aspired to occupations in the medium occupational stratum than in the high and low occupational strata; (3) most students expected to obtain jobs in the medium occupational stratum; (4) educational achievement of most of the respondents' parents did not go beyond the completion of high school; (5) students had the attitude of pursuing a job because they like the nature of the work rather than pursuing work because it paid high



wages; and (6) more students were enrolled in non-college prep than college prep programs.

Primary Hypotheses

The following are findings regarding primary hypotheses: (1) female students are more occupationally aware than male students; (2) white students have higher levels of occupational awareness than non-white respondents; (3) students with high socioeconomic status backgrounds are more knowledgeable about jobs than respondents with medium and low socioeconomic status levels, and also, students with medium socioeconomic status have higher levels of occupational awareness than those with low socioeconomic status backgrounds; (4) there is no interaction between sex and race, sex and socioeconomic status, race and socioeconomic status, sex, race, socioeconomic status, and levels of occupational awareness; (5) students with high levels of occupational aspiration are more knowledgeable about jobs than students with medium and low levels of occupational aspiration; (6) students who have high occupational expectation are more occupationally aware than students with medium and low occupational expectation levels; (7) students with mothers who have some college and a college degree are similar in their knowledge about jobs, and are more occupationally aware than respondents who have mothers with more than four years of college, and also,

students who have mothers with less than a high school education are much less knowledgeable about jobs than respondents who have mothers with other educational achievement levels; (8) students with fathers who have more than four years of college are more occupationally aware than those who have fathers with some college and a college degree, students with fathers who have less than a high school education are less knowledgeable about jobs than all other students; (9) students enrolled in college prep programs are more knowledgeable about the world of work than students who are enrolled in non-college prep programs; (10) the achievement of students does not influence their knowledge about the world of work; and (11) there is no interaction between curriculum, achievement, and levels of occupational awareness.

Secondary Hypotheses

The following are findings regarding the secondary hypotheses of the study: (1) students' knowledge about job descriptions, education and training requirements, and wages does not differ on the basis of sex; (2) race of students influences their knowledge about job descriptions, education and training requirements, and wages; (3) socioeconomic status influences knowledge about job descriptions, education and training requirements and wages; (4) there is an

interaction between sex, race, socioeconomic status of students and their knowledge about job descriptions, education and training requirements, and wages.

When the data were further analyzed by comparison of mean scores, the interaction was identified. It seems that the interaction was caused by non-white females. It appears that non-white females in the high socioeconomic status level are more knowledgeable about job descriptions than all other groups, but less knowledgeable about education and training requirements than white females and white males in the medium socioeconomic status level. Non-white females in the low socioeconomic status level are also less knowledgeable about wages than non-white males, white males, and white females. The mean score of non-white females decreased starting at the high socioeconomic status and continued through the low socioeconomic status. This is what seems to have caused the interaction effect.

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CHAPTER I

INTRODUCTION

In this very complex and technological society in the United States, many students who graduate from our nation's high schools are expected to enter into the world of work with saleable skills. That is, skills that will enable them to be gainfully employed. Students who do not seek employment after high school graduation may wish to continue their education at a post secondary vocational-technical school, community or junior college, or a four-year college. Nevertheless, sooner or later work is inevitable. This being the case, it appears that one of the great needs of these individuals is an assessment of their levels of occupational awareness. The development of educational programs which will increase students' occupational awareness will depend extensively upon the quality and quantity of research contributing to the awareness process.

Obtaining knowledge about jobs is not a new phenomenon. History tells us that the oldest method of occupational information and orientation was for the father to pass on to his sons and for the mother to pass on to her

daughters the occupational information they had acquired from their parents, plus what they had learned by trial and error during a generation of productive work. However, when the technological revolution occurred, transmission of the family heritage was no longer a satisfactory educational program for workers in the newly generated occupations.¹

Because of the complexity of contemporary occupations and such institutions as the family and the educational system, it is important to consider two major characteristics of modern work that have evolved from a historical context. The first is that work is something done as a separate activity, apart from the rest of a person's life. The phrase "go to work" exemplifies this characteristic. The second major characteristic of modern occupations is that they are carried out in organizational settings.² Therefore, it is obvious that work is different in an urbanized, industrialized and technological society from what it was in the past. This difference suggests that there need to be shifts in the orientation of modern youth toward work.

Many youth look forward to going to work when they graduate from high school. But not all teen-agers find jobs when they finish school. Often this is because they

¹Rupert N. Evans, Foundations of Vocational Education (Ohio: Charles E. Merrill Publishing Company, 1971), p. 10.

²Richard H. Hall, Occupations and the Social Structure (New Jersey: Prentice-Hall, Inc., 1969), pp. 10-12.

have failed to acquire necessary knowledge, skills and habits which make them valueable workers. Many of them find that they have chosen jobs for which they are not suited or in which they are not interested. Situations like these usually cause a delay in getting started in a career.

The United States has a high rate of youth unemployment when compared with other nations. Much of this is due to the lack of relevant occupational information, orientation, and knowledge of manpower needs.³

It is important that educators, school counselors, teachers, and other school officials assist in helping students avoid the delay in selection of an appropriate occupation. There should be more emphasis on helping youth prepare for the occupational world. Students should develop levels of occupational awareness which will increase the individual's career chances and options. This awareness should aid and assist in solving two of their biggest problems: how to earn a living, and how to make a place for themselves in a complex world of work and a continually developing society.

The complexities of occupational structures and hierarchies make it quite difficult for many youth to be

³Grant Venn, Man, Education, and Manpower (Washington, D.C.: The American Association of School Administrators, 1970), p. 8.

exposed to the thousands of jobs that exist within the society. It is often difficult for these individuals to become aware of many jobs and develop an understanding of the role of occupations and how they contribute to the individual and society. Without this knowledge and other influential occupational information, it is difficult for these young people to develop levels of occupational awareness which would seem to serve as a sound basis for selecting and choosing a career.

In America, an individual's occupation exerts a pervasive influence on his life. It controls the quantity and quality of food he may consume. It controls his educational opportunity and his interactions with other people. It serves as a financial base which limits and directs his life style. If he has insufficient knowledge, or low levels of occupational awareness when choosing and selecting a job, he may be trapped in some dead-end occupation for the rest of his working life. Or he may spend many years working at a job that he is not suited for or satisfied with. It seems that education should assist in eliminating wasteful and frustrating efforts which many youth experience when entering the job market.

There is, however, a growing concern on the part of educators regarding youth employment and unemployment. It has become quite clear that it is increasingly an in-school matter. Many occupational information programs have been

developed. The 1968 amendment to the Vocational Education Act has provided increasing funds for vocational education. The Career Education Model provides for career awareness, exploration, and preparation. It appears that if education is to serve as a common thread for combating many domestic problems, one being youth employment and unemployment, it should help individuals assess knowledge of the world of work and develop levels of occupational awareness which would seem to increase one's occupational chances and upward mobility in the world of work.

Darley and Hagenah,⁴ Ausubel,⁵ and Nicholas,⁶ claim that students must have adequate knowledge of existing occupations before they can make realistic vocational decisions. Although it seems that this claim could be tested by a carefully designed experiment, the literature suggests that this has not been done. The generalization is supported by indirect evidence only. Neuberg suggests that before an individual chooses an occupation, he should be aware of the many occupational opportunities, and all the facts related

⁴John G. Darley and Theda Hagenah, Vocational Interest Measurement: Theory and Practice (Minneapolis: University of Minnesota Press, 1955).

⁵David P. Ausubel, Theory and Problems of Adolescent Development (New York: Gruen and Stratton, 1954).

⁶Phoebe Overstreet Nicholas, "Vocational Development," in The Psychology of Adolescence, ed. by Arthur T. Jerseld (New York: Macmillan Company, 1963), Chapter XVIII.

to the occupation in question. He should gain as much knowledge as possible about the ways in which people obtain jobs.⁷ This should help him avoid the wasteful foundering that often characterizes the uninformed job search. Some experience in the school of hard knocks is inevitable and possibly desirable. But educators and counselors should assist students in preventing the excessive bumping of heads into stone walls that results from ignorance of the world of work.

Parson implied that an interest in a certain occupation, or the lack of interest, may be the result of knowledge or the result of ignorance of the world of work. He further suggests that an individual may often take a dislike to an occupation because he sees the inside of it and knows all its "outs," while he does not know the disadvantages of other occupations. He may find that he is familiar with them only from the outside.⁸ It seems that a wider or broader experience will develop some new interest stronger than any that was previously evidenced.

Research indicates that much of youth unemployment involves entry and re-entry into the labor force, as opposed to extended periods of layoff from a previous job.

⁷Maurice J. Neuberger, Principles and Methods of Vocational Choice (New York: Prentice-Hall, Inc., 1934), p. 121.

⁸Frank Parsons, Choosing a Vocation (New York: Agathon Press, 1967), p. 12.

This is an indication that education should focus on preparing young people for the transition from learning to earning. One step in this direction may be to assess their knowledge of the world of work, and determine what factors influence levels of occupational awareness.

It seems that students must choose an occupation, whether it be at high school graduation or later in life. In many cases, they enter the world of work with a very limited knowledge of the thousands of jobs that exist within the society. However, sooner or later he must enter the job market in order to earn a living. A very small percentage of people within our society can live without work. Usually he is not one of them.⁹

There seem to be many factors that may tend to influence an individual's knowledge of the world of work and the choice of an occupation. Hoppock claims that educational, psychological, and sociologic factors influence occupational choice. He suggests that education influences occupational choice by opening the doors to some occupations that would otherwise be closed, and by making a person aware of occupations of which he had no previous knowledge. It also influences occupational choice by arousing or discouraging his interest in them or by providing tryout experiences which lead the student to anticipate success or

⁹C. A. Prosser, Selecting an Occupation (Illinois: McKnight and McKnight, 1936), p. 9.

failure in a specific occupation.

He also suggests that psychological factors influence occupational choice by helping to determine the extent to which one perceives his own needs, accepts or suppresses them, faces the realities of employment opportunities and of his own abilities and limitations, and thinks clearly about all these factors.

Hoppock further advocates that sociologic factors affect occupational choice by helping to determine the occupations with which a person is familiar by virtue of his contacts with family and friends. The cultural problem of the social group in which a person has been reared and of the social group with which he currently identifies himself helps to determine the occupation which he will consider to be socially acceptable and socially preferred.¹⁰

Assessing knowledge of the world of work and determining what influences levels of occupational awareness in a highly technological society are very important. In a society that is based on the equal opportunity theory, occupational awareness is desirable. How can graduating high school seniors with low levels of awareness have an equal occupational opportunity to those who have more knowledge of the world of work? How can high school graduating seniors with poor information about jobs make a sound

¹⁰Robert Hoppock, Occupational Information (New York: McGraw-Hill, 1963), pp. 116-117.

decision whether to seek employment or continue their education? What about occupational awareness and job satisfaction as it relates to employment? Vocational and occupational educators should at least make an attempt to answer these questions, among many others in this area.

Vocational theorists have assumed that self-awareness leads to occupational satisfaction since theoretically the more an individual knows about himself, the better are his chances of selecting an occupation that will meet his needs and therefore be satisfying to him. This seems to be assuming that this knowledge about self is inclusive of the occupational structure, hierarchies, and all related information concerning the world of work.

Self-awareness has become an important concept in vocational counseling and rehabilitation. Patterson suggested that it became apparent to vocational counselors that their work involved much more than the matching of aptitudes and abilities with job demands and job requirements. Vocational counseling is more complex than merely providing test results and occupational facts. Because vocational development is not a completely rational process, it is necessary to explore the client's perception of himself, and his self-concepts.¹¹

¹¹Cecil H. Patterson, "Counseling: Self-Clarification and the Helping Relationship," in Man in a World of Work, ed. by Henry Borow (Boston: Houghton Mifflin Company, 1964), Chapter XIX.

One of the proponents of a newer approach to vocational counseling is Super, who advocates that self-concept is central in vocational choice. He defined the "self-concept as the way in which the individual sees his aptitudes, his interests, and his personality." He contends that job satisfaction depends upon the extent to which the work and its way of life fit with the self-concept.¹²

Stefflre reported that the relationship between self and occupation occurs only when the individual perceives himself accurately, and only when his self-concept and true self are congruent. He suggests that a person may often deny part of the self. This part may not be recognized in the self-concept. In fact, according to both psychoanalytic and client-centered theory, every person distorts reality to some degree and thus limits his self-awareness.¹³

The self-concept, which is the perception the individual has of himself, is not necessarily an accurate picture of his real self. If a person is not aware of his real self, it follows that he will not be able to choose effectively an occupation that will meet his needs; thus,

¹²Donald Super, "Occupational Level and Job Satisfaction," Journal of Applied Psychology, XXIII (1939), 547-64.

¹³Buford Stefflre, "Vocational Development: Ten Propositions in Search of a Theory," Personnel and Guidance Journal, XLIV (February, 1966), 611-16.

he will be less likely to find an occupation which is satisfying to him.

Statement of the Problem

The problem in this study was concerned with assessing knowledge about jobs of a selected group of high school seniors, and determining what influences occupational awareness. It is obvious that an individual's job is of utmost importance within our society, and there are many elements which influence knowledge about occupations. Research indicates that much has been done in the areas of "vocational interest," "occupational choice," and "occupational aspiration and expectation." However, research concerning knowledge about the world of work and what influences it seems to be very scarce.

Purpose of the Study

The primary purpose of this study was to assess and identify levels of occupational awareness of a selected group of high school seniors, and determine what influences their knowledge of the world of work.

Specifically, the purposes of this study were to determine the following:

1. If there is a relationship between the sex of high school seniors and their levels of occupational awareness.

2. If there is a relationship between the race of high school seniors and their levels of occupational awareness.
3. If there is a relationship between socio-economic status levels and the levels of occupational awareness of high school seniors.
4. If there is any interaction effect between sex, race, and levels of occupational awareness of high school seniors.
5. If there is any interaction effect between sex, socioeconomic status, and levels of occupational awareness of high school seniors.
6. If there is any interaction effect between race, socioeconomic status, and levels of occupational awareness of high school seniors.
7. If there is any interaction effect between sex, race, socioeconomic status, and levels of occupational awareness of high school seniors.
8. If there is a relationship between occupational aspiration levels, and levels of occupational awareness of high school seniors.
9. If there is a relationship between occupational expectation levels, and levels of occupational awareness of high school seniors.
10. If there is a relationship between educational achievement levels of mothers, and levels of

occupational awareness of high school seniors.

11. If there is a relationship between educational achievement levels of fathers, and levels of occupational awareness of high school seniors.
12. If there is a relationship between two attitudes toward work, and levels of occupational awareness of high school seniors.
13. If there is a relationship between curriculum and levels of occupational awareness of high school seniors.
14. If there is a relationship between achievement (stated grade-point average) and levels of occupational awareness of high school seniors.
15. If there are any interaction effects between curriculum, achievement, and levels of occupational awareness of high school seniors.

Secondary purposes of this investigation were to analyze three dependent variables, Job Descriptions, Education and Training Requirements, Wages, and to determine their relationship between selected independent variables and levels of occupational awareness. The secondary purposes were to determine the following:

16. If there is a relationship between sex of high school seniors and their knowledge about three dependent variables: job descriptions, education and training requirements, and wages.

17. If there is a relationship between race of high school seniors and their knowledge about three dependent variables: job descriptions, education and training requirements, and wages.
18. If there is a relationship between socioeconomic status of high school seniors and knowledge about three dependent variables: job descriptions, education and training requirements, and wages.
19. If there is any interaction effect between sex, race, and knowledge about three dependent variables: job descriptions, education and training requirements, and wages.
20. If there is any interaction effect between sex, socioeconomic status and knowledge about three dependent variables: job descriptions, education and training requirements, and wages.
21. If there is any interaction effect between race, socioeconomic status and knowledge about three dependent variables: job descriptions, education and training requirements, and wages.
22. If there is any interaction effect between sex, race, socioeconomic status and knowledge about three dependent variables: job descriptions, education and training requirements, and wages.

Contributions

It was felt that the findings of this study could make worthy contributions to the educational process by:

1. Providing a means for assessing knowledge about the world of work.
2. Providing information concerning how high school curricula influence occupational awareness.
3. Assisting school officials, parents, and students in obtaining a better understanding of what factors influence occupational awareness.
4. Providing school counselors and other occupational educators with information which will be helpful in developing occupational information and career education programs.
5. Providing educators with information about perception and attitudes of high school seniors toward the world of work.
6. Providing a better means of understanding how socioeconomic background influences occupational awareness.
7. Providing a better understanding of the relationship between white and minority high school seniors and occupational awareness.
8. Identifying areas for further study in the field of vocational and career education.

Basic Assumptions

The basic assumptions of the study were as follows:

1. That knowledge and information about the world of work can be assessed and identified.
2. That the occupational awareness assessment instrument used in the study is a valid means of assessing knowledge about the world of work.
3. That there are many elements within society that influence occupational awareness.

Limitations

The limitation factors of this study were as follows:

1. This study was limited to the assessment of occupational awareness of a group of high school seniors in selected Michigan public secondary schools.
2. The population of this investigation was limited to a simple random sample, which prevented equal distribution of subjects in the various cells.
3. The assessment of occupational awareness was limited to knowledge about job descriptions, education and training requirements, and earnings and wages of a selected group of occupations.
4. The descriptions of the selected group of occupations were limited to one choice for each job,

which decreased the discrimination factor of knowledge about the functions of occupations.

5. There seem to be many variables within society that influence occupational awareness. However, this study was limited to individual achievement, school and family background, sex, race, and attitudes toward work.

Definition of Terms

The definition of terms is presented below and has been included to convey consistent meaning applicable to this study.

Occupational Awareness. Refers to the degree of an individual's knowledge of and information about jobs and his or her awareness of three factors concerning occupations within the world: (1) job descriptions; (2) education and training requirements; and (3) wages.

Occupation. The social role performed by teen-aged and adult members of society that directly or indirectly yields social and financial consequences and that constitutes a major focus in the life of the individual or individuals.¹⁶

Assessment. The act or process of identifying and determining the level and amount of knowledge held by individuals about the world of work as measured by the occupational awareness instrument.

¹⁶Hall, op. cit., pp. 5-6.

Socioeconomic Status. The level indicative of both the social and economic achievement of an individual or group within the society. The established occupational hierarchy with all occupations categorized on the socioeconomic index.¹⁷

Regular Schooling. That which may advance a person toward an elementary school certificate or high school diploma, or college, university, or professional degree. Schooling which is generally regarded as not "regular" includes that given in nursery schools which simply provide custodial day care, in specialized vocational, trade, and correspondence courses.¹⁸

Occupational Expectation. Refers to the job that an individual "expects or anticipates entering after high school graduation."

Occupational Aspiration. The degree to which an individual high school senior desires to achieve or obtain a specific job after high school graduation. The maximum goal that a person desires or hopes to reach at any given moment in a specific activity.¹⁹

¹⁷Carter V. Good, Dictionary of Education (New York: McGraw-Hill Book Company, 1959), p. 510.

¹⁸U. S. Department of Commerce, Bureau of Census, United States Census of Population: 1970, Vol. II, Subject Report, Earnings by Occupation and Education (Washington, D.C.: U.S. Government Printing Office, 1973), Appendix C.

¹⁹Good, op. cit., p. 42.

Differential Level. The term logically implies variation in the point of valance when it is estimated at different times in different individuals.²⁰

Some "College." The term some "college" includes junior college, community college, regular 4-year colleges and post secondary vocational-technical schools.

Minority Students. Refers to those students whose ancestors (most of them) come from Africa; people who have been called in the past Negroes, Afro-Americans, and people whose ancestors are Spanish-speaking and who come mostly from Mexico, Puerto Rico, and South America.

Occupational Categories. Refers to discreet social categories comprised of various occupations. Such categories permit the "comparison of highly disparate occupations and think of them as approximately equal in prestige, such as newspaper columnist, electrician and bookkeeper."²¹

College Prep Curriculum. A systematic group of courses or sequence of subjects in the high school curriculum designed to train or prepare individuals for further study in a particular profession after the completion of requirements of the high school diploma.²²

²⁰Archibald O. Haller, Occupational Aspiration Scale: Theory, Structure and Correlates (Michigan: Michigan State University, 1963), p. 6.

²¹Joseph A. Kahl, The American Class Structure (New York: Rhinehart, 1957), p. 77.

²²William E. Hopke, Dictionary of Personnel and Guidance Terms (Illinois: J.G. Ferguson Publishing Company, 1968), p. 101.

Non-College Prep Curriculum. A program of a systematic group of courses designed to prepare individuals for immediate employment in an occupation or cluster of occupations upon the completion of the requirements for the high school diploma and programs of general education nature.²³

Organization of the Presentation

This investigation is organized and presented in five chapters. Chapter I presented an introduction to the study. In this section a brief historical background of how youth obtained occupational information prior to the technological revolution was given. An overview of contemporary occupational structure was cited, and a theoretical basis for the study was provided. A statement of the problem under investigation, the purpose, contributions, assumptions, limitations, and definitions of terms were given. Finally, the organization of the study was presented.

Chapter II presents a review of related and pertinent literature to the problem under investigation. This chapter is organized in four parts: (1) self-awareness and self-insight, which provides a theoretical framework for dealing with the concept of occupational awareness; (2) occupational awareness; (3) studies on occupational information; and (4) studies on vocational choice and occupational preference.

²³Ibid., p. 101.

Chapter III outlines the methodological procedure used in the study. It deals primarily with development of the occupational awareness assessment instrument, data collection, procedures for data processing, procedures for analyzing the data, and the interpretation of the data.

Chapter IV presents an analysis and interpretation of data, and is organized in three major sections: descriptive analysis of respondents in relation to selected variables that may tend to influence levels of occupational awareness; test of state hypotheses; and summary of findings in the investigation.

Chapter V presents the summary, conclusions, implications, and recommendations for further research.

Summary

The first section of this chapter presented an introduction to the problem being studied by giving a brief overview and historical perspective of occupational information and orientation. A description of contemporary occupations was given. And then, a theoretical basis and some developments that seem to be significant to occupational awareness were presented.

The second section of the chapter presented a statement of the problem under investigation. The purpose of the study and the contributions it can make to the field of vocational-technical and career education were

presented. The basic assumptions, limitations, and definitions of terms were then given.

The third and final section of this chapter presented an overview of the remaining chapters of the investigation and the organizational format followed in the presentation.

CHAPTER II

A REVIEW OF RELATED LITERATURE

Introduction

Literature related specifically to the problem being investigated seems to be destitute. This conclusion is based upon an extensive search of pertinent literature using the DATRIX system. DATRIX is a computerized information retrieval system that addresses itself to academic and non-academic research. It is a vast storehouse of knowledge: tens of thousands of doctoral dissertations written in all fields.¹

The researcher also explored several other sources, such as the Education Index, books, social, psychological and educational journals. The exploration of these sources also revealed an absence of literature dealing specifically with the problem in this investigation. This made it necessary for the writer to depend ponderously upon materials indirectly related to the problem being studied.

¹DATRIX, "Direct Access to Reference Information: A Xerox Service" (Michigan: University Microfilms, Ann Arbor), 48106.

The problem in this investigation was concerned with identifying and assessing levels of occupational awareness, and determining if certain selected variables influence high school seniors' knowledge about the world of work. It was assumed that students' knowledge about jobs is greatly influenced by biological, educational and sociological factors. It was also generalized that levels of occupational awareness greatly influence an individual's choice of an occupation and serve as a means of unstable, or stable employment. Occupational awareness may also serve as a means of upward mobility within the world of work. High levels of occupational awareness should provide more career options to individuals and serve as a better means of assisting individuals in fulfilling self needs and the needs of society.

