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A COMPARATIVE ANALYSIS OF SECONDARY MALE AND FEMALE GRADUATES OF VOCATIONAL EDUCATION PROGRAMS IN THE STATE OF MICHIGAN FROM 1976 - 1978

Michigan State University PH.D. 1980

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A COMPARATIVE ANALYSIS OF SECONDARY MALE AND FEMALE GRADUATES OF VOCATIONAL EDUCATION PROGRAMS IN THE STATE OF MICHIGAN FROM 1976 - 1978

By

Lola V. Jeffries-Jackson

A DISSERTATION

Submitted to
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1980

ABSTRACT

A COMPARATIVE ANALYSIS OF SECONDARY MALE AND FEMALE GRADUATES OF VOCATIONAL EDUCATION PROGRAMS IN THE STATE OF MICHIGAN FROM 1976 - 1978

By

Lola V. Jeffries-Jackson

Body of Abstract

The purpose of this study was to compare the achievement of male students who graduated from vocational education programs with the achievements of female vocational education graduates from vocational programs during 1976, 1977 and 1978.

The study was undertaken to compare (a) the extent to which males and females were gainfully employed; (b) their hourly earnings; (c) the satisfaction expressed toward their employment; and (d) the number of males and females continuing their education.

Data used in this study were collected by the Michigan Department of Education, Vocational-Technical Education Service secondary follow-up. The survey questionnaire and data collection procedures represent methods used by the state agency to collect information.

A ten percent random sample of 38,820 vocational graduates in 1976, 42,100 vocational graduates in 1977, and 54,439

vocational graduates in 1978, who completed their vocational training and responded to the follow-up questionnaire. The vocational graduates were divided into two groups by sex to complete the analysis of Section I. The entire population of respondents was used to explore each occupational area for differences between males and females.

Analysis of data produced the following findings:

Employment Status

Differences in the employment levels of male and female vocational graduates were minimal.

Full & Part-Time Employment

Differences in full and part-time employment of males and females were significant. The percentage of males employed full-time exceeded the number of females each year studied. The largest percentage of males were employed full and part-time in Trade & Industry occupations while the largest percentage of females were employed full and part-time in Business & Office occupations.

Hourly Wages

There were significant differences in the hourly wages of males and females. Males consistently earned