The literature reviewed in this investigation serves two purposes. It was the first purpose to provide a background of knowledge which may serve as a theoretical basis on which the investigation can be built. In previous years, this function has been traditional. The second purpose was to provide a background from which questions related to occupational awareness and certain selected variables that may tend to influence students' knowledge of the world of work can be approached in an objective manner. In this investigation primary emphasis was placed upon a review of literature where self-awareness and self-insight,

occupational awareness, occupational information, vocational choice and occupational preference were studied.

For organizational purposes, the review is arranged and presented into four sections as follows: (1) self-awareness and self-insight, which provide a theoretical framework to the investigation; (2) occupational awareness; (3) occupational information which shows various approaches for providing occupational orientation to individuals; and (4) vocational choice and occupational preference, which seem to be related to occupational awareness and the awareness process.

Self-Awareness and Self-Insight as a Theoretical Framework

In previous years, the self-awareness concept has been regarded as being important in vocational and personality theory. Rogers suggests that awareness of self is a necessary condition for normality. He defined the well-adjusted person as one who is able to accept all his perceptions, including perceptions about the self, into his personality organization.² Freud seems to take somewhat a different position. He suggests that classical emotional disturbances are the result of some traumatic situation, the experience of which was so painful and frightening to

²Carl R. Rogers, Client-Centered Therapy (Boston: Houghton-Mifflin Company, 1951), pp. 497-505.

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the individual involved that he could not tolerate conscious memory of it. The experience was thus repressed and kept in the unconscious. If repression was not sufficient to keep the painful memory from consciousness, then other defenses were used or symptoms developed.³ One of Freud's most important contributions was the notion that much of the mind is unconscious. This suggests that individuals are unaware of much of themselves. It seems obvious then, why many adolescents choose the wrong occupation to meet their interests and needs. If they are unaware of much of themselves, it appears they may be unaware of the many jobs within the world of work and the contributions they make to individuals and society.

Self-awareness has been used as a criterion for effective vocational counseling and individual therapy. Johnson advocates that vocational counseling increases both the accuracy and certainty of self-knowledge. He reported that the greatest gains in self-knowledge were for intelligence, next for interests, and last for personality.⁴

A number of social scientists have concluded that the lack of self-knowledge is a source of irrational vocational decisions. In an investigation made by Ryan, it was

³Sigmund Freud, A General Introduction to Psychoanalysis (New York: Perma Giants, 1949), pp. 253-65.

⁴Davis G. Johnson, "Effects of Vocational Counseling on Self-Knowledge," Educational and Psychological Measurement, XIII (1953), pp. 330-38.

found that college students who are accurate in making estimates of their class standings and their mental ability scores are also realistic in their occupational choices.⁵ Ginzberg, et al. concluded that an adolescent must ". . . . enlarge his knowledge . . . and improve his evaluation of himself" to successfully resolve the problem of occupational choice.⁶ No study appears to have been made concerning the relationship between knowledge about occupations and vocational choice. It seems that as knowledge of the world of work increases, the choice of a job may change. Nevertheless, no one seems to have tested the generalizability of the above conclusions.

Various measures of self-awareness have been developed in the past. Gross attempted to measure self-awareness by measuring self-insight. The purpose of his study was to present a theory and measure of self-insight.

⁵John F. Ryan, "Study of Certain Factors Affecting Realistic and Unrealistic Choice of an Occupation," (unpublished Ed.D. Dissertation, New York University, 1953), Abstracted in Dissertation Abstracts, XIV, No. 4, 1954, pp. 619-20.

⁶Eli Ginzberg, Sol W. Ginsburg, Sidney, Axelrad, and John Herma, Occupational Choice: An Approach to a General Theory (New York: Columbia University Press, 1951), pp. 1-25.

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An examination of Gross' concept of self-insight was found to include:

1. Objectivity toward the self or true judgment about oneself.
2. Understanding of the origin and development of one's motives and conduct or of one's abnormal symptoms or the discovery that certain unconnected factors or impulses are actually inter-related.
3. Acceptance of self including unpleasant and repressed aspects of the unconscious or admittance of error and failures or emotional reconciliation of one's inadequacies.
4. Positive choice of more satisfying goals or liberation of energies for action or awareness of the place of social adjustment in personality adequacy.
5. Social cooperation and international peace.⁷

It seems, from an analysis of the above concept, that the interpretations of self-insight are not altogether consistent.

Another approach to measure self-awareness was an attempt to measure the concept in a global sense. This study was done by Gross, who developed the Self-Insight Scale.⁸

Research has provided evidence that individuals vary greatly as to how aware they are. This has been done

⁷Llewellyn Gross, "The Construction and Partial Standardization of a Scale for Measuring Self-Insight," Journal of Social Psychology, XXVIII (1949), 219-336.

⁸Ibid., pp. 219-336.

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by using estimates of objective test scores as a measure of self-awareness. The evidence suggests that variation in awareness exists across populations. Berdie found that the median correlational coefficient between the Strong Vocational Interest Blank scores and self-ratings of interests among male college students was .43 and between the Kuder Preference Record scores and self-ratings for the same group was .53.⁹ In an investigation by DiMichael, using vocational rehabilitation counselors, he found that the correlation between the Kuder Preference scores and self-estimated interests was .58. The correlation varied among individuals from .24 to .75.¹⁰ Crosby and Winsor found an average correlation of .54 between estimated and tested interests when using the Kuder Preference Record with college students.¹¹

Norrell and Grater investigated the needs of college students who were able to estimate their Strong Vocational Interest Blank scores as compared to those who could not. They found that students with high levels of awareness

⁹Ralph Berdie, "Scores on the SVIB and the Kuder Preference Record in Relation to Self-Ratings," Journal of Applied Psychology, XIV (1950), 24-29.

¹⁰Salvatore DiMichael, "The Proposed and Measured Interests of Vocational Rehabilitation Counselors," Educational and Psychology Measurement, IX (1949), 59-72.

¹¹R. C. Crosby and A. L. Winsor, "The Validity of Students' Estimates of Their Interests," Journal of Applied Psychology, XXV (1941), 408-14.

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could be differentiated from students who were low on twelve of the fifteen Edwards Personal Preference Schedules (EPPS), all in the direction predicted by experienced counselors. Students high in awareness were significantly low on needs for succorance and for order; and higher on needs for change.¹² Their findings were supported by Brown and Pool, who reported that six of the EPPS scales were associated with the Strong Vocational Interest Blank (SVIB) measure of awareness among in-patients in a general hospital. Specifically, they found that highly aware subjects tend to score higher on autonomy and achievement, but lower on order, succorance, abasement, and heterosexuality.¹³

In reference to the use of estimations of objective test scores, the research seems to suggest that there is a greater variability among persons' ability to estimate their scores on personality tests than on interest tests. Renzaglia, Henry, and Rybolt found that college students were able to estimate their personality scores on fourteen of fifteen variables of the Edwards Personal Preference Schedule. The individual correlations ranged from $-.59$

¹²Gwen Norrell and Harry Grater, "Interest Awareness as an Aspect of Self-Awareness," Journal of Counseling Psychology, VII (1960), 289-92.

¹³Robert A. Brown and Donald A. Pool, "Psychological Needs and Self-Awareness," Journal of Counseling Psychology, XIII (1966), 85-88.

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to $+ .90$.¹⁴ However, using the Allport-Vernon Study of Values, Nickels and Renzaglia found that individuals vary considerably on the similarity between expressed and measured values. Correlations ranged from $- .44$ to $- .83$ with a median correlation of $.46$.¹⁵

In a study by Amatora, it was found that a view of self was sufficiently in agreement with overt behavior as judged by peers. She investigated a group of boys in grades four through eight. The correlations ranged from $+ .10$ to $+ .67$. She also found that this same group of pupils could estimate their scores on the Child Personality Scale which has twenty-two scales. However, on three scales for the boys and two for the girls the correlations were too low to be significant at the $.05$ level.¹⁶

The previous studies indicate that individuals can estimate their own characteristics. However, they vary widely as to their ability to describe themselves accurately. Nevertheless, it cannot be assumed that the individual

¹⁴Guy Renzaglia, Donald Henry, and Gaylord Rybolt, "Estimation and Measurement of Personality Characteristics and Correlates of Their Congruence," Journal of Counseling Psychology, IX (1962), 71-78.

¹⁵James B. Nickels and Guy Renzaglia, "Some Additional Data on the Relationships Between Expressed and Measured Values," Journal of Applied Psychology, XLII (1958), 00-104.

¹⁶Mary Amatora, "Validity in Self-Evaluation," Educational and Psychological Measurement, XVI (1956), 119-26.

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who can estimate his personality characteristics can also estimate his interest scores or his intelligence. Self-awareness seems to be dependent upon the part of self under consideration.

The measurement of self-awareness has been shown to have both convergent and discriminate validity by several researchers. The research that follows will describe the relationship of self-awareness to adjustment, individual needs, intellectual ability and personality theory as has been found in several investigations. In a follow-up study by Rogers, et al., they asked clinical judges to rate the self-insight of 151 delinquent children. It was found that a correlation of .84 between self-insight and the later adjustment of these children existed.¹⁷

Goldfarb, Jacobs, and Levitan discovered that the ability to predict one's scores on the Guilford-Zimmerman Temperament Survey was related significantly to an index of adjustment derived from the Multiphasic Minnesota Personality Inventory (MMPI) scores. A significant relationship was also found to the Guilford Social Situations Test which measures the ability to make appropriate social responses in novel situations.¹⁸

¹⁷Carl Rogers, Bill Kell, and Helen McNeil, "The Role of Self-Understanding in the Prediction of Behavior," Journal of Consulting Psychology, XII (1948), 174-89.

¹⁸Jack Goldfarb, Alfred Jacobs, and Seymore Levitan, "Variables Determining the Ability to Estimate One's Scores on Objective Tests," Journal of Psychological Studies, XI (1960), 232-37.

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Goldfarb, et al. suggest that self-awareness is under no circumstances a unitary phenomenon. In their investigation they found subjects who were accurate in estimating their performance scores on aptitude tests were not necessarily accurate in their estimation of scores on tests of interests or temperament. The ability to estimate one's performance on objective tests appears to be unique to the area in which it is measured. The findings of this study seem to have been particularly important at that time since the ability to estimate one's scores on objective tests was a popular measure of self-awareness.¹⁹

The literature indicates that a number of studies have been devoted to the measurement of self-concept and self-report. One such investigation was made by Combs, et al. The study was designed to test whether the self-report can justifiably be used as a direct measure of the self-concept. It was predicted that children's self-report would show no significant relationship to self-concept inferences made by trained observers. Fifty-nine sixth grade children reported their feelings about themselves on eighteen items of a specially-prepared self-perception report sheet. It was found that the average correlation of the two kinds of ratings was .11. This was an indication

¹⁹Ibid.

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In a study by Mueller, self-insightful graduate students in a National Defense Education Act (NDEA) Counseling and Guidance Institute describe others better than non-insightfuls and were in turn predicted and described more accurately by others. In this study self-insightfulness was operationalized as the discrepancy scores between actual scores on Stern's Activities Index and self-estimated scores.²¹

There is a great deal of empirical evidence to support the concept of self-awareness as a varying trait among individuals. This evidence suggests that there is also great variability of occupational awareness among individuals, and that awareness can be assessed and identified. Education should provide means for assessing high school seniors' knowledge about the world of work in order to assist them more properly when choosing a career. Canning, Taylor, and Carter claim that when the time comes for a vocational tryout, the adolescent discovers that he is ignorant of the fundamental facts about most occupations. He realizes that he doesn't know the essential facts about

²⁰Arthur Combs, Daniel Super and Clifford Courson, "The Measurement of Self-Concept and Self-Report," Educational and Psychological Measurement XXIII (1963), 493-99.

²¹William J. Mueller, "The Influences of Self-Insight on Social Perception Scores," Journal of Counseling Psychology, X (1963), 185-91.

his own talents and weaknesses in comparison with those of other individuals.²²

To compensate for this deficiency, it seems that a high level of occupational awareness and a greater maturity of judgement is needed, as well as time to acquire related experiences that will provide more valid knowledge of jobs and the occupational aspects of self.

It seems that vocational decisions of youth should be based upon factual knowledge of the requirements and nature of different jobs and of the appropriateness of their own interests, abilities, and needs. However, it is unfortunate that this is not the real case with many adolescents. When teen-agers are questioned about the necessary steps in preparing for the vocations they have chosen, asked about the duties and tasks involved, the remuneration they expect to receive, and the job opportunities available, their replies are amazingly vague, naive, and unrelated to the actual job situation. As a result of the lack of adequate knowledge and information about the world of work, a large number of high school graduates select occupations for which they are not interested or for which they are not adequately prepared.

²²Leslie Canning, Katherine Taylor, and Harold Carter, "Permanence of Vocational Interests of High School Boys," Journal of Educational Psychology, XXXII (October, 1941), 481-94.

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Occupational Awareness

The basis for this investigation is largely theoretical since the researcher was unable to unearth any studies that deal directly with assessing occupational awareness and determining what influences an individual's knowledge of the world of work. However, Michael H. Moskow, Assistant Secretary of Labor, in an address to the Joint Council on Economic Education, presented the findings of the National Longitudinal Surveys conducted by the Center for Human Resource Research at Ohio State University. The Surveys included an occupational information test which involves identifying the duties of ten common occupations and assessing the salary associated with these occupations and the education required to enter them.

It was reported by Moskow that only 38 percent of white and 21 percent of black high school seniors scored high on the test of knowledge of the ten common occupations. More important, the evidence suggested that poor knowledge of the world of work, as measured by this test, is strongly associated with subsequent unemployment. White youth who scored high in 1966 averaged only 7.6 weeks of unemployment over the next two years; those whose scores were in the medium range averaged 14.5 weeks of unemployment; and those who scored low averaged 16.3 weeks.



Moscow also reported that insufficient sample cases prevent a determination of whether these relationships hold among blacks and other minorities. He further indicated that knowledge of the world of work was positively related to hourly rate of pay. For example, among blue collar wage and salary workers 20-24 years old and not in school, black males with a low score in the knowledge test averaged \$1.63 per hour, while blacks with high scores averaged \$2.29 per hour.

Moskow concluded that students should be more aware of their occupational opportunities and possess more knowledge about the ways in which people obtain jobs.²³

Amos conducted a study of the occupational awareness of a selected group of ninth grade Negro students. The purpose of this investigation was to determine the awareness of students regarding the occupational opportunities within their local area and within the United States as a whole. The research tool used was a questionnaire composed of seventy-five occupations. He concluded that girls are more aware of the occupational situation as pertaining to their own race, than are boys. The results suggest that boys and girls are more aware of the opportunities for their race over the nation as a whole than

²³U.S. Department of Labor, Bureau of National Affairs, Manpower Information Service: 1972, Vol. IV, Address by Assistant Secretary of Labor (Washington, D.C.: Government Printing Office, 1972), pp. 117-20.

they are for their local area.²⁴

Occupational Information

The development of adequate occupational information has for many years been regarded as a necessary tool in the process of vocational choice. Occupational information seems to be indispensable to the individual who is at the stage of choosing and selecting an occupation. This appears to be the case whether the job is of temporary status or permanent status. How can an individual choose what he does not know? It is a fact that many occupations are unknown to high school graduating seniors. Some of them may stumble into an appropriate occupation by sheer luck. However, others may not be so fortunate. The wise choice of an occupation requires accurate information about what occupations are available, what they require, and what they offer to the individual.

The review of literature presented in the first section of this chapter suggests that occupational information alone is not enough. The individual must be aware of and accept his own aptitudes, abilities, needs, limitations, interests, values, feelings, fears, likes and dislikes. All of these are essential factors when choosing a vocation.

²⁴William E. Amos, "A Study of the Occupational Awareness of a Selected Group of Ninth Grade Negro Students," The Journal of Negro Education, XXIX (1960), 500-503.

He must also have a clear understanding about the world of work. In other words, he must be aware of himself as well as the world of work.

Therefore, it seems obvious that knowledge of occupations can be effectively applied only when the individual knows something about himself. It also seems obvious that knowledge of oneself can be effectively applied to the choice of an occupation only when one knows something about occupations. One without the other is incomplete. This appears to support the concept of teaching about occupations within the public secondary schools.

In recent years there has been much research conducted on the teaching of occupational information at various educational levels. This section of the chapter will present a review of some of the most recent investigations.

Johnson and Myrick conducted a study on the making of life decisions (MOLD). This model attempted to train students in an occupational decision-making process. There were two research questions investigated: (1) Will MOLD increase students' knowledge of educational and occupational information? (2) Will students perceive MOLD as an interesting and meaningful activity?

The instrument used in the study was the Educational-Occupational Information Exam (EOIE). It was designed to assess students' knowledge of educational and occupational

information. This instrument is a 40-item, multiple-choice examination. The first 20 items pertain to occupational information, such as training requirements for different job levels and life styles associated with various careers. It was reported that the EOIE demonstrated a Kuder-Richardson split-half reliability of .80 in another study.

The Student Reaction Questionnaire (SRQ) was used to assess students' perceptions of the program. This instrument consists of four statements to which students respond by indicating the extent of their agreement or disagreement.

Thirty-six students were randomly selected from the eighth grade class. Eighteen students took part in the experimental program and the other 18 served as the control group. At the end of the program both groups were administered the EOIE, and two t-tests were computed to determine if there were differences between the groups.

It was found that students participating in the program learned significantly more educational information than students in the control group. The participating group had a mean score of 9.75, and the control group had a mean score of 7.23. The t-test was significant at the .05 level of confidence.

The evidence concerning the program's effect on occupational information was not as strong as it was for educational information. The participating group had a

higher mean (11.44) than the control group (10.00), however, differences were reported to be significant at the .10 level of confidence.²⁵

Jepsen compared the impact of two occupational information methods, presented in school settings, on rural ninth graders' knowledge of the world of work. A traditional method was used to emphasize the distribution and discussion of printed information, which was designed for national readership and compared with an experimental method. This method was the use of printed materials supplemented by videotaped occupational field trips.

Workers were videotaped as they performed their jobs. Oral descriptions of the work were provided by the workers themselves who candidly outlined what they were doing, how they felt about it, what they considered to be its satisfactions and disappointments, and how they had prepared for obtaining their positions. The research questions were the following: (1) Do rural ninth grade classes, studying printed occupational information and videotaped occupational field trips, exhibit greater changes in occupational knowledge than classes studying printed information only? (2) Do boys show greater changes in occupational knowledge than do girls? and

²⁵Richard Johnson and Robert Myrick, "MOLD: A New Approach to Career Decision-Making," Vocational Guidance Quarterly, VI (September, 1972), 49-52.

(3) Does any combination of methods with sex group produce greater changes in occupational knowledge?

Jepsen concluded that rural ninth grade students who studied printed materials and viewed local occupational field trips reported accurate images of the occupation studied more frequently than did a comparable group using printed materials alone. Girls generally expressed more varied occupational choices than boys when choices were assessed along Roe's level and field dimension. The sex group did not differ on any other variable, and there were no significant sex-method interactions.²⁶

Youst conducted an investigation to develop and evaluate new materials which would stimulate young people to exhibit increased vocational exploratory behavior, vocational knowledge and vocational maturity. Youst used the occupation of computer programmer which was presented in slide-audio form through the lives of three people. The audio portion included segments of the role model's own voice, and was pulsed to control the slide changes. Three versions of newly developed materials were used to compare the three existing occupational information treatments. Movies were used in two control groups; printed materials in one. Slide-audio presentations were used in the

²⁶David A. Jepsen, "The Impact of Videotaped Occupational Field Trips on Occupational Knowledge," Vocational Guidance Quarterly, XXI (September, 1972), 55-61.

experimental groups. The experiment was replicated with male and female ninth grade students in four high schools. It was reported that no results were found which indicated differences between the experimental and the control groups on any dependent variables.²⁷

Robertson exposed 13 Michigan 10th graders to a five-week unit on agricultural occupations and 17 students in the 10th and 11th grades to a seven-week unit. He reported no significant changes in measured vocational interest.²⁸

An analysis by Plotkin of the effect of occupational classes upon vocational interest patterns of below average adolescent males revealed that the Kuder vocational interest patterns changed after having taught a 14-session unit, during one month, to 40 Maryland 11th and 12th grade "slow learning" boys. The changes persisted upon retest three weeks later.²⁹

²⁷David Bennet Youst, "Stimulating Vocational Exploratory Behavior through the Use of Life Career Studies," (unpublished Ph.D. dissertation, Michigan State University, 1969). Abstracted in Dissertation Abstracts, XXX, 1970, pp. 5251A-5252A.

²⁸Marvin Robertson, "The Effect of an Occupational Information Unit of Instruction on Expressed and Inventoried Interests of Vocational Agriculture Students in Selected Michigan High Schools," (unpublished Ph.D. dissertation, Michigan State University, 1970).

²⁹Alan Leonard Plotkin, "The Effect of Occupational Information Classes upon the Vocational Interest Patterns of Below Average Adolescent Males," (unpublished Ph.D. dissertation, Catholic University of America, 1966). Abstracted in Dissertation Abstracts, XXVI, 1967, p. 2895-A.

Raskin conducted a study of 115 Maryland 12th grade girls. He palced them into a control group and two experimental groups. One group was given a lecture on scientific career opportunities and the other the same lecture "plus some favorable information about social aspects of the life of women in the sciences." Both experimental groups made favorable changes. However, the socio-occupational lecture had greater impact on the students.³⁰

Hughes reported on the profile of pupils in certain agricultural occupations courses with regard to socioeconomic status, aspired socioeconomic status, fathers' occupations and the students' stated occupational goals. The study consisted of 142 students enrolled in agricultural occupations courses in grades nine, ten and eleven in six high schools. It was concluded that there was a positive correlation between the socioeconomic status and the aspired socioeconomic status of the pupils. There was no significant difference between the students in the experimental group and the students in the control group in the amount of change in aspired socioeconomic status from pretest to posttest as measured by scores on the Sims Social Class

³⁰Alan Leonard Plotkin, "The Effect of Occupational Information Classes upon the Vocational Interest Patterns of Below Average Adolescent Males," (unpublished Ph.D. dissertation, Catholic University of America, 1966.) Abstracted in Dissertation Abstracts, XXVII, 1967, p. 2895-A.

Identification Occupational Rating Scale. Within the experimental group, pupils in the ninth grade changed their aspired socioeconomic status from pretest to posttest significantly more than did pupils in the tenth or eleventh grades.³¹

Wolf taught a six-week occupational information unit on the level of aspiration to 149 Oklahoma 11th and 12th grade students. He reported no significant changes in level of aspiration, but did find a relationship between aspiration level and such variables as size and location of community, parental income and encouragement, middle class values, student leadership, and vocabulary test scores.³²

Armstrong compared programmed instruction and individualized instruction of occupational materials with 376 Louisiana students over an 18-month period. The study used a pretest, posttest, control group experimental design. Two area vocational-technical schools in Louisiana

³¹Lloyd Ray Hughes, "The Effects of Selected Occupational Information upon the Aspired Socio-Economic Status of Pupils in Agricultural Occupations Course" (unpublished Ph.D. dissertation, University of Illinois, 1968). Abstracted in Dissertation Abstracts, XXX, 1969, p. 927-A.

³²Jimmie Darrell Wolf, "An Experimental Study Investigating the Effect of Teaching Occupational Information on the Level of Aspiration of Oklahoma Vocational Agricultural Students," (unpublished Ph.D. dissertation, Oklahoma State University, 1966), Abstracted in Dissertation Abstracts XXVIII, 1967, p. 4059-A.

were selected as experiment sites. It was concluded that both methods of instruction were equally effective for both low and high potential achievers. No significant correlation was found between mental ability and achievement or between mental ability and retention for both methods.³³

Bartsh studied the effectiveness of small group courses vs. individualized procedures for teaching occupational information gathering and career decision making skills to college students. The purpose was to describe a teaching-learning procedure in career planning and test its effectiveness. Undergraduate students enrolled in a special offering of a regular two credit course served as the subjects in the study. They were randomly assigned to four sections of the course. There was an experimental section meeting as a small group once a week, and individualized section with personalized assignments, and individualized section with impersonalized assignments, and a no-treatment control section. The course content for each treatment group was the same; however, the teaching-learning procedures differed.

³³William Harrell Armstrong, "An Experimental Investigation of the Instructional Effectiveness of Published Programmed Instruction Materials vs. Individualized Instruction in Vocational-Technical Schools" (unpublished doctoral dissertation, Florida State University, 1967), Abstracted in Dissertation Abstracts, XXVIII, p. 982-A.

Bartsh reported that students in the three treatment groups scored significantly higher on an achievement test covering course content than did the no-treatment control group. The students in the three treatment groups learned informational content equally well. Students in the three treatment groups became more differentiated in their selection of occupations than did a comparable control group. There were no significant differences among treatment groups.³⁴

Roberts conducted an investigation on the dissemination of occupational information by classroom teachers through group instruction. The purpose was to determine the amount of attention given to occupational information in selected secondary schools, and to determine classroom teachers' opinions as to their role in disseminating occupational information. It was found that the degree of attention given to occupational information varies according to the individual teacher's concept of the importance of this area. The teachers of the practical arts generally incorporated occupational information into instruction with more regularity than teachers of the academic areas. A separate

³⁴Karl Bartsh, "The Effectiveness of Small Group Courses vs. Individualized Procedures for Teaching Occupational Information Gathering and Career Decision Making Skills to College Students" (unpublished Ph.D. dissertation, University of Oregon, 1969), Abstracted in Dissertation Abstracts, XXX, 1970. p. 4763-19.

unit on occupations was not included in the various subject areas.

He also reported that inadequate facilities in the classroom and insufficient funds do not influence the efficiency of a program in occupational information. Roberts suggests improvement in teacher-training in the dissemination of occupational information.³⁵

In order for youth to develop high levels of occupational awareness, they must be provided with occupational information not only from the home, but by the high school as well. The New York State Education Department had such concerns. The department conducted an occupational information utilization survey. The purposes of the study were the following: (1) To determine the occupational information needs of counselors; (2) To determine the occupational resources available; and (3) To determine the changes in occupational information which might be desirable in order to make it more useful to students.

It was reported that one of the principal findings of the study was that 726 counselors rated private and commercial occupational briefs and pamphlets first in use and

³⁵Laurence A. Roberts, "The Dissemination of Occupational Information through Group Instruction by Classroom Teachers in Selected Secondary Schools" (unpublished Ph.D. dissertation, New York University, 1968), Abstracted in Dissertation Abstracts XXIX, 1969, p. 2448-A.

usefulness among 21 media for disseminating occupational information. Posters were rated 2 in use and 14 in usefulness. Books and periodicals rated 4 in use and 13 in usefulness. The counselors wanted changes in the style, format, and language of occupational information materials.³⁶

Providing occupational information to secondary school students seems to be a basic responsibility of guidance and counseling programs and should serve as one primary purpose. However, another method of providing occupational information is through a course in occupations. Mezzano conducted a survey of the teaching of occupations in the state of Wisconsin. Out of 326 questionnaires mailed, 298 (91.4 percent) were completed and returned. It was reported that 224 (75 percent) of the schools taught occupations in some form. Two hundred and three schools (68 percent) taught occupations as a unit in regular academic courses. Seventy-four schools (25 percent) did not offer occupations as a unit in regular academic courses. Seventy-four schools (25 percent) did not offer occupations as part of the academic program.³⁷

³⁶George S. Dubato, "VOGUE: A Demonstration System of Occupational Information for Career Guidance," Vocational Guidance Quarterly, XVII (December, 1968), 117-119.

³⁷Joseph Mezzano, "A Survey of the Teaching of Occupations," Vocational Guidance Quarterly, XVII (June, 1969), 275-277.

It is obvious that there are several sources of occupational information. However, Overs suggests that there are basically two kinds, overt information and covert information.

He describes overt information as that usually in written form, and covert information as that which is not recorded or filed, but frequently communicated erratically from counselor to counselor, usually by word of mouth.³⁸ It seems that there may be conflict between the two practices.

It appears that adequate occupational decisions are frequently made on the basis of covert information rather than overt information. Occupational decision making and efforts to improve occupational adjustments which are based on covert information alone frequently fail to reveal the important factors which represent occupational reality.

Vocational Choice and Occupational Preference

In previous years educators, social scientists and guidance counselors have given much attention to occupational choice of youth. Although they have succeeded in increasing our knowledge about the matter, the literature

³⁸Robert P. Overs, "Covert Occupational Information," Vocational Guidance Quarterly, XVI (September, 1967), 7-11.

concerning vocational choice suggests that there are many important things still unknown about the choice process. However, the only concern for occupational choice in this study is that it seems to be related to occupational awareness. Therefore, it will be reviewed in that sense.

For many years Ginzberg advocated that "occupational choice was a decision-making process which extended from pre-puberty until the late teens or the early 20's when the individual makes a definitive occupational commitment." Ginzberg's most recent reformulation of a theory of vocational choice is as follows:

1. Occupational choice is a process that remains open as long as one makes and expects to make decisions about his work and career. In many instances, it is coterminous with his working life.
2. While the successive decisions that a young person makes during the preparatory period will have a shaping influence on his later career, so will the continuing changes that he undergoes in work and life.
3. People make decisions about jobs and careers with an aim of optimizing their satisfactions by finding the best possible fit between their priority needs and desires and the opportunities and constraints that they confront in the world of work.³⁹

It appears that occupational choice is a lifelong process of decision-making. As an individual increases his knowledge of self and work through experiences, he may seek

³⁹ Eli Ginzberg, "Toward a Theory of Occupational Choice: A Restatement," Vocational Guidance Quarterly, XX (March, 1972), 169-76.

to find an optimal occupation between his previous career preparation and goals and the realities of the world of work and society of which he is a part.

The expressed occupational choices of high school students often seem confused, inaccurate, and unrealistic. Super claims that vocational choices made in the adolescent stage to meet the needs of a particular career are unreliable, inconsistent with inventoried interests, and are even less consistent with occupations eventually entered.⁴⁰ If this is the real case, it would appear that part of the unrealistic and inconsistent factor in the choice process is due to the lack of inadequate knowledge and information about self and the world of work.

It seems obvious that there are many variables that affect youth's choice of an occupation. Hoppoch indicated that occupational status or prestige is an element which causes confusion in the making of occupational choice. The desire for wealth, status, or glamour may lead students to make occupational choices of a fantasy nature.⁴¹

Lockwood conducted a study on realism of vocational preference. The purpose of the investigation was to determine the relationship between certain personal and social

⁴⁰ Donald E. Super, The Psychology of Careers (New York: Harper Brothers, 1957), p. 90.

⁴¹ Robert Hoppoch, Occupational Information (New York: McGraw-Hill, 1957), pp. 105-107.

TO THE

SECRETARY

OF THE

NAVY

WASHINGTON

D.C.

DEAR SIR:

I have the

pleasure to

acknowledge

the receipt

of your letter

of the 10th

inst.

and in reply

to inform you

that the same

has been

forwarded to

the proper

authorities

for their

consideration

and I am

very respectfully

Yours,

factors in a group of high school seniors. It was concluded that occupational realism appears to be an individual rather than a group-attached phenomenon. Current environmental influences such as type of residential district, school attended, social-economic-cultural prestige, status of family, size of the family, and group influences like race and sex were all unrelated to students' level of realism of vocational preference.⁴²

Clark investigated the relationship between occupational prestige and vocational choice. The purposes of his study were to (1) compare the rankings of occupations as made by high school students with rankings made by adults, (2) compare high school students' "fantasy" vocational preferences with their "reality" vocational preferences, and (3) compare students' rankings of occupations on the basis of prestige with similar job rankings on the basis of the amount of money a successful person makes in the various jobs and with the amount of education and training required for successful performance of the various jobs.

Clark's sample was 107 twelfth grade students and 104 tenth grade students of Bremen Senior High School, Bremen, Indiana. He found that rankings of money earned and the amount of education and training required had high

⁴²William V. Lockwood, "Realism of Vocational Preference," Personnel and Guidance Journal, XXXVII (October, 1958), 98-106.



positive correlations with the students' rankings of occupational prestige and with their "fantasy" vocational choices. However, a low correlation was found to exist between the students' "reality" vocational choices and both money earned and education and training.⁴³ This seems to indicate that the students may be making preliminary vocational choices of a fantasy nature but the consideration by the students of their own abilities and interests tends to make their occupational choice have a lower prestige value. It may also be possible that these students are implying that they do not desire to make any further investigation of the education and training requirements necessary to reach the top prestige and salary occupations.

Every occupation carries with it several dimensions, e.g., income, prestige, power, and authority, and each job has societal rankings with respect to these. Garbin conducted an investigation of occupational choice and the multidimensional rankings of occupations. It was concluded that occupational choices should be made in terms of an adequate understanding of the probable consequences of the multiple status system characteristic of given occupational positions.⁴⁴

⁴³Ronald J. Clark, "Occupational Prestige and Vocational Choice," Vocational Guidance Quarterly, XVI (June, 1968), 283-86.

⁴⁴A. P. Barbin, "Occupational Choice and the Multidimensional Rankings of Occupations," Vocational Guidance Quarterly, XVI (September, 1967), 17-25.

Much of the literature suggests that adolescents are unrealistic about occupational choices. However, Carp reported the finding of a group of 165 boys who made up the total male student population of a union high school in southern California. He found that the model occupational level for both "desired" and "expected" occupations was that of both the father and the grandfathers.⁴⁵

At one time in history it was expected by society that a boy should follow in his father's footsteps, and that a girl should follow in her mother's footsteps. However, today our highly technological society provides almost unlimited opportunities. It also demands more from its children. This added burden may lead to problems in educational and vocational choices. Parental pressure may also cause problems for youth who are at the stage of making a vocational decision. Maling states that:

Pressures for achievement begin very early in a child's education. One pressure that can lead to poor vocational choices or even failure is the expectation that the child will surpass his parents. In college this pressure may cause a fear of parental competition which can interfere with academic programs and distort vocational planning.⁴⁶

⁴⁵Frances M. Carp, "High School Boys Are Realistic about Occupations," Occupations, XXVIII (November, 1949), 97-99.

⁴⁶Lawrence R. Maling, "Fear of Paternal Competition: A Factor in Vocational Choice," Personnel and Guidance Journal, XL (November, 1967), 235-39.

If this can apply to college students, it seems reasonable that it can also apply to the many high school graduates who immediately enter the job market.

Mowseian, et al. studied superior students in Wisconsin, their occupational preferences and their fathers' occupations. They reported the finding of the relationship between occupational preferences of 147 superior students and their fathers' occupations. This was traced over a four year period. The findings indicate that both male and female superior students tend to state vocational preferences at the professional level early in high school and to maintain this preference throughout. Their occupational preferences were generally at a higher level than those of their fathers. The results seem to suggest that theories of vocational development that imply that stages are passed through during late adolescent periods do not apply to the superior student.⁴⁷

There are other variables that may influence occupational choices. Osipow conducted an investigation on factors related to inconsistent career preferences. He studied a sample of entering college freshmen which was divided into two groups on the basis of the consistency

⁴⁷Richard Mowseian, Brian G. Heath, and John M. Rothney, "Superior Students' Occupational Preferences and Their Fathers' Occupation," Personnel and Guidance Journal, XLV (November, 1966), 238-41.

or inconsistency of their first and second career preferences. The two groups were compared on several family and personal factors in order to identify variables that are related to inconsistencies in career preferences. The groups were observed to be somewhat different in the general level of their academic ability and the degree to which their interests were supported by Strong Vocational Interest Blank results. No significant family differences between the two groups were observed. The finding seems to imply that the inconsistency of career preference was more likely to be the result of the student's recognition of his limited abilities than the other variables.⁴⁸

Korman studied self-esteem as a moderator in vocational choice. He reported that high self-esteem individuals, in all cases, describe themselves more as meeting the occupational image in the specific occupation than does the low self-esteem individual.⁴⁹ There seem to have been contaminating factors in his study due to the sample and the procedures used.

Olive conducted an investigation on sex differences in adolescent vocational preferences. The study compared

⁴⁸Samuel H. Osipow, "Factors Related to Inconsistent Career Preferences," Personnel and Guidance Journal, XLVI (December, 1967), 346-49.

⁴⁹Abraham K. Korman, "Self-Esteem as a Moderator in Vocational Choice: Replications and Extensions," Journal of Applied Psychology, LIII (June, 1969), 188-91.

the social class status of male and female adolescents' vocational preferences. He used a large sample of students from three high schools in central New Jersey. There were 197 male and 237 female students. They were asked to choose any occupation they believed they might like to enter. These preferences were then assessed for socioeconomic status. Olive reported that the female group chose significantly higher social class status occupations than did the group of male students. The female group also surpassed the males in their potential occupational striving for prestige and status.⁵⁰

Bodden and Klein investigated the cognitive complexity and appropriate vocational choice. The study attempted to replicate the finding that cognitive complexity in the vocational realm was positively related to the making of an appropriate vocational choice. They reported that the results indicated a significant positive correlation between cognitive complexity and the choosing of an occupation in which the environment was compatible with the subjects' personality style. The cognitive complexity level was unrelated to Vocational Preference Inventory personality type.⁵¹

⁵⁰Helen Olive, "Sex Differences in Adolescent Vocational Preferences," Vocational Guidance Quarterly, XXI (March, 1973), 199-201.

⁵¹Jack L. Bodden and Alan J. Klein, "Cognitive Complexity and Appropriate Vocational Choice: Another Look," Journal of Counseling Psychology, XIV (May, 1972), 257-8.

Summary

It was felt by the investigator that the literature reviewed and presented in this Chapter was related and pertinent to the problem being studied. Literature relating specifically to the assessment of occupational awareness and variables that may influence knowledge of the world of work seems to have been very scarce. However, a review of related literature was made on (1) self-awareness and self-insight, (2) occupational awareness, (3) occupational information, and (4) occupational choice and preference.

The first section of the Chapter on self-awareness and self-insight provides a theoretical basis for the problem under investigation. The review of literature indicated that self-awareness and self-insight are necessary to individuals who are in the process of choosing and selecting a career. This seems to be true whether the occupation is of a short term status or for life. It was suggested that occupational awareness or knowledge about the world of work is also a necessary factor. It was pointed out that the lack of self-knowledge is a source of irrational vocational decisions. The literature seems to support the concept of occupational awareness and suggests that it can be assessed. However, it was specifically stated that knowledge of occupations can be effectively applied only when the individual knows something about himself, and knowledge

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of oneself can be effectively applied to the choice of an occupation only when one knows something about the world of work. One without the other seems to be incomplete.

The second part of the Chapter presented a review on occupational awareness. This section was very brief since only two studies were located that addressed themselves to occupational awareness.

In the third part of the Chapter, literature was reviewed on occupational information. Since the availability of information may determine one's level of occupational awareness, it was felt that this review was important. There are many sources of occupational information and some seem to be more effective than others. Many educational agencies across the nation provided some form of occupational information. There were courses taught in schools at all grade levels. Some reported success in increasing students' knowledge about jobs, whereas others reported no significant change. In conclusion, though, almost all agencies suggest a need to improve and increase means by which youth may increase their knowledge about the various occupations within society.

The fourth and final section reviewed literature on vocational choice and vocational preference. Choice and preference were treated as being synonymous in this study. The review revealed that there are many variables that influence or affect vocational choices of high school and

college students. Much of the literature suggests that adolescents cannot make realistic vocational decisions. This may be due to the fact that they do not have realistic information about self and the world of work. The literature also suggests that parental pressure, social-cultural prestige and intelligence may influence the choice of an occupation of youth. There seems to be a vast amount of literature concerning occupational choice. However, the validity of some of it seems to be doubtful.

In conclusion, none of the literature reviewed disclosed any research that specifically focused on the assessment of levels of occupational awareness and determined what influences knowledge about the world of work. This may be due in part to the difficulty of a valid instrument to assess knowledge about the various occupations within society.

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CHAPTER III

PROCEDURES USED IN THE STUDY

In order for the reader to understand the investigation more clearly, this chapter provides a discussion of the procedures used in the study. They are as follows:

(1) development of the instrument; (2) procedures for data collection; (3) data processing and classification; (4) procedures for analyzing data; and (5) hypotheses of the study.

Development of the Instrument

This section of the chapter will provide a description and discussion of the development of the instrument as follows: (1) a rationale for the development; (2) selection of occupations; (3) selection of job descriptions; (4) selection of education and training requirements; (5) selection of wages for occupations; and (6) pretest of instruments.

Rationale for Development

An exhaustive search was made for an instrument designed to assess individuals' knowledge about jobs that would represent the total occupational structure. That is,

occupations classified on the social prestige scale as being in the upper, middle and low occupational strata. In order to assess knowledge of the world of work it seems necessary to obtain groups of occupations which represent all levels of jobs within society.

The writer was able to identify only one instrument that was designed to assess knowledge about jobs. This instrument was used in the National Longitudinal Surveys conducted by the Center for Human Resource Research at Ohio State University. The Surveys included an occupational information test which involves identifying the duties of ten common occupations and assessing the salary associated with these occupations and the education required to enter them.¹ There was no explanation of what was meant by common occupations, and not test reliability reported. However, the findings of the study seem to be worthy of its efforts.

The occupational structure and stratification of jobs is quite complex. It seems that the occupational information test of ten common occupations used in the National Longitudinal Surveys was not comprehensive enough to serve as a means of assessing knowledge of the world

¹U.S. Department of Labor, Bureau of National Affairs, Manpower Information Service: 1972, Vol. IV Address by Assistant Secretary of Labor (Washington, D.C.: Government Printing Office, 1972), pp. 117-20.

of work. Therefore, the writer developed the Occupational Awareness Assessment Instrument (later referred to as OAAI).² This instrument seems to be comprehensive and represents the entire occupational hierarchy.

Selection of Occupations

The OAAI consists of eighty occupations which were selected from the Occupational Aspiration Scale developed by Haller. He developed this scale to measure levels of occupational aspiration.³ The group of occupations Haller used was selected from the North-Hatt Occupational Prestige Scale. The original prestige scale had ninety occupations which were rated for social prestige in a national survey.⁴ Haller combined several job titles because of redundancy. The Occupational Aspiration Scale has a test-re-test reliability of .77 and the split-half reliability is .80.

The eighty selected occupations were divided into three occupational strata based on the North-Hatt Occupational

²See Appendix C for copy of Occupational Awareness Assessment Instrument (OAAI).

³Archibald O. Haller, Occupational Aspiration Scale: Theory, Structure and Correlates (East Lansing: Agricultural Experiment Station, Michigan State University, 1963).

⁴Albert J. Reiss, Otis Duncan, Paul Hatt, and Cecil North, Occupations and Social Status (New York: The Free Press, 1961).

Prestige Scale.⁵ These were the upper, middle, and lower strata. Occupations with a rating of 75-96 were placed in the upper stratum, occupations with ratings from 54-74 were placed in the middle stratum, and occupations with ratings from 32-53 were grouped in the lower stratum.⁶

The occupations on the OAAI are divided into four groups in the first section. Each part consists of twenty job titles and descriptions. All three occupational strata are represented in each section. In the first section the North-Hatt scores range from 40 to 96, in the second part the scores range from 35 to 93, in the third part the scores range from 34 to 93, and the fourth part scores range from 33 to 92.⁷ The order of occupations in each group was made by random selection. It was necessary to arrange the jobs in four groups for organizational purposes.

Selection of Job Descriptions

The OAAI consists of four occupational groups in the first section. There are twenty job titles in each part and one appropriate description for each occupation. The job descriptions for each occupational group were

⁵Reiss, op. cit.

⁶See Appendix F for occupational classifications.

⁷See Appendix E for list of occupations and North-Hatt scores.

carefully selected from the dictionary of Occupational Titles. There are nearly 22,000 occupations defined in the DOT. Each occupation is incorporated into a classification structure in which jobs are given code numbers. All occupations are well defined.⁸

Each occupation on the OAAI was carefully matched with the worker function found in Volume II of the Dictionary in the section titled "Worker Traits Arrangement of Titles and Codes."⁹ There are other sources that provide descriptions and worker functions of jobs, but they are not as comprehensive and consistent as the DOT in presenting information for thousands of occupations. Therefore, it seems that the DOT was the most desirable source for obtaining worker functions for occupations on the OAAI.

Selection of Education and Training Requirements

It seems important that individuals be aware of the education and training required to enter various occupations. The OAAI consists of a section which assesses knowledge of individuals about education usually required to enter forty-eight occupations.¹⁰ For organizational purposes,

⁸U.S. Department of Labor, Dictionary of Occupational Titles 1949, Vol. I and II, Washington, D.C.

⁹Ibid., Vol. II.

¹⁰See Appendix D for key to education and training usually required.

several occupations were randomly selected from the original group and placed together, three in each group. Each group consists of one occupation in the upper, middle, and low strata.

Education and training usually required of individuals in order to enter the occupations on the OAAI were selected from Earnings by Occupation and Education. This report provides detailed statistics for the United States and regions on education usually obtained by males and females in various occupations, 18 to 64 years of age. The report is based on the 1970 Census of Population.¹¹

Selection of Wages for Occupations

Earnings and wages received by individuals in various occupations seem to be of utmost importance when choosing and selecting a vocation. There are wide ranges in salaries people receive for their work; therefore, it seems important that youth know and understand the variability of salary distribution in the world of work. The OAAI has one part that assesses knowledge about wages. Information on who earn the highest wages in the groups was taken from Earnings by Occupation and Education.¹²

¹¹U.S. Department of Commerce, Bureau of Census, United States Census of Population: 1970, Vol. II, Subject Reports, Earnings by Occupation and Education, Washington, D.C.

¹²Ibid.

The data on earnings in this report were derived from answers to questions on the 1970 Census of Population. Information on money earnings received during the 1969 calendar year was requested from all persons 14 years old and over in a 20-percent sample. Earnings are divided into two parts: median and means. The mean earnings were used for occupations on the OAAI.¹³

Pretest of the Instrument

Two pretests were performed for the purpose of checking and improving the item discrimination and reading difficulty of the instrument. The first test involved administering the instrument to a group of doctoral students in Vocational and Technical Education and Michigan State University (n=12). Item analysis of job descriptions revealed that many items had a much too difficult reading level for high school students. It was thus evident that conclusions drawn from the use of the instrument in present form would be tenuous and that the reading difficulty would have to be improved. Therefore, items 1 through 20 in each occupational group were reorganized to a reading level appropriate for high school youth.

Reworded items were again judged to ascertain whether or not they were congruent with the desirability

¹³See Appendix D for key to Highest Wages.

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of the instrument. The revised instrument contained the same number of occupations and job descriptions as the original.

The second pretest was with the revised instrument. This instrument was administered to a group of high school seniors enrolled in the Calhoun Area Vocational Center (n=50), located in Battle Creek, Michigan. This sample was thought to be comparable to the sample to be investigated in this study. It was concluded from the results of this pretest that the instrument had demonstrated sufficient discrimination to progress to a validity investigation in which the test would be applied to different populations.

Procedures for Data Collection

This section of the chapter describes the data collection procedures used in the investigation. They are as follows: (1) the population used in the study, (2) sample selection, and (3) data collection.

The Population Used in the Study

The population for this investigation was restricted to high school seniors enrolled in three Michigan urban public high schools who met the following criteria:

1. Were twelfth grade students enrolled in regular high school programs: college prep, vocational, and general.

2. The enrollment must represent White, Black, and Mexican-American students.
3. Co-Educational.
4. Represent all socioeconomic status levels.
5. Located in a metropolitan area.

The schools selected for use in the study were located in Lansing, Michigan, the state Capital. They were (1) Sexton, (2) Harry Hill, and (3) Everett High Schools.

Lansing is located in the northwest corner of Ingham County. The city has a population of approximately 120,034. Michigan State University is located in East Lansing, which is a city of approximately 30,208, and located in the same portion of the county as Lansing. The major employers in the Lansing area are Oldsmobile, Fisher Body, state, city, and local government and the educational agencies.

High schools in Michigan are classified by the Michigan Education Association. The classifications are A, B, C, and D types and are determined on the basis of student enrollment. The schools selected for this investigation were all classified as type A schools.

Sample Selection

A random sample of 167 seniors was drawn from each of the participating schools. A request was made for a stratified random sample. However, school officials indicated that this was not possible due to the number of

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students and variables involved in the investigation. The design does not enable descriptive statistical comparisons to be made for each variable used in the study.

Data Collection

Data for this study were collected during the months of November and December, 1973. After having received permission to conduct the investigation from the central administration office, each participating school was contacted by the researcher for the following purposes: (1) to obtain further information concerning student enrollment; (2) to become familiar with the school schedule; and (3) to obtain a date for the purpose of administering the instrument. Each school principal assigned one person, usually an assistant principal, for the purpose of administering the questionnaire.

The students were given a brief overview of the purpose of the study and detailed instructions on how to complete the instrument. Each section was very carefully explained to the various groups of students. The subjects were given 45 minutes to complete the questionnaire and they all worked steadily until completion and then returned them to the researcher.

Data Processing and Classification

This section of the chapter will discuss the procedures used in coding and classifying the data. This will provide a better understanding of the data processing procedures and also provide a basis for answering certain questions presented in the investigation. The data were classified in the following manner: (1) knowledge of job descriptions; (2) knowledge of education and training requirements; (3) knowledge of wages; and (4) demographic data.

Knowledge of Job Descriptions

There are four occupational groups in the first part of the instrument. Each group has a list of twenty occupations and one appropriate description for each job. The respondents were required to select what they felt was the most appropriate description for each of the occupations, for each correct response the numerical value 1 was given and for each incorrect response the value 0 was given. Each occupational group had a possibility of twenty points and a total of eighty points for the four groups. All items were coded and a sub-total was calculated for each individual on knowledge concerning job descriptions.

colours

grey

white

black

blue

red

green

yellow

orange

purple

pink

brown

tan

beige

cream

ivory

lavender

mint

sky

seafoam

ocean

teal

Knowledge of Education and Training Requirements

There are 16 groups of occupations in the section on educational requirements with three occupations in each of the groups. The question was, how much regular schooling is usually required to enter the various occupations? There are four choices: (1) less than high school; (2) a high school diploma; (3) some college; and (4) a college degree. The numerical value of 1 was given for each correct response and 0 value for incorrect responses. This part of the instrument has a possibility of 48 points. Each item was coded and a sub-total was given for knowledge of educational requirements of the various groups of occupations.

Knowledge of Wages

In this section there are 16 groups of occupations, three occupations in each group. The question was, what occupation in each group do you think has the highest average income? By average is meant the average income of all people in this occupation in the entire United States. There is only one correct response and a numerical value of 1 was given for each correct answer and a value of 0 for each incorrect response. This section has a possible total of 16 points. Each item was scored and a sub-total given.

After all sub-items were scored, they were polled and a grand total of all three sections was calculated for each subject. These scores were later key-punched on computer cards along with demographic data.

Demographic Data

The demographic data to be classified were as follows: (1) socioeconomic status level of family; (2) occupational aspiration level; and (3) occupational expectation level.

Socioeconomic Status Level.--The socioeconomic status level of the family was assessed on the basis of the father's (or head of the household) occupation. The occupational levels of the parents were derived from responses on item 5 on the Student Survey Information Form. Occupations indicated by the respondents were assigned socioeconomic ratings from the Duncan socioeconomic index for all occupations. Special emphasis was placed on this item during the administration period of the instrument. This was done in order that there would be no question as to what the parents' occupations were. Occupations not included in the Duncan Index were given ratings on the basis of similarity to occupations that were included in the index.

Occupations were then separated into socioeconomic status for all occupations. They were grouped in three

major categories, high, middle, and low socioeconomic status levels, and then coded in that manner.

Occupational Aspiration Level.--The occupational aspiration level was determined from the response on item 6 on the Student Information Survey Form. This item does not by any means measure the absolute aspiration level of the subjects. However, it does suggest what occupations or profession the individual aspires to after high school graduation. The levels of occupational aspirations were scored and coded using the Duncan socioeconomic index scale for all occupations. Aspiration levels were classified in the high, middle and low categories.

Occupational Expectations Level.--The occupational expectation level was determined from item 7 on the Student Survey Information Form. Here again, this item does not measure the absolute occupational expectation level of the subjects. The level of occupational expectations were scored and coded using the Duncan scale for socioeconomic index for all occupations. Occupational expectations were also classified in the high, middle and low levels.

Procedures for Analyzing the Data

This section of the chapter will discuss procedures for analyzing and interpreting the data as follows:

(1) hypotheses to be tested; and (2) statistical analysis of the hypotheses.

Hypotheses of the Study

The purposes of this study were to assess knowledge about the world of work and identify levels of occupational awareness of a selected group of high school seniors. Specifically, the purposes were to determine the relationship between identified levels of occupational awareness and certain variables by utilizing the statistical test of hypotheses. The hypotheses were stated in the null form to facilitate acceptance or rejection.

The fifteen primary hypotheses are as follows:

1. There is no difference between the level of occupational awareness of male high school seniors and that of female high school seniors enrolled in public secondary schools.
2. There is no difference between the level of occupational awareness of white high school seniors and that of non-white high school seniors who are enrolled in public secondary schools.
3. There is no difference between the level of occupational awareness of high school seniors who are enrolled in the college prep curriculum and those who are enrolled in the non-college prep curriculum.
4. There is no interaction effect between sex, race, and levels of occupational awareness of high school seniors who are enrolled in public secondary schools.

5. There is no interaction effect between sex, socioeconomic status, and levels of occupational awareness of high school seniors who are enrolled in public secondary schools.
6. There is no interaction effect of race, socioeconomic status, and levels of occupational awareness of high school seniors who are enrolled in public secondary schools.
7. There is no interaction effect between sex, race, socioeconomic status, and levels of occupational awareness of high school seniors who are enrolled in public secondary schools.
8. There is no difference between the levels of occupational awareness and levels of occupational aspiration of high school seniors who are enrolled in public secondary schools.
9. There is no difference between the levels of occupational awareness and the levels of occupational expectations of high school seniors who are enrolled in public secondary schools.
10. The level of occupational awareness of high school seniors who are enrolled in public secondary schools will not differ on the basis of the educational level of their mothers.
11. The level of occupational awareness of high school seniors who are enrolled in public secondary schools

- will not differ on the basis of their fathers' educational achievement level.
12. There is no difference between the levels of occupational awareness and the attitude toward work held by high school seniors who are enrolled in public secondary schools.
 13. The levels of occupational awareness of high school seniors who are enrolled in public secondary schools do not differ on the basis of curriculum.
 14. The levels of occupational awareness of high school seniors who are enrolled in public secondary schools will not differ on the basis of grade-point average.
 15. There is no interaction effect between curriculum, grade-point average, and levels of occupational awareness of high school seniors who are enrolled in public secondary schools.

The seven secondary hypotheses are as follows:

16. High school seniors' knowledge about job descriptions, education and training requirements, and wages will not differ on the basis of sex.
17. High school seniors' knowledge about job descriptions, education and training requirements, and wages will not differ on the basis of race.
18. High school seniors' knowledge about job descriptions, education and training requirements, and

wages will not differ on the basis of socioeconomic status levels.

19. There is no interaction effect between sex, race of high school seniors who are enrolled in public secondary schools and their knowledge about job descriptions, education and training requirements, and wages.
20. There is no interaction effect between sex and socioeconomic status levels of high school seniors who are enrolled in public secondary schools and their knowledge about job descriptions, education and training requirements, and wages.
21. There is no interaction effect between race and socioeconomic status of high school seniors who are enrolled in public secondary schools and their knowledge about job descriptions, education and training requirements, and wages.
22. There is no interaction effect between sex, race, socioeconomic status of high school seniors who are enrolled in public secondary schools and their knowledge about job descriptions, education and training requirements, and wages.

Statistical Analysis of the Hypotheses

The primary hypotheses of this investigation were analyzed by a multivariant and univariant analysis of



variance. The secondary hypotheses were analyzed by a multivariate analysis of variance only. These statistical analyses were decided upon by the researcher through consultation with the assigned research assistants at Michigan State University.

The multivariate analysis of variance can be performed when two or more observations per cell are made. This makes it possible to compute the error sum of squares, or to estimate the error variance, and thus separate the interaction effect from the random error.¹⁴ The univariate analysis of variance is a procedure used to analyze measurements which have been made on several individuals. The univariate analysis of variance adjusts the means for uncontrolled variables and makes necessary modification in the sample error. The corrected sample error is then used to test for significance of differences among adjusted means. In this statistical procedure, it is required that the observations be independently drawn from a normal population and each having the same variance, and the error components must be independent across all pairs of observations.¹⁵

The data were coded and key-punched on Fortran Computer Cards. The Computer program used was developed by

¹⁴Lincoln L. Chaeo, Statistics: Methods and Analyses (New York: McGraw-Hill Book Company, 1969), p. 123.

¹⁵William L. Hays, Statistics (New York: Holt, Rinehart and Winston, Inc., 1963), p. 381.

Finn.¹⁶ This program allows for the analysis of more than one dependent variable at the same time; it also permits incorporation of a univariable. The dependent variable used in the primary hypotheses in this investigation was the total occupational awareness scores derived from the three major factors on the OAAI. The three dependent variables used in the secondary hypotheses were the scores on job description, educational requirements, and wages. The data analyzed from the OAAI was subjected to a test of significance of the means of the raw scores obtained from the responses of the three factors stated above.

The hypotheses of this study were tested by the utilization of the appropriate programming and computations made by the Control Data Corporation 3600 Computer used by the Michigan State University Computer Laboratory. The three dependent variables on the OAAI are the factors scores and they are compared with the independent variables. The stated hypotheses permit the prediction of direction of relationship and a multivariate, univariate test of significance of the relationship can be applied. The critical "F" test of significance is used to test the null hypothesis of no-difference between the variables. The .05 probability level is used as a criterion for the acceptance

¹⁶Jeremy D. Finn, Multivariate: Fortran Program for Univariate and Multivariate Analysis of Variance and Covariance (Buffalo: Department of Educational Psychology, State University of New York at Buffalo, 1967).

or rejection of the null hypotheses. When a hypothesis was rejected, the data were further analyzed by comparison of mean scores computed from data summary tables in Appendix H.

Summary

This chapter on procedures used in the study included development of the instrument, pretest of the instrument, procedures for data collection, data processing, procedures for analyzing data, and hypotheses of the study.

The first section of the chapter discussed six major parts. They were (1) a rationale for the development of the instrument, (2) selection of occupations for the OAAI, (3) selection of job descriptions for the OAAI, (4) selection of education and training requirements, (5) selection of wages for occupations, and (6) pretest of the instrument.

The second part of the chapter discussed the following procedures for data collection: (1) the population used in the study; (2) sample selection; and (3) data collection.

The third part of the chapter discussed data processing and classification as follows: (1) knowledge of job descriptions; (2) knowledge of education and training requirements; (3) knowledge of wages; and (4) demographic data.

Finally, the procedures for analyzing the data were described as follows: hypotheses to be tested and statistical analysis of the hypotheses.



CHAPTER IV

ANALYSIS AND PRESENTATION OF DATA

The primary purpose of this investigation was to assess and identify levels of occupational awareness, and to determine whether certain selected variables influence knowledge about the world of work of a selected group of high school seniors enrolled in public secondary schools. The preceding chapter described procedures used in the development of the instrument, the procedures for data collection, processing and classification, procedures for analyzing data, and hypotheses of the study. This chapter will provide an analysis and presentation of these data as follows: (1) a descriptive analysis of students and their parents, (2) tests of stated hypotheses, and (3) a summary of the analyses and interpretations made from the data.

Descriptive Analysis of Students and Their Parents

This section of the chapter provides a description of a selected group of high school seniors and their parents. The data collected and presented in this section were intended to provide background information that would serve as a basis for a better understanding of the data

presented in the remainder of this chapter. This section discusses (1) students' sex, race, and socioeconomic status, (2) occupational aspiration, (3) occupational expectations, (4) educational achievement of respondents' parents, (5) attitude toward work, and (6) curriculum and achievement (grade-point average).

Sex, Race, and Socioeconomic Status

In relation to sex, race, and socioeconomic status, Table 1 will show that 49 (10 percent) of the respondents were white males and 6 (1 percent) were non-white males in the high socioeconomic status level. There were 132 (26 percent) white males and 29 (6 percent) non-white males with a medium socioeconomic status. Thirty-nine (8 percent) white males and 11 (2 percent) non-white males were in the low socioeconomic status.

Forty-two (8 percent) white females and 7 (1 percent) non-white females were in the high socioeconomic status level. There were 109 (22 percent) white females with a medium socioeconomic status and 30 (6 percent) non-white females. In the low socioeconomic status, there were 31 (6 percent) white females and 16 (3 percent) non-white females.



Table 1. Students by sex, race, and socioeconomic status.

Sex	Race	Socioeconomic Status							
		High		Medium		Low		Total	
		No.	%	No.	%	No.	%	No.	%
Males	White	49	10	132	26	39	8	220	44
	Non-White	6	1	29	6	11	2	46	9
Females	White	42	8	109	22	31	6	182	36
	Non-White	7	1	30	6	16	3	53	10
Total		104	20	300	60	97	19	501	*99

*Rounding off percentages results in sum total varying from 100 percent.

Occupational Aspiration

The results presented in Table 2 show occupational aspiration levels of the respondents. More students aspired to medium level occupations than to high and low level jobs. There were 276 (55 percent) who aspired to medium level occupations, 193 (38 percent) to high level occupations, and 32 (7 percent) to low level occupations.

Table 2. Students' occupational aspiration levels.

Aspiration Levels	No.	%
High	193	38
Medium	276	55
Low	32	7
Total	501	100

Occupational Expectation

When considering occupational expectations, Table 3 will show that more students expected to enter medium level occupations than other job levels. There were 317 (63 percent) respondents that expected to enter occupations in the medium level, 138 (28 percent) in the high level, and 46 (9 percent) who expected to obtain low level jobs.

Table 3. Students' occupational expectation levels.

Expectation Levels	No.	%
High	138	28
Medium	317	63
Low	46	9
Total	501	100

Educational Achievement of Parents

The results presented in Table 4 will show that more students had parents who achieved a high school education than other educational achievement levels. There were 330 (68 percent) respondents' mothers and 252 (52 percent) fathers who had completed high school. Fifty-four mothers (11 percent) and 64 fathers (13 percent) had some college. Forty-six (9 percent) mothers and 68 fathers (14 percent) had a college degree, whereas only 16 (3 percent) mothers and 49 (10 percent) fathers had more than four years of college. Only 41 (8 percent) mothers and 54 (11 percent) fathers had less than a high school education.

Table 4. Educational achievement level of students' parents.

Achievement Level	Parents			
	Mother		Father	
	No.	%	No.	%
Less Than High School	41	8	54	11
High School Diploma	330	68	252	52
Some College	54	11	64	13
College Degree	46	9	68	14
More Than 4 Years College	16	3	49	10
Total	487*	99*	487	100

*Fourteen students were not living with both parents; they are not included in this analysis.

**Rounding off percentages results in sum total varying from 100 percent.

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Attitude Toward Work

Students were asked to state their feelings toward pursuing an occupation. Their feelings were expressed in two ways: liking the work, or liking good wages. An examination of Table 5 will reveal that 359 (72 percent) respondents stated that they would pursue an occupation because they liked the nature of the work, whereas 114 (28 percent) stated that they would pursue a job because of good wages.

Table 5. Students' attitude toward work.

Attitude	No.	%
Like the Work	359	72
Like Good Wages	142	28
Total	501	100

Curriculum and Student Achievement

An examination of Table 6 will show the curriculum and achievement of the respondents. Eleven (2 percent) students enrolled in the non-college prep and 69 (14 percent) enrolled in the college prep curriculum had a grade A average, whereas 50 (10 percent) students enrolled in the non-college prep and 90 (18 percent) enrolled in the college

prep curriculum had a B+ grade average. Fifty-eight (11 percent) of the respondents enrolled in college prep had a B grade average, whereas 84 (17 percent) with the same grade were enrolled in non-college prep curriculum. There were 65 (14 percent) respondents enrolled in non-college prep and 23 (4 percent) enrolled in the college prep curriculum with a grade average of C+. Forty-eight (9 percent) students who were enrolled in non-college prep and 5 (.05 percent) in the college prep program had a grade average of C.

Table 6. Students' achievement (grade-point average) and curriculum.

Achievement	Curriculum					
	College Prep		Non-College Prep		Total	
	No.	%	No.	%	No.	%
C	3	.05	48	9	51	9
C+	23	4	65	13	88	17
B	58	11	84	17	142	28
B+	90	18	50	10	140	28
A	69	14	11	2	80	17
Total	243	47.05	258	51	501	*99

*Rounding off percentages results in sum total varying from 100 percent.

1958

1959

1960

1961

1962

1963

1964

Test of Hypotheses

There are fifteen primary and seven secondary hypotheses in this investigation. The purpose of the primary hypotheses was to test for significant main and interaction effects among certain independent and dependent variables, and also to test for differences between single independent variables and dependent variables. The independent variables were (1) sex, (2) race, (3) socioeconomic status, (4) occupational aspiration, (5) occupational expectation, (6) educational achievement of students' parents, (7) students' attitude toward work, (8) curriculum, and (9) students' achievement. The dependent variable was the total occupational awareness scores obtained from the OAAI.

The purpose of the secondary hypotheses was to test for significant main and interaction effects between three selected independent variables and three dependent variables. The independent variables were (1) sex, (2) race, and (3) socioeconomic status. The dependent variables were scores obtained from the three parts of the OAAI: (1) job descriptions; (2) education and training requirements; and (3) wages.

The multivariate (three-way, two-way) analysis of variance was performed to determine significant main and interaction effects. The univariate (one-way) analysis of variance was performed to test for a significant difference between single independent and single dependent variables.

Primary Hypotheses

Hypothesis 1

H₀: There is no difference between the levels of occupational awareness of male and female high school seniors who are enrolled in public secondary schools.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on total occupational awareness: Job Descriptions, Education and Training Requirements, and Wages. A significant main effect for sex was shown in the analysis of variance. Since the design is not balanced, this main effect may be confounded by interaction effect. However, the critical ratio for the F distribution is 5.09 with a probability of less than .0245. Thus, the obtained value leads to rejection of the null hypothesis at the 5 percent significance level. Therefore, it was concluded that a significant difference exists between sex and levels of occupational awareness. These data can be further observed in Table G1, Appendix G.

Due to the rejection of the null hypothesis the data were further analyzed by comparison of mean scores.

An examination of Table 7 shows that the mean score of females (108.96) was higher than that of males (104.87). This suggests that females are more occupationally aware than males.

Table 7. Group mean scores on total occupational awareness by sex.

Sex	No.	%	*Mean Scores
Males	266	53	104.87
Females	235	46	108.96
Total	501	**99	

*Extracted from Table H1, Appendix H, which contains more detailed information.

**Rounding off percentages results in sum total varying from 100 percent.

Hypothesis 2

H_0 : There is no difference between the levels of occupational awareness of white and non-white high school seniors who are enrolled in public secondary schools.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on total occupational awareness: Job Descriptions, Education and Training Requirements, and Wages. A significant main effect for race was shown in the analysis of variance. Since the design is not

balanced this main effect may be confounded by interaction effect. The critical ratio for the F distribution is 24.265 with a probability of less than .001. Thus, the obtained value leads to the rejection of the null hypothesis at the 5 percent significance level. Therefore, it was concluded that a significant difference exists between white and non-white high school seniors' levels of occupational awareness. These data can be further observed in Table G1, Appendix G.

Since the null hypothesis was rejected, the data were further analyzed by comparison of the mean scores of white and non-white respondents. Table 8 reveals a higher mean score for white students (108.92) than that of non-white students (98.11). This suggests that white high school seniors are more occupationally aware than non-white high school seniors.

Table 8. Group mean scores on total occupational awareness by race.

Race	No.	%	*Mean Scores
White	402	80	108.92
Non-White	99	20	98.11
Total	501	100	

*Extracted from Table H1, Appendix H, which contains more detailed information.

Hypothesis 3

H_0 : Levels of occupational awareness of high school seniors who are enrolled in public secondary schools will not differ on the basis of socioeconomic status levels.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on total occupational awareness: Job Descriptions, Education and Training Requirements, and Wages. A significant main effect for socioeconomic status was shown in the analysis of variance. Since the design is not balanced this main effect may be confounded by interaction effect. The critical ratio for the F distribution is 21.5736 with a probability of less than .0001. Thus the obtained value leads to rejection of the null hypothesis at the 5 percent significance level. Therefore, it was concluded that a significant difference exists between high, medium, and low socioeconomic status levels and levels of occupational awareness. These data can be further observed in Table G1, Appendix G.

Due to the rejection of the null hypothesis the data were further analyzed by comparison of mean scores of high, medium, and low socioeconomic status levels with levels of occupational awareness. Table 9 shows the mean score of subjects with high socioeconomic status (114.35) was greater than subjects with medium (108.06) and subjects with low (94.75) socioeconomic status levels. This suggests that high school seniors with high socioeconomic status

level are more occupationally aware than those in the medium and low socioeconomic status levels. It also suggests that students with a medium socioeconomic status background are more occupationally aware than those with a low socioeconomic status background.

Table 9. Group mean scores on total occupational awareness by socioeconomic status levels.

Socioeconomic Status Levels	No.	%	*Mean Scores
High	104	21	114.35
Medium	300	60	108.06
Low	97	19	94.75
Total	501	100	

*Extracted from Table H1, Appendix H, which contains more detailed information.

Hypothesis 4

H_0 : There is no interaction effect between sex, race, and levels of occupational awareness of high school seniors who are enrolled in public secondary schools.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on total occupational awareness: Job Descriptions, Education and Training Requirements, and Wages. No significant interaction effect was shown for sex by race in the analysis of variance.

Therefore, the null hypothesis was retained. These data can be observed in Table G1, Appendix G.

Figure 1 below shows no significant interaction effect between sex and race.

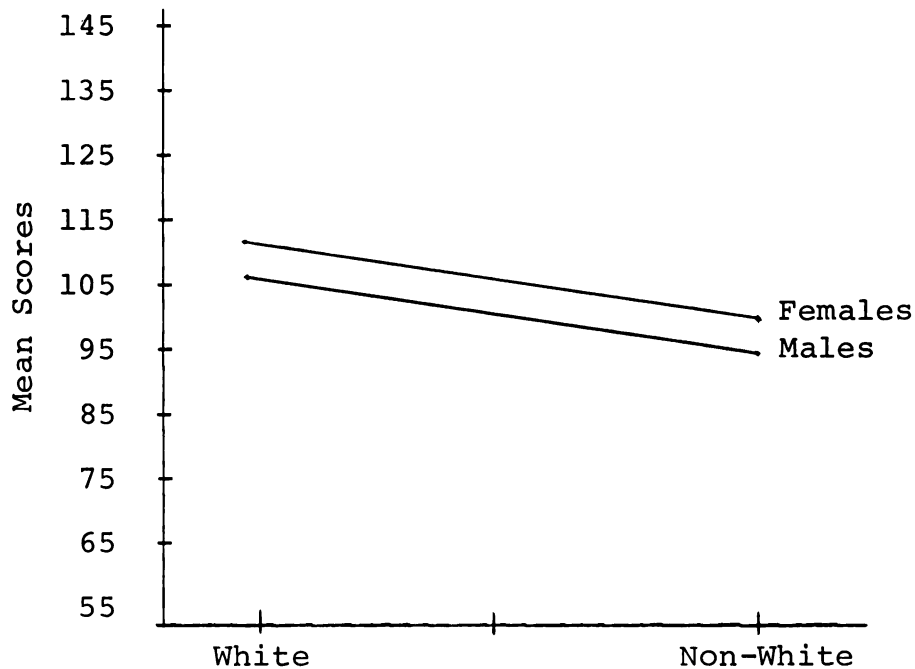


Figure 1. Interaction effect between sex and race and levels of occupational awareness.

Hypothesis 5

H_0 : There is no interaction effect of sex by socioeconomic status and levels of occupational awareness of high school seniors who are enrolled in public secondary schools.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on total occupational

awareness: Job Descriptions, Education and Training Requirements, and Wages. No significant interaction effect was shown in the analysis of variance for sex by socioeconomic status. Therefore, the null hypothesis was retained. These data can be observed in Table G1, Appendix G. Figure 2 below shows no interaction effect between sex and socioeconomic status levels.

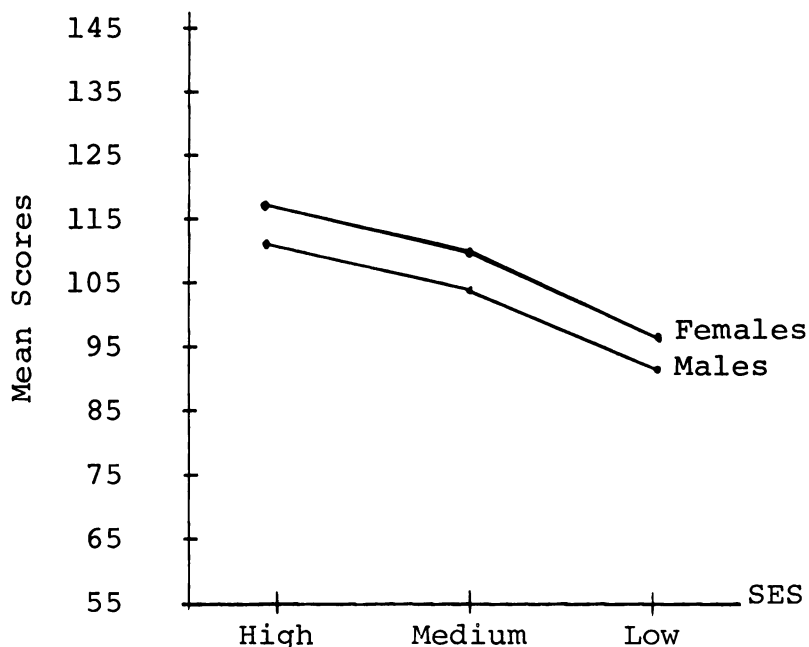


Figure 2. Interaction effect between sex and socioeconomic status, and levels of occupational awareness.

Hypothesis 6

H_0 : There is no interaction effect of race by socioeconomic status and levels of occupational awareness of high school seniors who are enrolled in public secondary schools.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on total occupational awareness: Job Descriptions, Education and Training Requirements, and Wages. No significant interaction effect was shown in the analysis of variance for race by socioeconomic status. Therefore, the null hypothesis was retained. These data can be observed in Table G1, Appendix G. Figure 3 below shows no interaction effect between race and socioeconomic status levels.

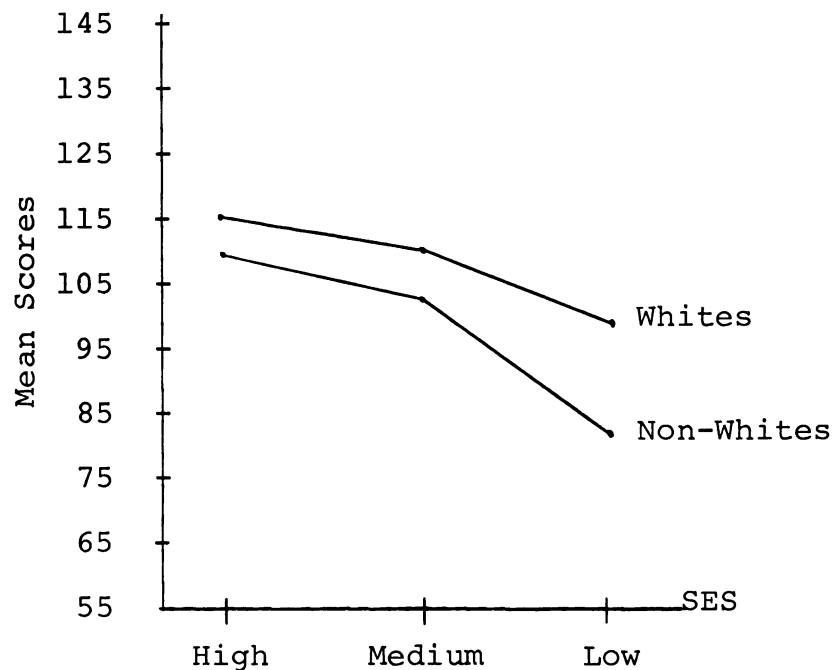


Figure 3. Interaction effect between race, socioeconomic status, and levels of occupational awareness.

Hypothesis 7

H_0 : There is no interaction effect of sex by race by socioeconomic status and levels of occupational awareness of high school seniors who are enrolled in public secondary schools.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on total occupational awareness: Job Descriptions, Education and Training Requirements, and Wages. No significant interaction effect was shown in the analysis of variance for sex by race by socioeconomic status. Therefore, the null hypothesis was retained. These data can be observed in Table G1, Appendix G. Figure 4 shows no significant interaction effect between sex, race, and socioeconomic status.

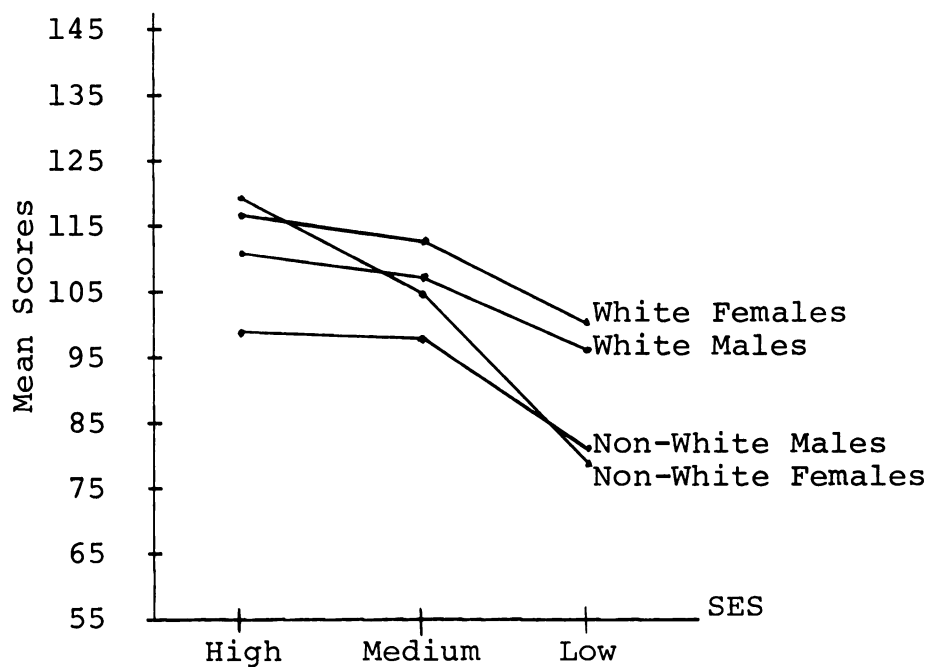


Figure 4. Interaction effect between sex, race, socioeconomic status and levels of occupational awareness.

From observation of the preceding Figure, there appears to be interaction between socioeconomic status of non-white females and white females, white males and non-white males. However, when tested at .05 alpha level the interaction was not significant.

Hypothesis 8

H₀: Levels of occupational awareness of high school seniors who are enrolled in public secondary schools will not differ on the basis of occupational aspiration levels.

The univariate analysis of variance compared the mean scores of high, medium, and low occupational aspiration levels and total occupational awareness of respondents: Job Descriptions, Education and Training Requirements, and Wages. The critical ratio for the F distribution is 35.50 with a probability of less than .0001. Thus the obtained value leads to rejection of the null hypothesis at the 5 percent significance level. Therefore, it was concluded that significant differences exist among the levels of occupational aspiration and levels of occupational awareness. These findings can be observed in Table 10.

Due to the rejection of the null hypothesis, the researcher further analyzed the data by comparison of the mean scores, reported in Table 11. The higher mean score for subjects with a high level of occupational aspiration suggests that they are more occupationally aware than the

Table 10. Effects of occupational aspiration of respondents on total occupational awareness.

Source of Variation	Degrees of Freedom	Mean Squares	Univariate F	p Less Than
Between Groups	2	14479.68	35.50	.0001*
Within Groups	498	407.86		
Total	500	14887.54		

*Significant at .05 level.

Table 11. Group mean scores on total occupational awareness by levels of occupational aspiration.

Occupational Aspiration Levels	No.	%	*Mean Scores
High	193	38	112.46
Medium	276	55	105.91
Low	32	7	80.25
Total	501	100	

*Extracted from Table H2, Appendix H, which contains more detailed information.

subjects with medium and low occupational aspiration levels. It can also be observed that respondents with medium aspirations have a higher mean score than subjects with low aspiration.

Hypothesis 9

H_0 : Occupational awareness of high school school seniors who are enrolled in public secondary schools will not differ on the basis of occupational expectation levels.

A univariate analysis of variance compared the mean scores for high, medium and low occupational expectation levels with total occupational awareness: Job Descriptions, Education and Training Requirements, and Wages. The critical ratio for the F distribution is 34.2649 with a probability of less than .0001. Thus the obtained value presented in Table 12 leads to rejection of the null hypothesis at the 5 percent significance level. Therefore, it was concluded that a significant difference exists between levels of occupational expectations and levels of occupational awareness.

Due to the rejection of the null hypothesis, the data were further analyzed by a comparison of the mean scores, reported in Table 13. The higher mean score of respondents with high levels of occupational expectations suggests that they are more occupationally aware than respondents with medium and low levels of occupational

Table 12. Effects of occupational expectations of respondents on total occupational awareness.

Source of Variation	Degrees of Freedom	Mean Squares	Univariate F	p Less Than
Between Groups	2	14036.39	34.2649	.0001*
Within Groups	498	409.64		
Total	500	14446.03		

*Significant at .05 level.

Table 13. Group mean scores on total occupational awareness by levels of occupational expectations.

Occupational Expectation Levels	No.	%	*Mean Scores
High	138	28	114.99
Medium	317	63	106.16
Low	46	9	86.63
Total	501	100	

*Extracted from Table H3, Appendix H, which contains more detailed information.

expectations. The higher mean score of subjects with medium occupational expectations suggest they are more occupationally aware than subjects with low occupational expectations.

Hypothesis 10

H_0 : The level of occupational awareness of high school seniors who are enrolled in public secondary schools will not differ on the basis of the educational achievement level of their mothers.

The univariate analysis of variance compared the mean scores of respondents on total occupational awareness: Job Descriptions, Education and Training Requirements, and Wages, with the mothers' educational achievement of less than high school, high school diploma, some college, college degree, and more than 4 years of college. The findings reported in Table 14 show the critical ratio for the F distribution is 15.30 with a probability of less than .0001. Thus the obtained value leads to rejection of the null hypothesis at the 5 percent significance level. Therefore, it was concluded that significant differences exist among the levels of occupational awareness of students and achievement levels of the subjects' mothers.

Since the null hypothesis was rejected, the data were further analyzed by comparison of the mean scores, reported in Table 15. The mean scores of subjects whose

Table 14. Effects of educational achievement of respondents' mothers on total occupational awareness.

Source of Variation	Degrees of Freedom	Mean Squares	Univariate F	p Less Than
Between Groups	4	6422.28	15.30	.0001*
Within Groups	482	419.69		
Total	486	6841.97		

*Significant at .05 level.

Table 15. Group mean scores on total occupational awareness by educational achievement levels of respondents' mothers.

Education Achievement Levels	No.	%	*Mean Scores
Less Than High School	41	9	84.24
High School Diploma	330	68	107.20
Some College	54	11	113.16
College Degree	46	9	113.93
More Than 4 Years College	16	3	110.75
Total	**487	100	

*Extracted from Table H4, Appendix H, which contains more detailed information.

**Fourteen students were not living with both parents; they are not included in this analysis.

mothers had some college and those who had a college degree are approximately the same, and are higher than that of respondents whose mothers had more than four years of college, a high school diploma, and less than a high school education. This suggests that students with mothers with some college and a college degree are more occupationally aware than other students. It is interesting to note that students with mothers with less than a high school education had a much lower mean score than any other group. This suggests that they are much less occupationally aware than any other group of respondents.

Hypothesis 11

H_0 : The level of occupational awareness of high school seniors who are enrolled in public secondary schools will not differ on the basis of their fathers' educational achievement.

A univariate analysis of variance compared the mean scores of respondents on total occupational awareness: Job Descriptions, Education and Training Requirements, and Wages, with the fathers' educational achievement level of less than high school, high school diploma, some college, college degree, and more than four years of college. The analysis in Table 16 yields a critical ratio for the F distribution of 12.98 with a probability of less than .0001. Thus, the null hypothesis was rejected at the 5 percent

significance level. Therefore, it was concluded that a significant difference exists among levels of occupational awareness and educational achievement levels of the respondents' fathers.

Due to the rejection of the null hypothesis, the data were further analyzed by comparison of the mean scores. Reported in Table 17, the higher mean score of subjects with fathers who had more than four years of college suggests that they are more occupationally aware than any other group.

It can also be observed in Table 17 that the students who had fathers with some college and those with a college degree had approximately the same mean score. However, students whose fathers had less than a high school education had a much lower mean score than other groups, which suggests that they are much less occupationally aware than any of the other groups.

Hypothesis 12:

H_0 : There is no difference between the level of occupational awareness and the attitude toward work held by high school seniors who are enrolled in public secondary schools.

A univariate analysis of variance compared the mean scores of the respondents on total occupational awareness: Job Descriptions, Education and Training Requirements, and

Table 16. Effects of educational achievement of respondents' father on total occupational awareness.

Source of Variation	Degrees of Freedom	Mean Squares	Univariate F	p Less Than
Between Groups	4	5545.07	12.98	.0001*
Within Groups	482	426.97		
Total	486	5971.04		

*Significant at .05 level.

Table 17. Group mean scores on total occupational awareness by educational achievement levels of respondents' fathers.

Education Achievement Levels	No.	%	*Mean Scores
Less Than High School	54	11	90.51
High School Diploma	252	52	105.49
Some College	64	13	112.57
College Degree	68	14	112.88
More Than 4 Years College	49	10	114.43
Total	**487	100	

*Extracted from Table H5, Appendix H, which contains more detailed information.

**Fourteen students were not living with both parents; they are not included in this analysis.

Wages with the attitude of liking the work or liking good wages. The analysis reported in Table 18 yields a critical ratio of 180.80 with a probability of less than .0001. Thus, the null hypothesis was rejected at the 5 percent significance level. Therefore, it was concluded that significant difference exists between liking the work, liking good wages, and levels of occupational awareness.

Table 18. Effects of respondents' attitude toward work on total occupational awareness.

Source of Variation	Degrees of Freedom	Mean Squares	Univariate F	p Less Than
Between Groups	1	61723.80	180.80	.0001*
Within Groups	499	341.38		
Total	500	62065.18		

*Significant at .05 level.

Since the null hypothesis was rejected, the data were further analyzed by comparison of the mean scores. Reported in Table 19, the higher mean score of subjects who had the attitude of liking the work suggests that they are more occupationally aware than subjects who had the attitude of liking good wages.

Table 19. Group mean scores on total occupational awareness by attitude toward work.

Attitude	No.	%	*Mean Scores
Like the Work	359	72	113.77
Like Good Wages	142	28	89.14
Total	501	100	

*Extracted from Table H6, Appendix H, which contains more detailed information.

Hypothesis 13

H_0 : The levels of occupational awareness of high school seniors who are enrolled in public secondary schools do not differ on the basis of curriculum.

A two-way (curriculum by achievement) analysis of variance was performed on total occupational awareness: Job Descriptions, Education and Training Requirements, and Wages. The analyses yield a significant main effect on curriculum. The critical ratio for the F distribution is 6.165 with a probability of less than .1034. Thus, the obtained value leads to rejection of the null hypothesis at the 5 percent significance level. Therefore, it was concluded that significant differences exist between levels of occupational awareness of students who are enrolled in college prep and non-college prep curriculum. These data can be further observed in Table G2, Appendix G.

Since the null hypothesis was rejected, the data were further analyzed by comparison of mean scores of respondents enrolled in college prep and non-college prep programs. Reported in Table 20, the mean score for the college prep enrollees was greater (96.09) than that of the students enrolled in the non-college prep program (80.65). This suggests that students enrolled in college prep curricula are more occupationally aware than those enrolled in non-college prep curricula.

Table 20. Group mean scores on total occupational awareness by curriculum.

Curriculum	No.	%	*Mean Scores
College Prep	243	49	90.09
Non-College Prep	258	51	80.65
Total	501	100	

*Extracted from Table H7, Appendix H, which contains more detailed information.

Hypothesis 14

H_0 : The level of occupational awareness of high school seniors who are enrolled in public secondary schools will not differ on the basis of achievement (grade-point average).

A two-way (curriculum by achievement) analysis of variance was performed on total occupational awareness:

Job Descriptions, Education and Training Requirements, and Wages. The analyses yield no significant main effect. Therefore, the null hypothesis was retained. These data can be observed in Table G2, Appendix G.

Hypothesis 15

H_0 : There is no interaction effect of curriculum and achievement (grade point average) on occupational awareness of high school seniors who are enrolled in public secondary schools.

A two-way (curriculum by achievement) analysis of variance was performed on total occupational awareness: Job Descriptions, Education and Training Requirements, and Wages. The analyses yield no significant interaction effect. Therefore, the null hypothesis was retained. These data can be observed in Table G2, Appendix G.

Secondary Hypotheses

The secondary hypotheses tested in this investigation are as follows:

Hypothesis 16

H_0 : High school seniors' knowledge about job descriptions, education and training requirements and wages will not differ on the basis of sex.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on each of the three

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dependent variables: (1) job descriptions, (2) education and training requirements, and (3) wages. No significant main effect for sex was shown in the analysis of variance. Therefore, the null hypothesis was retained. These data can be observed in Table G3, Appendix G.

An analysis of Hypothesis 1 revealed a significant main effect between sex and total occupational awareness. However, an analysis of Hypothesis 16, which tested for main effect between sex and the three dependent variables (job descriptions, education and training requirements, and wages), showed no significant main effect at .05 alpha level. Nevertheless, the critical ratio for the F distribution is 2.6226 with a probability of less than .0501. Thus, the obtained value leads to retaining the null hypothesis at the 5 percent significance level, even though it was barely beyond the point of rejection.

Hypothesis 17

H_0 : High school seniors' knowledge about job descriptions, education and training requirements and wages will not differ on the basis of race.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on each of the three dependent variables: (1) job descriptions, (2) education and training requirements, and (3) wages. A significant main effect for race was shown in the analysis of variance.

Since the design is not balanced, this main effect may be confounded by interaction effect. However, the critical ratio for the F distribution is 8.5723 with a probability of less than .0001. Thus, the obtained value leads to the rejection of the null hypothesis at the 5 percent significance level. Therefore, it was concluded that a significant difference exists between race of high school seniors and their knowledge about job descriptions, education and training requirements and wages. The above data can be further observed in Table G3, Appendix G.

Since the null hypothesis was rejected, the data were further analyzed by comparison of mean scores. White respondents have greater mean scores than non-white students. Table 21 reveals that white students have a mean score of 72.66 compared to a mean score of 67.16 for non-white respondents on job description. White students have a mean score of 25.17 compared to a mean score for non-white students of 21.24 on education and training requirements. White respondents have a mean score of 11.10 compared to a mean score of 9.74 for non-white students on wages. This suggests that white high school seniors are more knowledgeable about job descriptions, education and training requirements, and wages than non-white students. The analysis of this Hypothesis reveals a consistent relationship with Hypothesis 2, which tested for a significant main effect on race and total occupational awareness.

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Table 21. Group mean scores on job descriptions, education and training requirements, and wages by race.

Race	No.	%	Mean Scores*		
			Job Descriptions	Education and Training Requirements	Wages
White	402	80	72.66	25.17	11.10
Non-White	99	20	67.16	21.24	9.74
Total	501	100			

*Extracted from Table H1, Appendix H, which contains more detailed information.

Hypothesis 18

H_0 : High school seniors knowledge about job descriptions, education and training requirements, and wages will not differ on the basis of socioeconomic status levels.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on each of the three dependent variables: (1) job descriptions, (2) education and training requirements, and (3) wages. A significant main effect for socioeconomic status was shown in the analysis of variance. Since the design is not balanced, the main effect may be confounded by interaction effect. However, the critical ratio for the F distribution is 7.9483 with a probability of less than .0001. Thus, the obtained value leads to the rejection of the null hypothesis at the 5 percent significance level. Therefore, it was concluded

that a significant difference exists between socioeconomic status levels of high school seniors and their knowledge about job descriptions, education and training requirements, and wages. The above data can be further observed in Table G3, Appendix G.

Since the null hypothesis was rejected, the data were further analyzed by comparison of mean scores. An examination of Table 22 will show that seniors with a high socioeconomic status level have greater mean scores than respondents with medium and low socioeconomic status levels. Students with high socioeconomic status have a mean score of 76.01, compared to a mean score of 72.44 for students with medium socioeconomic status and a mean score of 64.24 for respondents with low socioeconomic status levels on job descriptions. Students with a high socioeconomic status level have a mean score of 26.98, compared to a mean score of 24.57 for those with medium socioeconomic status, and a mean score of 20.93 for those with a low socioeconomic status level on education and training requirements. Students with high socioeconomic status have a mean score of 11.42, compared with a mean score of 11.03 for those with medium socioeconomic status level and a mean of 9.57 for respondents with a low socioeconomic status level on wages. This suggests that high school seniors with high socioeconomic status levels are more knowledgeable about job descriptions, education and training requirements, and wages than

other groups of students. The analysis of Hypothesis 18 reveals a consistent relationship with Hypothesis 3, which tested for no significant main effect on socioeconomic status and total occupational awareness.

Table 22. Group mean scores on job descriptions, education and training requirements, and wages by socioeconomic status levels.

Socioeconomic Status Levels	No.	%	Mean Scores*		
			Job Descriptions	Education and Training Requirements	Wages
High	104	21	76.01	26.98	11.42
Medium	300	60	72.44	24.57	11.03
Low	97	19	64.24	20.93	9.57
Total	501	100			

*Extracted from Table H1, Appendix H, which contains more detailed information.

Hypothesis 19

H_0 : There is no interaction effect between sex, race of high school seniors who are enrolled in public secondary schools and their knowledge about job descriptions, education and training requirements, and wages.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on each of the three dependent variables: (1) job descriptions, (2) education and training requirements, and (3) wages. No significant

interaction effect was shown in the analysis of variance for sex by race. Therefore, the null hypothesis was retained. These data can be observed in Table G3, Appendix G.

The analysis of this Hypothesis reveals a consistent relationship with Hypothesis 4, which tested for no significant interaction effect between sex, race, and total occupational awareness.

Hypothesis 20

H_0 : There is no interaction effect between sex and socioeconomic status levels of high school seniors who are enrolled in public secondary schools and their knowledge about job descriptions, education and training requirements, and wages.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on each of the three dependent variables: (1) job descriptions, (2) education and training requirements, and (3) wages. No significant interaction effect was shown in the analysis of variance for sex by socioeconomic status. Therefore, the null hypothesis was retained. These data can be observed in Table G3, Appendix G.

The analysis of this Hypothesis reveals a consistent relationship with Hypothesis 5, which tested for no significant interaction effect on sex, socioeconomic status,

and total occupational awareness.

Hypothesis 21

H_0 : There is no interaction effect between race and socioeconomic status of high school seniors who are enrolled in public secondary schools and their knowledge about job descriptions, education and training requirements, and wages.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on each of the three dependent variables: (1) job descriptions, (2) education and training requirements, and (3) wages. No significant interaction effect was shown in the analysis of variance for race by socioeconomic status. Therefore, the null hypothesis was retained. These data can be observed in Table G3, Appendix G.

The analysis of this Hypothesis reveals a consistent relationship with Hypothesis 6, which tested for no significant interaction effect between race and socioeconomic status and total occupational awareness.

Hypothesis 22

H_0 : There is no interaction effect between sex, race, socioeconomic status of high school seniors who are enrolled in public secondary schools and their knowledge about job descriptions, education and training requirements, and wages.

A three-way (sex by race by socioeconomic status) analysis of variance was performed on each of the three dependent variables: (1) job descriptions, (2) education and training requirements, and (3) wages. A significant interaction effect for sex, race, and socioeconomic status was shown in the analysis of variance. The multivariate F is 2.6002 with a probability of less than .0167. Thus, the obtained value leads to the rejection of the null hypothesis at the 5 percent significance level. Therefore, it was concluded that a significant interaction exists between sex, race, socioeconomic status of high school seniors and their knowledge about job descriptions, education and training requirements, and wages. These data can be further observed in Table G3, Appendix G.

The analysis of Hypothesis 22 does not reveal consistent relationship with Hypothesis 7, which showed no significant interaction effect between sex, race, socioeconomic status, and total occupational awareness. Therefore, the Figures that follow will show the interaction effect between sex, race, socioeconomic status and job descriptions, education and training requirements, and wages.

When analyzing Hypothesis 7, which tested for no significant interaction effect between sex, race, socioeconomic status and total occupational awareness, it can be observed that it was retained at the .05 alpha level.

However, when examining Figure 4 on page 100, there appears to be an interaction. Nevertheless, when analyzing the preceding Hypothesis (22), which tested for no significant interaction effect between sex, race, socioeconomic status, and the three dependent variables, it was rejected at .05 alpha level.

Due to rejection, the data were further analyzed by plotting the mean scores on job descriptions, education and training requirements, and wages on separate graphs.

Figure 5 reveals that the mean score for non-white females in the high socioeconomic status was higher than other groups of students in job descriptions. However, the mean score for non-white females in the medium socioeconomic status was lower than white males and females, but still higher than non-white males. The mean score for non-white females in the low socioeconomic status was also lower than that of all groups. It appears that declining mean scores, from highest to lowest, of non-white females in regard to socioeconomic status caused the interaction on knowledge about job descriptions.

Figure 6 shows a similar interaction effect (to Figure 5) of declining mean scores for non-white females on education and training requirements.

Figure 7 shows that mean scores for non-white females with high and medium socioeconomic status was slightly higher than other groups on wages, but declined sharply,

and was below all groups for those with a low socioeconomic status. It appears that declining mean scores of non-white females caused the interaction effect on wages. It should be noted that there was interaction of non-white females on all three dependent variables; however, it was slightly different in each case.

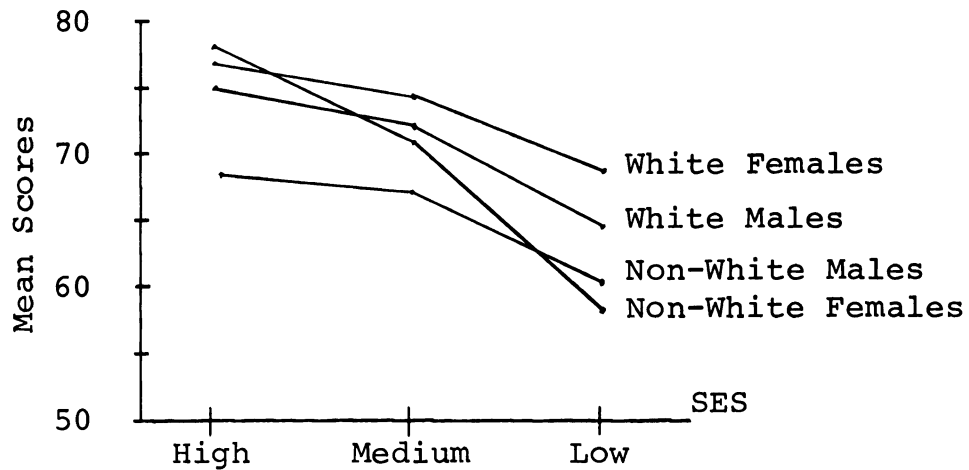


Figure 5. Graph of interaction effect of sex, race, socioeconomic status and knowledge about job descriptions.

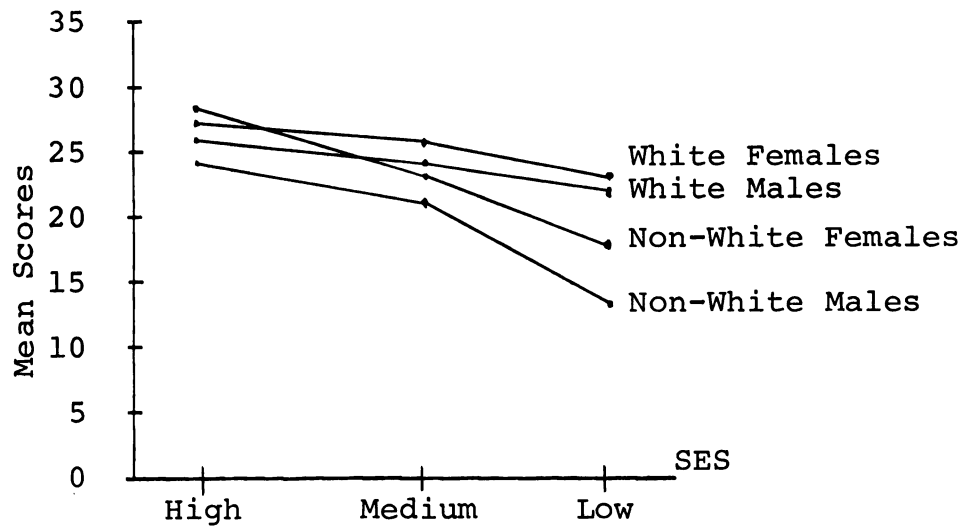


Figure 6. Graph of interaction effect of sex, race, socioeconomic status, and knowledge about education and training requirements.

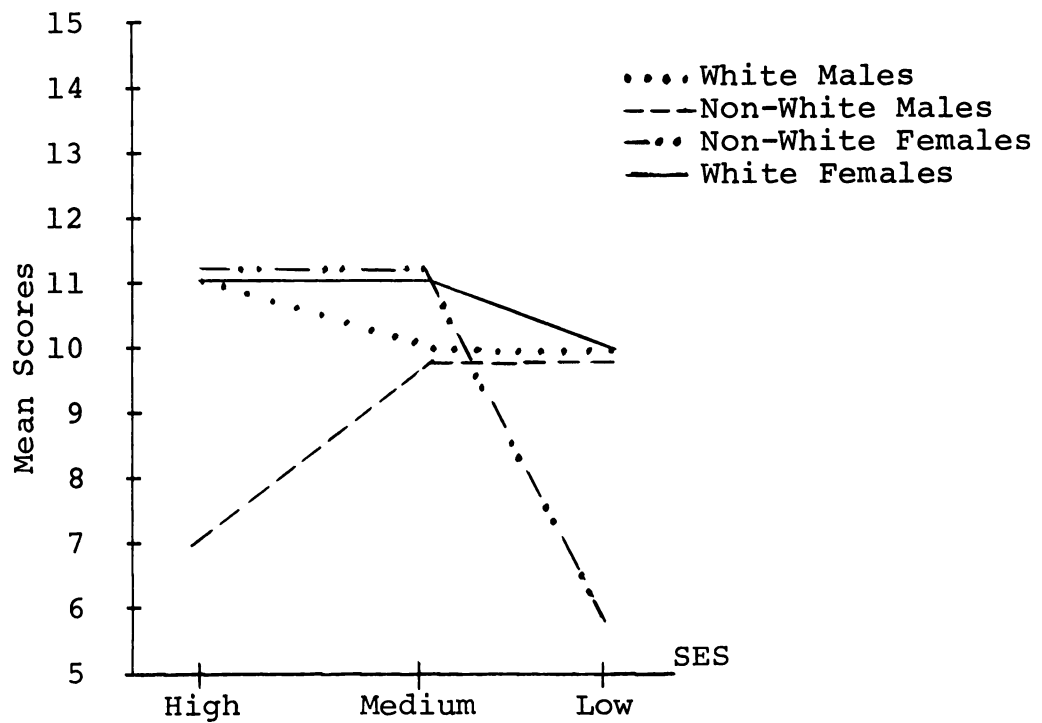


Figure 7. Graph of interaction effect of sex, race, socioeconomic status, and knowledge about wages.

Summary

This chapter presented a descriptive analysis of respondents, their parents, and selected variables that may tend to influence high school seniors' knowledge about the world of work. Fifteen primary hypotheses were tested to determine if differences between levels of occupational awareness were related to ten independent variables:

(1) sex, (2) race, (3) socioeconomic status, (4) occupational aspiration, (5) occupational expectations, (6) educational achievement of respondents' mothers, (7) educational achievement of respondents' fathers, (8) attitude toward work, (9) curriculum, and (10) achievement of students. Seven secondary hypotheses were tested to determine if differences between respondents' knowledge about three dependent variables (job descriptions, education and training requirements, and wages) were related to sex, race, and socioeconomic status.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

The purpose of this chapter is to briefly review the nature and conduct of the investigation and present the findings, conclusions, implications, and make recommendations for further research.

Summary

Millions of students graduate from our nations' high schools each year. Many of them enter the job market immediately upon completion of requirements for the high school diploma. Others continue to pursue further education at post secondary vocational-technical schools, community or junior colleges, or four-year colleges. Nevertheless, it seems that knowledge of the world of work held by these students will influence their decision whether to seek employment or continue their formal education.

There seems to be a need for research on assessing and identifying levels of occupational awareness and determining the relationship between certain variables and

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knowledge about the world of work, since many students spend years seeking out jobs in an effort to find one that will meet their needs and the needs of society. Research questions concerning occupational awareness have been proposed and suggested by several writers. However, no one seems to have pursued to answer them. Many social psychologists claim that the selection of an occupation is often wholly by chance. They suggest that certain circumstances may combine to arouse an individual's interest in a particular field without any real recognition of the fact that he might be well fitted for one phase of work and not for another, and that he may have insufficient information and knowledge about certain occupations and no idea as to what influenced the knowledge he does have.

This investigation can provide means by which occupational awareness can be assessed. It can also provide information about the relationship between family, student, and school background, and knowledge of the world of work held by high school seniors.

The concept of Career Education is being implemented in various public school systems across the nation. Many educators, businessmen, and other groups expect that this concept will be adopted nationally in a few years. The Career Education model provides for career awareness in grades K-6, career exploration in grades 7-9, and career preparation in grades 10-12. One goal of career education

is the development of comprehensive awareness of career options. It is hoped that this investigation can provide an objective means by which occupational awareness can be assessed, which may contribute to the goal of career education. It is also hoped that this investigation will provide new directions for additional research in the field of Vocational-Technical and Career Education.

Purpose of the Study

The primary purpose of this investigation was to assess and identify levels of occupational awareness of a selected group of high school students enrolled in public secondary schools and determine whether certain variables influence their knowledge of the world of work. Specifically, the primary purposes were to determine the following:

1. If there is a relationship between the sex of high school seniors and their levels of occupational awareness.
2. If there is a relationship between the race of high school seniors and their levels of occupational awareness.
3. If there is a relationship between socioeconomic status levels and the levels of occupational awareness of high school seniors.
4. If there is any interaction effect between sex, race, and levels of occupational awareness of high

school seniors.

5. If there is any interaction effect between sex, socioeconomic status, and levels of occupational awareness of high school seniors.
6. If there is any interaction effect between race, socioeconomic status, and levels of occupational awareness of high school seniors.
7. If there is any interaction effect between sex, race, socioeconomic status, and levels of occupational awareness of high school seniors.
8. If there is a relationship between occupational aspiration levels, and levels of occupational awareness of high school seniors.
9. If there is a relationship between occupational expectation levels, and levels of occupational awareness of high school seniors.
10. If there is a relationship between educational achievement levels of mothers, and levels of occupational awareness of high school seniors.
11. If there is a relationship between educational achievement levels of fathers, and levels of occupational awareness of high school seniors.
12. If there is a relationship between two attitudes toward work, and levels of occupational awareness of high school seniors.

13. If there is a relationship between curriculum and levels of occupational awareness of high school seniors.
14. If there is a relationship between achievement (stated grade-point average) and levels of occupational awareness of high school seniors.
15. If there is any interaction effect between curriculum, achievement, and levels of occupational awareness of high school seniors.

The secondary purpose of this study was to analyze sex, race, socioeconomic status of respondents, and three dependent variables that may tend to influence total occupational awareness, and to determine their relationship between knowledge about the world of work. These purposes were as follows:

16. If there is a relationship between sex of high school seniors and their knowledge about three dependent variables: job descriptions, education and training requirements, and wages.
17. If there is a relationship between race of high school seniors and their knowledge about three dependent variables: job descriptions, education and training requirements, and wages.
18. If there is a relationship between socioeconomic status of high school seniors and knowledge about

- three dependent variables: job descriptions, education and training requirements, and wages.
19. If there is any interaction effect between sex, race, and knowledge about three dependent variables: job descriptions, education and training requirements and wages.
 20. If there is any interaction effect between sex, socioeconomic status and knowledge about three dependent variables: job descriptions, education and training requirements, and wages.
 21. If there is any interaction effect between race, socioeconomic status and knowledge about three dependent variables: job descriptions, education and training requirements, and wages.
 22. If there is any interaction effect between sex, race, socioeconomic status and knowledge about three dependent variables: job descriptions, education and training requirements, and wages.

Procedures Used in the Conduct of the Investigation

This section of the chapter will present the procedures followed in the investigation. They were (1) data collection, (2) procedures for data processing, and (3) procedures for analyzing and interpreting the data.

Data Collection.--This investigation was concerned with identifying and assessing levels of occupational awareness and determining relationships between selected variables that may tend to influence knowledge about the world of work. One of the most important and critical aspects of the study was first development of the instrument.

The instrument used in this study was the Occupational Awareness Assessment Instrument (OAAI) which was developed by the researcher. Once the OAAI was developed, two pretests were conducted for the purpose of refining the instrument before using it to collect the data for the investigation.

The student population for this study consisted of twelfth grade students enrolled in three public high schools in Lansing, Michigan. The schools were Sexton, Harry Hill, and Everett high schools. The survey consisted of a random sample of 167 seniors drawn from each of the participating schools.

The instruments were administered to the students in each of the selected schools during the months of November and December, 1973. Students were given 45 minutes to complete the questionnaire.

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Procedures for Data Processing.--Data in this investigation were collected by utilization of the Occupational Awareness Assessment Instrument. The responses to items in each of the three parts of the instrument were scored separately, and then pooled together to obtain a total score on occupational awareness. These data were coded along with independent variables and transferred to punch cards. The socioeconomic status for the respondents was broken down into three major categories. The Duncan Scale was used for rating all occupations. This scale seems to have been most appropriate for rating occupation of respondents' parents in this investigation.

Procedures for Analyzing the Data.--In this phase of the investigation statistical analyses were made on the data of the study. The first stage involved an analysis of students' and parents' background. The second stage was to test and analyze fifteen primary hypotheses to determine relationships between selected independent variables and total occupational awareness. The third stage was to test and analyze seven secondary hypotheses to determine differences between three independent and three dependent variables.

The multivariate (three-way, two-way) analysis of variance was performed to determine significant main and interaction effects. The univariate (one-way) analysis of variance was performed to test for a significant difference

between single independent and single dependent variables.

Conclusions

The conclusions which resulted from the conduct of the investigation are based on the findings as they relate to the purposes stated in the study. On the basis of the data and limitations cited, the conclusions are presented and discussed in the following manner: (1) descriptive analysis of students and their parents; (2) primary hypotheses; and (3) secondary hypotheses.

Descriptive Analysis of Students and Their Parents

1. More white and non-white students were in the medium socioeconomic status than were in the high and low socioeconomic status. It can be assumed that a large percentage of the population in the communities from which the sample was drawn are in the medium socioeconomic status, and are white.
2. The occupational aspiration of respondents appeared to be concentrated in the medium level, rather than in the high and low levels.
3. More students' occupational expectations were in the medium level than the high and low levels.
4. The educational achievement of most of the respondents parents did not go beyond the completion of

high school. However, there were slightly more mothers than fathers who completed a high school education.

5. More students appeared to have the attitude that they would pursue an occupation because they liked the nature of the work rather than pursuing a job because it paid high wages.
6. More students were enrolled in non-college prep programs than college prep curricula. However, college prep students have higher grade averages than non-college prep respondents.

Primary Hypotheses

The purposes of the primary hypotheses were to test for significant main and interaction effects between certain independent and dependent variables, and also to test for differences between single independent and dependent variables. The conclusions are the following:

1. Sex, race, and socioeconomic status influence levels of occupational awareness of high school seniors. Females are more knowledgeable about the world of work than males. White students have higher levels of occupational awareness than non-white respondents, and students with high socioeconomic status backgrounds are more knowledgeable about jobs than respondents with medium and low socioeconomic status

levels. Also, students with medium socioeconomic status have higher levels of occupational awareness than respondents with low socioeconomic status backgrounds.

8. There is no interaction between sex and race, sex and socioeconomic status, race and socioeconomic status, sex, race, socioeconomic status, and levels of occupational awareness of respondents. However, when examining Figure 4, Chapter IV, page 100, it appears that there is an interaction between non-white females, white females, white males, and non-white males, but when tested at .05 alpha level the interaction was not significant.
9. Students with high levels of occupational aspiration are more occupationally aware than respondents with medium and low aspirations. Also, students with medium levels of occupational aspiration are more knowledgeable about the world of work than respondents with low aspiration levels.
10. Occupational expectations influence levels of occupational awareness of students. Respondents with high expectations are more occupationally aware than students with medium and low expectation levels. Students with low occupational expectations are less knowledgeable about jobs than respondents with medium levels of occupational expectation.

11. Students who have mothers with less than a high school education are much less knowledgeable about the world of work than respondents who have mothers with other educational achievement levels. Educational achievement level of students' mothers influence their knowledge about the world of work. Students with mothers who have some college and a college degree are similar in their knowledge about jobs, and are more occupationally aware than respondents who have mothers with more than four years of college.
12. Respondents who have fathers with less than a high school diploma are less knowledgeable about the world of work than all other students. The educational achievement level of students' fathers influences their levels of occupational awareness. Students with fathers who have more than four years of college are more occupationally aware than those who have fathers with some college and a college degree.
13. Students' attitude toward work influences their knowledge about jobs. It appears that students who have the attitude of pursuing work because they like the nature of the job are more occupationally aware than those respondents who indicated they would pursue work based on good wages alone.

14. Curriculum influences occupational awareness of high school seniors. It appears that students enrolled in college prep curriculum are more knowledgeable about the world of work than students who are enrolled in non-college prep programs.
15. The academic achievement of students does not influence their knowledge about the world of work.
16. There is no interaction between curriculum, achievement, and levels of occupational awareness of high school seniors.

Secondary Hypotheses

The purposes of the secondary hypotheses were to analyze three dependent variables, job descriptions, education and training requirements, and wages, and to determine their relationship to sex, race, and socioeconomic status.

The following conclusions are based on the findings:

17. High school seniors knowledge about (1) job descriptions, (2) education and training requirements, and (3) wages do not differ on the basis of sex. This conclusion is based on the analysis of Hypothesis 16, page 113, which is not consistent with the findings of Hypothesis 1, page 92, which tested for significant differences between sex and total occupational awareness.

18. Race of students influences their knowledge about three dependent variables: (1) job descriptions; (2) education and training requirements; and (3) wages. White students are more knowledgeable about all three variables than non-white respondents. This conclusion is consistent with the conclusion of Hypothesis 2, page 93, which tested for significant differences between race and total occupational awareness.
19. Socioeconomic status influences students' knowledge about three dependent variables: (1) job descriptions; (2) education and training requirements; and (3) wages. Students with high socioeconomic status backgrounds are more knowledgeable about all three independent variables than respondents with medium and low socioeconomic status. This conclusion is consistent with the conclusion of Hypothesis 3, page 95, which tested for significant differences between socioeconomic status and total occupational awareness.
20. There is no interaction between sex and race; sex and socioeconomic status; race and socioeconomic status; and three dependent variables: (1) job descriptions; (2) education and training requirements; and (3) wages.

21. There is an interaction effect between sex, race, and socioeconomic status of high school seniors and their knowledge about three dependent variables:
(1) job descriptions; (2) education and training requirements; and (3) wages.

When the data were further analyzed by comparison of mean scores, it seemed to indicate that the interaction was caused by non-white females. It appears that non-white females in the high socioeconomic status level are more knowledgeable about job descriptions than all other groups, but less knowledgeable about education and training requirements than white females and white males in the medium socioeconomic status level. Non-white females in the low socioeconomic status level are less occupationally aware than non-white males, white males, and white females. The mean score of non-white females decreased starting at the high socioeconomic status and continued through the low socioeconomic status. This is what seems to have caused the interaction effect. However, this analysis was not consistent with the analysis of Hypothesis 7, page 100, which tested for a significant interaction effect between sex, race, socioeconomic status, and total occupational awareness of students. It appears from an examination of Figure 4, page 100, that an interaction effect occurred. However, when tested at .05 alpha level it was not significant.

Implications of the Study

The implications that seem practical as a result of this investigation are presented in this section of the chapter. Researchers conducting investigations concerning occupational awareness and knowledge of the world of work may observe a step in a new direction in identifying and assessing knowledge about jobs. This investigation has not only provided a new approach to identifying and assessing levels of occupational awareness, but also has based this approach upon objective and theoretical foundations which can be used for further studies in the area of vocational and career education. The implications based on the findings are as follows:

1. Students' knowledge about the world of work can be assessed and identified, which offers a different outlook for vocational and career education programs. An individual cannot choose what he does not know. An assessment of his knowledge about jobs may be used as a basis for occupational information programs, vocational program content, individual needs of students, guidance and counseling programs, and aiding others who are concerned with helping people to identify occupational options that will meet individual needs and the needs of society.
2. Females have been discriminated against in the job market for many years. However, as a result of

this study, the findings seem to indicate that they are more occupationally aware than males. These findings seem to support other research presented in the review of literature in this investigation. It may be that females realize that in order for them to establish an equal place within the job market, it is necessary to develop high levels of occupational awareness in order to increase their job options within the world of work.

3. White students in this study appeared to have higher levels of occupational awareness than non-white students. This demonstrates a need for vocational education, occupational information, and vocational guidance and counseling programs to devote more time and effort to minority students in order that they may become more occupationally aware and increase their job options and occupational mobility within the world of work.
4. The evidence indicates that students with high socioeconomic status backgrounds are more knowledgeable about the world of work than students with medium and low socioeconomic status levels. However, all students seem to understand the importance of work to our society. If education is to prepare people for taking a responsible place within society and provide them with an equal occupational

opportunity, it should consider this socioeconomic factor when developing educational programs.

5. Disclosed in this study were data indicating that students with high occupational aspirations are more occupationally aware than students with medium and low levels of aspiration. It seems that students' occupational aspiration may be influenced by the knowledge of the world of work. Aspiration may change as knowledge increases and more options are available. Teachers and school counselors should assist students in helping them to identify their realistic occupational aspirations in relation to their needs.
6. The respondents appeared to have occupational expectations in line with their parents' socioeconomic status. Most students expected to obtain jobs in the medium level. However, the findings seem to indicate that students with high occupational expectations are more knowledgeable about the world of work than students with medium and low expectation levels. This is another factor educators and school administrators should consider when developing educational programs for high school students.
7. There was evidence in this study which indicates that curriculum influences students' knowledge



about the world of work. Educational administrators, counselors, and others who are concerned with curriculum development should provide indepth curriculum orientation to junior high and high school students. It seems that many students select programs that do not provide the kinds of educational experiences that enable them to make rational occupational decisions when they graduate from high school.

Recommendations for Further Research

Based on the results of this investigation, it seems that more research should be conducted in the area of occupational awareness. It is hoped that this study can serve as a building block for meaningful research to be conducted in the future. As a result of this investigation, it is the writer's opinion that several valuable and challenging subjects are worthy of future investigation. In this section some possibilities are cited.

1. A study of this kind should be replicated with a stratified random sample of high school seniors in relation to selected independent variables.
2. An investigation should be conducted to compare levels of occupational awareness of different grade levels of students. Occupational awareness may be influenced to a greater degree when students reach certain grades in elementary, junior high, and high school.

3. Additional research should be conducted to identify other environmental factors which may have great influences on levels of occupational awareness of high school students.
4. A study should be conducted to determine the relationship between absolute occupational aspiration, expectation, and levels of occupational awareness of students.
5. Research should be conducted to identify those geographical and sociological factors which have the greatest influence on minority students' levels of occupational awareness.
6. An investigation should be conducted to determine the relationship between occupational awareness and job satisfaction.
7. A study should be undertaken to identify the relationship between levels of occupational awareness and vocational choice and preference.
8. A study should be developed to determine the extent to which levels of occupational awareness increase occupational mobility within the world of work.
9. A study should be undertaken to identify levels of occupational awareness on a national basis.
10. An investigation should be conducted to determine the relationship between levels of occupational awareness of students enrolled in area career

centers and students who are enrolled in home school vocational and non-vocational programs.

11. An investigation should be undertaken to establish levels of occupational awareness of "special needs students" and to determine the relationship between vocational choice, aspiration, and expectation.
12. A study should be conducted to determine ways of increasing occupational awareness of disadvantaged students enrolled in public secondary schools.

Summary

The purpose of this investigation was presented and the procedures used in the conduct of the study were summarized in this chapter. The conclusions were presented in the form of answers to the stated purposes of the study. In addition, implications for program development in vocational and career education were presented and accompanied by recommendations for future research.



APPENDICES

APPENDIX A

RESEARCH STUDY REQUEST

APPENDIX A
RESEARCH STUDY REQUEST

Research and Educational Facility Planning
Lansing School District

1. Individual conducting study:

Name James E. Jay Phone No. 355-2764
Professional title, if any Graduate Student
Address 1514-I Spartan Village East Lansing, Michigan

2. Institution, organization, or agency with which individual is associated, if any:

Michigan State University

3. Reason for study:

College or university course requirement _____
Partial fulfillment for Master's degree _____
Partial fulfillment for Doctor's degree X
Other _____

If study is being conducted for course requirement or for a degree, please provide course instructor's name or name of major advisor.

Name Dr. Rex Ray, Major Advisor Phone - 355-9606
Full Title Associate Professor, Secondary Education
and Curriculum

4. Title of study AN ASSESSMENT OF LEVELS OF OCCUPATIONAL AWARENESS OF A SELECTED GROUP OF HIGH SCHOOL SENIORS

5. Statement of hypothesis, and/or objective(s) of study.

The purpose of the study is to assess and identify levels of occupational awareness, and to determine what

influences knowledge of the world of work of a selected group of high school seniors.

6. Briefly describe the procedure you will use in involving pupils or teachers as subjects. That is, what will they be required to do, will they be involved individually or in groups (how many in a group). Class groups will be selected at random. Students will be asked to respond to the assessment instrument. Teachers of selected classes will serve in supervisory capacity.

6a. Date project to begin October 8, 1973

6b. How much time will be involved? 45 to 55 minutes

7. Pupils as subjects: How many? 600 At what grades? 12th

Particular characteristics; e.g., boy, girl, high or low ability, etc.:

Male, Female; enrolled in college prep, vocational, and general curriculum

8. Is a specific school or geographic area required? X
If so, explain.

Everett High School, Harry Hill High School, and J. W. Sexton High School

9. Will teachers be required to help in the study? Yes If so, in what way?

Assist in administering the instrument

10. Will other school personnel be involved in the study?
No If so, in what way?

11. Will school records be required? No If so, to what extent? (Please specify)

12. Will additional supplies or equipment be necessary?
No If so, to what extent?

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APPENDIX B

INTRODUCTION TO STUDENTS

APPENDIX B

INTRODUCTION TO STUDENTS

November 1973

Hello:

I am James E. Jay, a graduate student at Michigan State University. I am pursuing a doctorate degree in vocational and technical education. Today, I am here seeking your assistance in helping to develop a more meaningful and relevant education for secondary school students and specifically, high school seniors like yourselves.

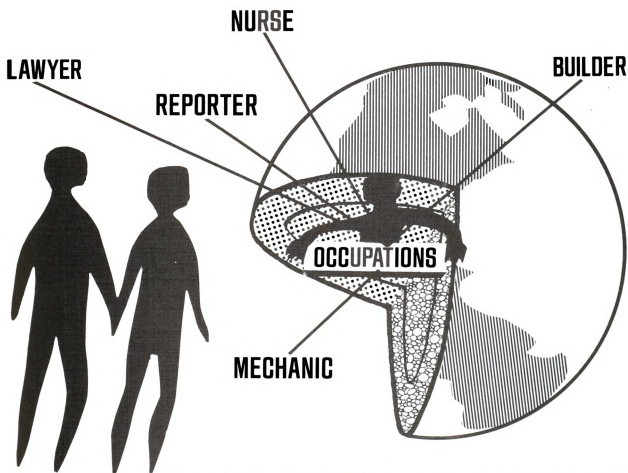
All of you will be graduating from high school in the near future. Upon graduation, many of you will immediately seek employment. Others will continue to pursue an education at a post secondary vocational and technical school, a community or junior college, or a four year institution. Whatever the case may be, work is inevitable, and all of you will eventually enter the job market.

Since work is of such significance within our society, it is important to determine what students know about occupations and what influences their knowledge of jobs. Therefore, today I have an occupational awareness assessment instrument that I would like for you to respond to the best of your ability.

APPENDIX C

OAAI INSTRUMENT

HOW AWARE ARE YOU OF THE WORLD OF WORK ?



OCCUPATIONAL AWARENESS
ASSESSMENT INSTRUMENT

Prepared by James E. Jay, Graduate Student, Michigan State University

HOW IT WORKS

PAINTER



Procreate

STUDENT SURVEY INFORMATION

Instruction: Please mark the following items quickly by placing an (X) or write in the correct word, in the appropriate space.

1. Sex: Male _____ Female _____
2. Race: White _____ Black _____ Mexican-American _____
 Other _____
3. Curriculum: What program are you presently enrolled in?
 - A. College Prep _____
 - B. General _____
 - C. Vocational _____
4. Educational level of parents or guardian:

A. Elementary school or less	Mother _____	Father _____	Other _____
B. High school graduate	Mother _____	Father _____	Other _____
C. Trade or vocational school	Mother _____	Father _____	Other _____
D. College graduate (4-year)	Mother _____	Father _____	Other _____
E. Beyond 4-years of college	Mother _____	Father _____	Other _____
5. What is your parent's or guardian's occupation? (job)?
 - A. Mother _____
 - B. Father _____
 - C. Other _____
6. What occupation would you like to enter after high school graduation?

7. What occupation do you really expect you will enter after high school graduation?

8. What is your grade-point average? 1.0-1.5 _____, 1.5-2.0 _____,
 2.0-2.5 _____, 2.5-3.0 _____, 3.0-3.5 _____, 3.5-4.0 _____.

WHAT DO YOU KNOW ABOUT JOBS?

Information: How aware are you of the world of work? This form is designed to help you express your awareness of eighty (80) occupations. There are four (4) occupational groups, and one correct Worker Trait for each occupation in the group. You may have some knowledge of worker functions of many of these occupations.

Instructions: (1) Read each statement carefully, (2) Select one occupation from the Occupational Group you feel will best apply to the statement, (3) Record the Letter of the selected occupation in the space provided. Please do not omit any items.

OCCUPATIONAL GROUP I

A. U. S. Supreme Court Justice	H. Filling station attendant	N. County agricultural agent
B. Civil engineer	I. U.S. representative in Congress	O. Plumber
C. Welfare worker for a city government	J. Author of novels	P. Night watchman
D. Streetcar motorman	K. Policeman	Q. Lawyer
E. Diplomat in U.S. Foreign Service	L. Taxi driver	R. Newspaper columnist
F. Sociologist	M. Minister	S. Corporal in the Army
G. Bookkeeper		T. Share cropper

WORKER TRAITS FOR OCCUPATIONAL GROUP I

- | | |
|---|--------------------------|
| 1. Investigate and counsel individuals who claim welfare benefits and process welfare records. ----- | ☐ |
| 2. Plans and writes original story in such form as a book, play or magazine article. ----- | ☐ |
| 3. Advises and administers justice in court of law. ----- | ☐ |
| 4. Negotiates with representatives of government at the national level. ----- | ☐ |
| 5. Plants, cultivates, and harvests crops on land owned by another, for specified share of receipts from sale of crops. ----- | ☐ |
| 6. Analyzes news and writes articles for newspaper publication. ----- | ☐ |
| 7. Drives electric powered streetcar to transport passengers, collects fares and gives information. ----- | ☐ |
| 8. Operates taxicab to transport passengers for fee. ----- | ☐ |
| 9. Conducts religious worship and performs other spiritual functions. ----- | ☐ |
| 10. Perform duties under military orders. ----- | ☐ |
| 11. Designs and oversees constructions and maintenance of structures and facilities. ----- | ☐ |
| 12. Conducts criminal and civil lawsuits, draws up legal documents and advises clients to legal rights. ----- | ☐ |
| 13. Negotiates with foreign governments to protect American interest. ----- | ☐ |
| 14. Computes wages, interest, and production cost. ----- | ☐ |
| 15. Instructs and advises farmers concerning agricultural problems. ----- | ☐ |
| 16. Investigates and apprehends criminals, and directs traffic. ----- | ☐ |
| 17. Assembles, installs and repairs pipes, fittings, and fixtures of heat, water and drainage systems. ----- | ☐ |
| 18. Guards property against fire, theft, vandalism, and illegal entry. ----- | ☐ |
| 19. Services automobiles, buses, trucks, and other automotive vehicles with fuel, lubricants, and accessories. ----- | ☐ |
| 20. Studies the origin and development of groups of human beings and patterns of culture. ----- | ☐ |

1. The first part of the report is a general introduction to the subject of the study.

2. The second part of the report is a detailed description of the methods used in the study.

3. The third part of the report is a discussion of the results of the study.

4. The fourth part of the report is a conclusion of the study.

5. The fifth part of the report is a list of references.

6. The sixth part of the report is a list of appendices.

7. The seventh part of the report is a list of figures.

8. The eighth part of the report is a list of tables.

9. The ninth part of the report is a list of abbreviations.

10. The tenth part of the report is a list of symbols.

11. The eleventh part of the report is a list of units.

12. The twelfth part of the report is a list of definitions.

13. The thirteenth part of the report is a list of acronyms.

14. The fourteenth part of the report is a list of footnotes.

15. The fifteenth part of the report is a list of endnotes.

16. The sixteenth part of the report is a list of references.

17. The seventeenth part of the report is a list of appendices.

18. The eighteenth part of the report is a list of figures.

OCCUPATIONAL GROUP II

- | | |
|------------------------------------|--|
| A. Physician | K. Railroad conductor |
| B. Airline pilot | L. Railroad section hand |
| C. Undertaker | M. Architect |
| D. Milk route man | N. Railroad engineer |
| E. Mayor of a large city | O. Garage mechanic |
| F. Accountant for a large business | P. Clothes presser in a laundry |
| G. Insurance agent | Q. Member of the board for a large corporation |
| H. Singer (in a night club) | R. Owner-operator of a print shop |
| I. Banker | S. Machine operator in a factory |
| J. Captain in the Army | T. Garbage collector |

WORKER TRAITS FOR OCCUPATIONAL GROUP II

- | | |
|---|--------------------------|
| 1. Directs preparation of major financial program. ----- | ☐ |
| 2. Drives packer-type or dump truck, and collects garbage. ----- | ☐ |
| 3. Designs and oversees construction and relocation of railroad and street railway tracts. ----- | ☐ |
| 4. Arranges and directs funeral services. ----- | ☐ |
| 5. Sets up and operates metal fabricating machine. ----- | ☐ |
| 6. Attends to variety of medical cases in general practice. ----- | ☐ |
| 7. Manages shop, sets type, operates printing press, and makes plates. ----- | ☐ |
| 8. Pilots airplane to transport passengers, mail, freight, or commercial purposes. ----- | ☐ |
| 9. Plans and designs private residence, office buildings, public buildings, and other structures. ----- | ☐ |
| 10. Serves as a member of the Armed Forces and performs duties under military orders. ----- | ☐ |
| 11. Presses articles such as dresses, pants and other garments. ----- | ☐ |
| 12. Drives truck over established route to deliver, sells milk products. ----- | ☐ |
| 13. Sells insurance to new and present clients, recommending amount and type of coverage, based on analysis of product's circumstances. ----- | ☐ |
| 14. Engages in railroad construction activities, such as clearing railroad right-of-way, laying ties and rails. ----- | ☐ |
| 15. Directs and administers policies of city government. ----- | ☐ |
| 16. Applies principles of accounting to install and maintain operations of the business. ----- | ☐ |
| 17. Performs minor repair and tuneup of motor vehicles. ----- | ☐ |
| 18. Entertains by singing songs on stage, radio, television, and night club. ----- | ☐ |
| 19. Supervises and coordinates train crew engaged in transporting passengers on passenger train. ----- | ☐ |
| 20. Participates in board meetings, develops policy concerning the operation of the corporation. ----- | ☐ |

OCCUPATIONAL GROUP III

- | | |
|---|---|
| A. State Governor | K. Main carrier |
| B. Artist who paints pictures that are exhibited in galleries | L. Restaurant worker |
| C. Reporter for a daily newspaper | M. Chemists |
| D. Truck driver | N. Labor union official (local) |
| E. College professor | O. Soda fountain clerk |
| F. Biologist | P. Nuclear physicist |
| G. Traveling salesman for a wholesale concern | Q. Electrician |
| H. Farm hand | R. Barber |
| I. County judge | S. Labor union official (international) |
| J. Building contractor | T. Street sweeper |

WORKER TRAITS FOR OCCUPATIONAL GROUP III

1. Provides customers with barbering services, such as: cuts, trims, and tapers hair, using clippers, comb, and scissors. ----- ☐
2. Performs chemical tests, and conducts chemical experiments in laboratories. ----- ☐
3. Sorts mail for delivery and delivers mail on established route. ----- ☐
4. Paints decorative freehand designs on objects. ----- ☐
5. Performs a variety of duties on a farm including planting, cultivating, and harvesting crops, and operating farm equipment. ----- ☐
6. Studies origin, relationship, functions, and other basic principles of plant and animal life. ----- ☐
7. Drives trucks to transport materials, merchandise equipment or men. ----- ☐
8. Collects and analyzes facts about newsworthy events, and writes newspaper stories. ----- ☐
9. Sweeps refuse from municipal streets, gutters, and sidewalks into piles and shovels it into movable containers. ----- ☐
10. Negotiates with management on hours, wages, individual grievances, and other matters affecting employees. ----- ☐
11. Conducts college or university classes for undergraduate or graduate students. ----- ☐
12. Studies movement of goods among nations to effect favorable trade balances and establish international trade policies. ----- ☐
13. Plans layout and installs and repairs wiring, electrical fixtures, and controls equipment. ----- ☐
14. Performs a combination of duties to facilitate food service. ----- ☐
15. Contracts to perform construction work. ----- ☐
16. Prepares and serves soft drinks and other food items. ----- ☐
17. Sells merchandise to business or industrial establishments or individuals. ----- ☐
18. Studies nature and characteristics of atomic nuclei. ----- ☐
19. Examines evidence in criminal cases to determine if evidence will support charges. ----- ☐
20. Conducts news conferences, negotiates with representatives of state and national government. ----- ☐

OCCUPATIONAL GROUP IV

- | | |
|---|------------------------------------|
| A. Cabinet member in Federal government | K. Carpenter |
| B. Owner of a factory that employs about 100 people | L. Dock worker |
| C. Manager of a small store | M. Dentist |
| D. Lumberjack | N. Radio announcer |
| E. Scientist | O. Owner-operator of a lunch stand |
| F. Musician in a symphony orchestra | P. Janitor |
| G. Playground director | Q. Psychologist |
| H. Coal miner | R. Trained machinist |
| I. Head of a department in a state government | S. Clerk in a store |
| J. Public school teacher | T. Shoe shine boy |

WORKER TRAITS FOR OCCUPATIONAL GROUP IV

1. Diagnoses and treats diseases, injuries, and malformations of teeth and gums. ----- ☐
2. Performs a combination of duties in preparing logs for cutting into lumber and storing cut lumber in sawmill. ----- ☐
3. Diagnoses needs of gifted, handicapped, and disturbed children within educational system. ----- ☐
4. Describes public events, operates control board or recording machines, sells time, and writes scripts and news copy. ----- ☐
5. Cleans and polishes foot wear for customers. ----- ☐
6. Engages in scientific studies and research. ----- ☐
7. Keeps hotel, office building, apartment house, or similar buildings in clean and orderly condition. ---- ☐
8. Constructs, erects, installs, and repairs structures and fixtures of wood. ----- ☐
9. Negotiates with members of the cabinet and participates in establishing legislative policies. ----- ☐
10. Organizes and directs comprehensive public and voluntary recreation programs. ----- ☐
11. Cleans exteriors of ships and performs maintenance of drydock and piers. ----- ☐
12. Reviews progress and makes necessary changes in company plans, ----- ☐
13. Writes bills, statements, receipts, checks and serves customers in store. ----- ☐
14. Instructs students in one or more subjects. ----- ☐
15. Drills and blasts earth and rock to construct underground shafts and tunnels to mine coal. ----- ☐
16. Hires, trains, and discharges store employees. ----- ☐
17. Plays one or more musical instruments in recital, or as a member of an orchestra. ----- ☐
18. Operates business, sells miscellaneous food items, such as sandwiches and beverages. ----- ☐
19. Sets up and operates machine tools. ----- ☐
20. Directs supervisory personnel to attain operational goals for the department. ----- ☐

EDUCATION, TRAINING, AND WAGES

I. Education and Training

How much regular schooling do you think is usually required of the OCCUPATIONS below? Less than high school, a high school diploma, some college, college degree. Please mark an (X) in the appropriate space.

II. Wages

What OCCUPATION in each group below do you think has the highest income, on the average. By average I mean the average of all people in this occupation in the entire United States. Mark an (X) in the appropriate space.

<u>Less than</u> <u>high school</u>	<u>High school</u> <u>diploma</u>	<u>Some</u> <u>College</u>	<u>College</u> <u>degree</u>		<u>Highest Wages</u>
☐	☐	☐	☐	1. a. Insurance agent	☐
☐	☐	☐	☐	b. Night watchman	☐
☐	☐	☐	☐	c. Factory owner	☐
☐	☐	☐	☐	2. a. Shoe shine boy	☐
☐	☐	☐	☐	b. Artist	☐
☐	☐	☐	☐	c. Barber	☐
☐	☐	☐	☐	3. a. Radio announcer	☐
☐	☐	☐	☐	b. Filling station attendant	☐
☐	☐	☐	☐	c. Chemist	☐
☐	☐	☐	☐	4. a. Building contractor	☐
☐	☐	☐	☐	b. Coal miner	☐
☐	☐	☐	☐	c. Clerk in a store	☐
☐	☐	☐	☐	5. a. Banker	☐
☐	☐	☐	☐	b. Milk route man	☐
☐	☐	☐	☐	c. Garbage collector	☐
☐	☐	☐	☐	6. a. Newspaper columnist	☐
☐	☐	☐	☐	b. Accountant	☐
☐	☐	☐	☐	c. Share cropper	☐
☐	☐	☐	☐	7. a. Streetcar motorman	☐
☐	☐	☐	☐	b. Restaurant worker	☐
☐	☐	☐	☐	c. Sociologist	☐
☐	☐	☐	☐	8. a. Biologist	☐
☐	☐	☐	☐	b. Janitor	☐
☐	☐	☐	☐	c. Policeman	☐

CONTINUE ON NEXT PAGE

EDUCATION, TRAINING, AND WAGES

<u>Less than</u> <u>High school</u>	<u>High school</u> <u>diploma</u>	<u>Some</u> <u>College</u>	<u>College</u> <u>degree</u>			<u>Highest Wages</u>
☐	☐	☐	☐	9. a. Farm hand		☐
☐	☐	☐	☐	b. Lawyer	→	☐
☐	☐	☐	☐	c. Electrician		☐
☐	☐	☐	☐	10. a. Architect		☐
☐	☐	☐	☐	b. Street sweeper	→	☐
☐	☐	☐	☐	c. Undertaker		☐
☐	☐	☐	☐	11. a. Bookkeeper		☐
☐	☐	☐	☐	b. Taxi driver	→	☐
☐	☐	☐	☐	c. College professor		☐
☐	☐	☐	☐	12. a. Psychologist		☐
☐	☐	☐	☐	b. Carpenter	→	☐
☐	☐	☐	☐	c. Clothes presser		☐
☐	☐	☐	☐	13. a. Dock worker		☐
☐	☐	☐	☐	b. Airline pilot	→	☐
☐	☐	☐	☐	c. Plumber		☐
☐	☐	☐	☐	14. a. Truck driver		☐
☐	☐	☐	☐	b. Soda fountain clerk	→	☐
☐	☐	☐	☐	c. Minister		☐
☐	☐	☐	☐	15. a. Scientist		☐
☐	☐	☐	☐	b. Railroad section hand	→	☐
☐	☐	☐	☐	c. Garage mechanic		☐
☐	☐	☐	☐	16. a. Public school teacher		☐
☐	☐	☐	☐	b. Mail carrier	→	☐
☐	☐	☐	☐	c. Singer in a night club		☐

III. What would you say is more important to YOU in deciding what kind of work you want to go into, good wages or liking the work? Mark an (X) in the appropriate space.

1. Liking the work ☐

2. Good wages ☐

APPENDIX D

KEY TO OAAI

APPENDIX D

KEY TO OAAI

KEY - Occupational Group I

1.	-----	C
2.	-----	J
3.	-----	A
4.	-----	I
5.	-----	T
6.	-----	R
7.	-----	D
8.	-----	L
9.	-----	M
10.	-----	S
11.	-----	B
12.	-----	Q
13.	-----	E
14.	-----	G
15.	-----	N
16.	-----	K
17.	-----	O
18.	-----	P
19.	-----	H
20.	-----	F

KEY - Occupational Group II

1.	-----	I
2.	-----	T
3.	-----	N
4.	-----	C
5.	-----	S
6.	-----	A
7.	-----	R
8.	-----	B
9.	-----	M
10.	-----	J
11.	-----	P
12.	-----	D
13.	-----	G
14.	-----	L
15.	-----	E
16.	-----	F
17.	-----	O
18.	-----	H
19.	-----	K
20.	-----	Q

KEY - Occupational Group III

1.	-----	R
2.	-----	M
3.	-----	K
4.	-----	B
5.	-----	H
6.	-----	F
7.	-----	D
8.	-----	C
9.	-----	T
10.	-----	N
11.	-----	E
12.	-----	S
13.	-----	Q
14.	-----	L
15.	-----	J
16.	-----	O
17.	-----	G
18.	-----	P
19.	-----	I
20.	-----	A

KEY - Occupational Group IV

1.	-----	M
2.	-----	D
3.	-----	Q
4.	-----	N
5.	-----	T
6.	-----	E
7.	-----	P
8.	-----	K
9.	-----	A
10.	-----	G
11.	-----	L
12.	-----	B
13.	-----	S
14.	-----	J
15.	-----	H
16.	-----	C
17.	-----	F
18.	-----	O
19.	-----	R
20.	-----	I

KEY - Education and Training Requirements

	<u>Less Than High School</u>	<u>High School Diploma</u>	<u>Some College</u>	<u>College Degree</u>
1. a. Insurance agent	☐	☒	☐	☐
b. Night watchman	☐	☒	☐	☐
c. Factory owner	☐	☐	☒	☐
2. a. Shoe shine boy	☒	☐	☐	☐
b. Artist	☐	☐	☒	☐
c. Barber	☐	☒	☐	☐
3. a. Radio announcer	☐	☐	☒	☐
b. Filling station attendant	☒	☐	☐	☐
c. Chemist	☐	☐	☐	☒
4. a. Building contractor	☐	☐	☐	☒
b. Coal miner	☐	☒	☐	☐
c. Clerk in a store	☐	☒	☐	☐
5. a. Banker	☐	☐	☒	☐
b. Milk route man	☒	☐	☐	☐
c. Garbage collector	☒	☐	☐	☐
6. a. Newspaper columnist	☐	☐	☐	☒
b. Accountant	☐	☐	☐	☒
c. Share cropper	☒	☐	☐	☐

	<u>Less Than High School</u>	<u>High School Diploma</u>	<u>Some College</u>	<u>College Degree</u>
7. a. Streetcar motorman	☒	☐	☐	☐
b. Restaurant worker	☒	☐	☐	☐
c. Sociologist	☐	☐	☐	☒
8. a. Biologist	☐	☐	☐	☒
b. Janitor	☒	☐	☐	☐
c. Policeman	☐	☒	☐	☐
9. a. Farm hand	☒	☐	☐	☐
b. Lawyer	☐	☐	☐	☒
c. Electrician	☐	☒	☐	☐
10. a. Architect	☐	☐	☐	☒
b. Street sweeper	☒	☐	☐	☐
c. Undertaker	☐	☒	☐	☐
11. a. Bookkeeper	☐	☐	☒	☐
b. Taxi driver	☐	☒	☐	☐
c. College professor	☐	☐	☐	☒
12. a. Psychologist	☐	☐	☐	☒
b. Carpenter	☐	☒	☐	☐
c. Clothes presser	☒	☐	☐	☐
13. a. Dock worker	☒	☐	☐	☐
b. Airline pilot	☐	☐	☒	☐
c. Plumber	☐	☒	☐	☐

	<u>Less Than High School</u>	<u>High School Diploma</u>	<u>Some College</u>	<u>College Degree</u>
14. a. Truck driver	☒	☐	☐	☐
b. Soda fountain clerk	☒	☐	☐	☐
c. Minister	☐	☐	☐	☒
15. a. Scientist	☐	☐	☐	☒
b. Railroad section hand	☐	☒	☐	☐
c. Garage mechanic	☐	☒	☐	☐
16. a. Public school teacher	☐	☐	☐	☒
b. Mail carrier	☐	☒	☐	☐
c. Singer in a night club	☐	☐	☒	☐

KEY - Highest Wages

1. ----- C
2. ----- B
3. ----- C
4. ----- A
5. ----- A
6. ----- A
7. ----- C
8. ----- A
9. ----- B
10. ----- A
11. ----- C
12. ----- A
13. ----- B
14. ----- A
15. ----- A
16. ----- C

APPENDIX E

OCCUPATIONAL GROUPS AND NORC SCORES

APPENDIX E
OCCUPATIONAL GROUPS AND NORC SCORES

Occupational Group I

<u>Occupation</u>	<u>NORC Scores</u>
1. U.S. Supreme Court Justice	96
2. Civil Engineer	84
3. Welfare worker for a city government	73
4. Streetcar motorman	58
5. Diplomat in U.S. Foreign Service	92
6. Sociologist	82
7. Bookkeeper	68
8. Filling station attendant	52
9. U.S. Representative in Congress	89
10. Author of novels	80
11. Policeman	67
12. Taxi driver	49
13. Minister	86
14. County agricultural agent	77
15. Plumber	63
16. Night watchman	47
17. Lawyer	86
18. Newspaper columnist	74
19. Corporal in the Army	60
20. Share cropper	40

Occupational Group II

<u>Occupation</u>	<u>NORC Scores</u>
1. Physician	93
2. Airline pilot	83
3. Undertaker	72
4. Milk route man	54
5. Mayor of a large city	90
6. Accountant for a large business	81
7. Insurance agent	68
8. Singer in a night club	52
9. Banker	88
10. Captain in the Army	80
11. Railroad conductor	67
12. Railroad section hand	48
13. Architect	86
14. Railroad engineer	77
15. Garage mechanic	62
16. Clothes presser in a laundry	46
17. Member of the board of directors of a large corporation	86
18. Owner-operator of a print shop	74
19. Machine operator in a factory	60
20. Garbage collector	35

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Occupational Group III

<u>Occupation</u>	<u>NORC Scores</u>
1. State Governor	93
2. Artist who paints pictures that are exhibited in galleries	83
3. Reporter on a daily newspaper	72
4. Truck driver	54
5. College professor	89
6. Biologist	81
7. Traveling Salesman for a Wholesale Concern	68
8. Farm hand	50
9. County Judge	87
10. Building contractor	79
11. Mail carrier	66
12. Restaurant worker	48
13. Chemist	86
14. Official of an international labor union	75
15. Local official of a labor union	62
16. Soda fountain clerk	45
17. Nuclear physicist	86
18. Electrician	74
19. Barber	59
20. Street sweeper	34



Occupational Group IV

<u>Occupation</u>	<u>NORC Scores</u>
1. Cabinet member in federal government	92
2. Owner of a factory that employes about 100 people	82
3. Manager of a small store in a city	69
4. Lumberjack	53
5. Scientist	89
6. Musician in a symphony orchestra	81
7. Playground director	67
8. Coal miner	49
9. Head of a department in a state government	87
10. Public school teacher	78
11. Carpenter	65
12. Dock worker	47
13. Dentist	86
14. Radio announcer	75
15. Owner-operator of a lunch stand	62
16. Janitor	44
17. Psychologist	85
18. Trained machinist	73
19. Clerk in a store	58
20. Shoe shiner	33

APPENDIX F

OCCUPATIONAL CLASSIFICATIONS

BY STRATUM

APPENDIX F

OCCUPATIONAL CLASSIFICATIONS BY STRATUM

Upper Stratum

NORC Scores: 75-96

- | | |
|---|--|
| 1. U.S. Supreme Court Justice | 18. Member of a board of a large corporation |
| 2. Physician | 19. Nuclear physicist |
| 3. Governor of a state | 20. Psychologist |
| 4. Cabinet Member in Federal Government | 21. Civil engineer |
| 5. Diplomat in U.S. Foreign Service | 22. Airline pilot |
| 6. Mayor of a city | 23. Artist |
| 7. College Professor | 24. Factory owner |
| 8. Scientist | 25. Sociologist |
| 9. U.S. Representative | 26. Accountant |
| 10. Banker | 27. Biologist |
| 11. County Judge | 28. Musician |
| 12. Department head in state government | 29. Author of novels |
| 13. Minister | 30. Captain in the Army |
| 14. Architect | 31. Building contractor |
| 15. Chemist | 32. Public school teacher |
| 16. Dentist | 33. County Agricultural Agent |
| 17. Lawyer | 34. Railroad engineer |

How to Use This Book

1. The first section of the book contains a list of the names of the authors of the papers in the volume.

2. The second section of the book contains a list of the titles of the papers in the volume.

3. The third section of the book contains a list of the subjects of the papers in the volume.

4. The fourth section of the book contains a list of the dates of the papers in the volume.

5. The fifth section of the book contains a list of the places where the papers in the volume were presented.

6. The sixth section of the book contains a list of the names of the institutions where the papers in the volume were presented.

7. The seventh section of the book contains a list of the names of the sponsors of the papers in the volume.

8. The eighth section of the book contains a list of the names of the referees of the papers in the volume.

9. The ninth section of the book contains a list of the names of the editors of the papers in the volume.

10. The tenth section of the book contains a list of the names of the publishers of the papers in the volume.

11. The eleventh section of the book contains a list of the names of the distributors of the papers in the volume.

12. The twelfth section of the book contains a list of the names of the subscribers to the papers in the volume.

13. The thirteenth section of the book contains a list of the names of the reviewers of the papers in the volume.

14. The fourteenth section of the book contains a list of the names of the authors of the papers in the volume.

15. The fifteenth section of the book contains a list of the titles of the papers in the volume.

16. The sixteenth section of the book contains a list of the subjects of the papers in the volume.

17. The seventeenth section of the book contains a list of the dates of the papers in the volume.

18. The eighteenth section of the book contains a list of the places where the papers in the volume were presented.

19. The nineteenth section of the book contains a list of the names of the institutions where the papers in the volume were presented.

20. The twentieth section of the book contains a list of the names of the sponsors of the papers in the volume.

21. The twenty-first section of the book contains a list of the names of the referees of the papers in the volume.

22. The twenty-second section of the book contains a list of the names of the editors of the papers in the volume.

23. The twenty-third section of the book contains a list of the names of the publishers of the papers in the volume.

24. The twenty-fourth section of the book contains a list of the names of the distributors of the papers in the volume.

25. The twenty-fifth section of the book contains a list of the names of the subscribers to the papers in the volume.

26. The twenty-sixth section of the book contains a list of the names of the reviewers of the papers in the volume.

Middle StratumNORC Scores: 54-74

- | | |
|---------------------------------------|-------------------------------------|
| 1. International labor union official | 16. Railroad conductor |
| 2. Radio announcer | 17. Mail carrier |
| 3. Newspaper columnist | 18. Carpenter |
| 4. Owner-operator of a paint shop | 19. Plumber |
| 5. Electrician | 20. Garage mechanic |
| 6. Trained machinist | 21. Official of a local labor union |
| 7. Welfare worker | 22. Owner-operator of a lunch stand |
| 8. Undertaker | 23. Corporal in the Army |
| 9. Newspaper reporter | 24. Machine operator |
| 10. Manager of a small shop | 25. Barber |
| 11. Bookkeeper | 26. Clerk in a store |
| 12. Insurance agent | 27. Streetcar motorman |
| 13. Traveling salesman | 28. Milk route man |
| 14. Playground director | 29. Truck driver |
| 15. Policeman | |

Water Bodies

1. Tiber
2. Arno

3. Lago di Bracciano

4. Lago di Vico

5. Lago di St. Elizabeth

6. Lago di Bracciano

7. Lago di Vico

8. Lago di St. Elizabeth

9. Lago di Bracciano

10. Lago di Vico

11. Lago di St. Elizabeth

12. Lago di Bracciano

13. Lago di Vico

14. Lago di St. Elizabeth

15. Lago di Bracciano

16. Lago di Vico

17. Lago di St. Elizabeth

18. Lago di Bracciano

19. Lago di Vico

20. Lago di St. Elizabeth

21. Lago di Bracciano

22. Lago di Vico

23. Lago di St. Elizabeth

24. Lago di Bracciano

25. Lago di Vico

26. Lago di St. Elizabeth

27. Lago di Bracciano

28. Lago di Vico

Lower StratumNORC Scores: 32-53

1. Lumberjack
2. Filling station attendant
3. Singer in a night club
4. Farm hand
5. Coal miner
6. Taxi driver
7. Railroad section hand
8. Restaurant worker
9. Dock worker
10. Night watchman
11. Clothes presser
12. Soda fountain clerk
13. Janitor
14. Share cropper
15. Garbage collector
16. Street sweeper
17. Shoe shiner

APPENDIX G

TABLES OF MULTIVARIATE ANALYSIS OF VARIANCE

APPENDIX G

TABLES OF MULTIVARIATE ANALYSIS OF VARIANCE

Table G1. Effects of sex, race, and socioeconomic status on total occupational awareness of respondents (three-way analysis of variance).

Source of Variation	Degrees of Freedom	Mean Squares	Univariate F	p Less Than
Sex (S)	1	2083.35	5.09	.0245*
Race (R)	1	9917.55	24.26	.0001*
Socioeconomic Status (SES)	2	8817.30	21.57	.0001*
S X R	1	23.51	.0575	.8106
S X SES	2	41.64	.1019	.9032
R X SES	2	799.72	1.9567	.1425
S X R X SES	2	437.44	1.0703	.3438
Error	489	408.71		
Total	500			

*Significant at .05 level.

Table G2. Effects of curriculum and achievement on total occupational awareness of respondents (two-way analysis of variance).

Source of Variation	Degrees of Freedom	Mean Squares	Univariate F	p Less Than
Curriculum (C)	1	5708.01	6.165	.0134*
Achievement (A)	4	673.78	.7277	.5734
C X A	4	1299.59	1.4036	.2316
Error	491	925.88		
Total	500			

*Significant at .05 level.

Table G3. Effects of sex, race, socioeconomic status on three dependent variables: job descriptions, education and training requirements and wages. (multivariate analysis of variance).

Source of Variation	Degrees of Freedom	Multivariate F	Probability of Multivariate F
Sex (S)	3-487	2.6226	.0501
Race (R)	3-487	8.5723	.0001*
Socioeconomic Status (SES)	6-974	7.9483	.0001*
S X R	3-487	.6330	.5940
S X SES	6-974	.9461	.4610
R X SES	6-974	1.9058	.0771
S X R X SES	6-974	2.6002	.0167*

*Significant at .05 level.

APPENDIX H

DATA SUMMARY TABLES OF MEAN AND STANDARD DEVIATION SCORES

	N=42	%=8	N=109	%=22	N=31	%=6	182	36
White	MV1- 77.09 MV2- 27.83 MV3- 11.59 MV4-116.52	(6.7) (6.0) (3.1) (14.0)	MV1- 74.50 MV2- 26.01 MV3- 11.50 MV4-112.02	(10.1) (7.6) (3.1) (16.9)	MV1- 68.61 MV2- 23.70 MV3- 10.35 MV4-102.67	(17.3) (7.9) (4.1) (22.1)		
Fe- male	N=7	%=1	N=30	%=6	N=16	%=3	53	10
Non- White	MV1- 78.28 MV2- 28.71 MV3- 11.28 MV4-118.28	(2.0) (2.2) (1.4) (2.1)	MV1- 71.36 MV2- 23.30 MV3- 11.03 MV4-105.70	(12.9) (7.5) (4.1) (21.7)	MV1- 58.06 MV2- 18.00 MV3- 6.43 MV4- 82.50	(22.9) (11.5) (6.2) (32.8)		
Total	104		300		97		501	97**

*MV1 = Job Descriptions
 MV2 = Education and Training Requirements
 MV3 = Wages
 MV4 = Total Occupational Awareness

**Rounding off percentages results in sum total varying from 100 percent.

Table H2. Summary of mean and standard deviation scores of respondents on job descriptions, education and training requirements, wages, and total occupational awareness by occupational aspiration levels.

Aspiration Levels	No.	%	Mean	Standard Deviation
High	193	38	*MV1- 75.07 MV2- 25.99 MV3- 11.39 MV4-112.46	(9.94) (7.30) (5.54) (17.21)
Medium	276	55	MV1- 71.07 MV2- 24.10 MV3- 10.72 MV4-105.91	(12.73) (8.60) (3.97) (20.04)
Low	32	7	MV1- 54.93 MV2- 16.87 MV3- 8.43 MV4- 80.25	(22.74) (11.14) (5.92) (33.92)
Total	501	100		

*
 MV1 = Job Descriptions
 MV2 = Education and Training Requirements
 MV3 = Wages
 MV4 = Total Occupational Awareness

Table H3. Summary of mean and standard deviation scores of respondents on job descriptions, education and training requirements, wages and total occupational awareness by occupational expectation levels.

Expectation Level	No.	%	Mean	Standard Deviation
High	138	28	*MV1- 76.23 MV2- 26.94 MV3- 11.80 MV4-114.97	(8.24) (5.46) (2.72) (12.89)
Medium	317	63	MV1- 71.44 MV2- 24.12 MV3- 10.58 MV4-106.16	(12.85) (8.88) (4.17) (21.02)
Low	46	9	MV1- 58.58 MV2- 18.39 MV3- 9.67 MV4- 86.63	(20.34) (10.69) (5.48) (30.39)
Total	501	100		

*MV1 = Job Descriptions
 MV2 = Education and Training Requirements
 MV3 = Wages
 MV4 = Total Occupational Awareness

Table H4. Summary of mean and standard deviation of respondents on job descriptions, education and training requirements, wages, and total occupational awareness by educational achievement level of students' mothers.

Achievement Level	No.	%	Mean	Standard Deviation
Less Than High School	41	9	*MV1- 57.60 MV2- 18.87 MV3- 7.75 MV4- 84.24	(22.24) (11.55) (6.07) (32.15)
High School Diploma	330	68	MV1- 72.14 MV2- 24.20 MV3- 10.85 MV4-107.20	(11.78) (8.71) (3.89) (20.21)
Some College	54	11	MV1- 74.05 MV2- 27.01 MV3- 12.09 MV4-113.16	(14.13) (4.79) (2.40) (16.79)
College Degree	46	9	MV1- 75.17 MV2- 26.97 MV3- 11.78 MV4-113.93	(8.24) (5.98) (3.02) (4.02)
More Than 4 Years College	16	3	MV1- 74.37 MV2- 25.50 MV3- 10.87 MV4-110.75	(1.09) (5.66) (3.59) (3.51)
Total	**487	100		

*MV1 = Job Descriptions
 MV2 = Education and Training Requirements
 MV3 = Wages
 MV4 = Total Occupational Awareness

**Fourteen students were not living with both parents; they are not included in this analysis.

Table H5. Summary of mean and standard deviation scores of respondents on job descriptions, education and training requirements, wages, and total occupational awareness by educational achievement level of students' fathers.

Achievement Level	No.	%	Mean	Standard Deviation
Less Than High School	54	11	*MV1- 61.38 MV2- 20.14 MV3- 8.98 MV4- 90.51	(21.47) (10.18) (5.54) (30.34)
High School Diploma	252	52	MV1- 71.07 MV2- 23.65 MV3- 10.76 MV4-105.49	(13.14) (9.19) (4.10) (21.88)
Some College	64	13	MV1- 74.12 MV2- 26.78 MV3- 11.67 MV4-112.57	(10.23) (6.40) (2.94) (14.65)
College Degree	68	14	MV1- 75.52 MV2- 26.08 MV3- 11.26 MV4-112.88	(7.96) (5.49) (2.94) (13.01)
More Than 4 Years College	49	10	MV1- 75.75 MV2- 27.16 MV3- 11.42 MV4-114.34	(8.55) (6.87) (3.69) (15.72)
Total	**487	100		

*MV1 = Job Descriptions
 MV2 = Education and Training Requirements
 MV3 = Wages
 MV4 = Total Occupational Awareness

**Fourteen students were not living with both parents; they are not included in this analysis.

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Table H6. Summary of mean and standard deviation scores of respondents on job descriptions, education and training requirements, wages, and total occupational awareness by attitude toward work.

Attitude	No.	%	Mean	Standard Deviation
Like the Work	359	72	*MV1- 74.91 MV2- 27.00 MV3- 11.86 MV4-113.77	(8.24) (5.10) (2.58) (11.14)
Like Good Wages	142	28	MV1- 63.17 MV2- 17.17 MV3- 8.23 MV4- 89.14	(19.30) (11.52) (5.56) (28.87)
Total	501	100		

*MV1 = Job Descriptions
 MV2 = Education and Training Requirements
 MV3 = Wages
 MV4 = Total Occupational Awareness

Table H7. Summary of mean and standard deviation scores of respondents on job descriptions, education and training requirements, wages and total occupational awareness by curriculum and achievement (grade-point average).

Achievement Grade-Point Average	Curriculum					
	College Prep			Non-College Prep		
	MS	SS	%	MS	SS	%
C	N=3			N=48		
	%			%		
	.05			.05		
	(39.3)			(28.0)		
	(5.7)			(4.4)		
C+	N=23			N=65		
	%			%		
	.08			.08		
	(28.9)			(29.3)		
	(9.1)			(9.1)		

	N=58	%=11	N=84	%=17	142	28
B	MV1-53.62 MV2-12.58 MV3-26.03 MV4-92.24	(26.2) (4.4) (10.0) (26.5)	MV1-44.34 MV2-11.78 MV3-24.11 MV4-80.25	(28.8) (3.8) (7.9) (31.0)		
	N=90	%=18	N=50	%=10	140	28
B+	MV1-54.25 MV2-11.15 MV3-28.19 MV4-94.50	(29.8) (3.4) (12.6) (30.0)	MV1-46.80 MV2-11.80 MV3-25.16 MV4-83.76	(29.0) (3.8) (9.4) (31.7)		
	N=69	%=14	N=11	%=2	80	17
A	MV1-46.69 MV2-11.15 MV3-29.11 MV4-86.97	(28.8) (3.2) (9.7) (30.0)	MV1-54.63 MV2-13.63 MV3-20.36 MV4-88.63	(31.6) (5.0) (6.7) (32.5)		
Total	243		258		501	**99

*MV1 = Job Descriptions
 MV2 = Education and Training Requirements
 MV3 = Wages
 MV4 = Total Occupational Awareness

**Rounding off percentages results in sum total varying from 100 percent.

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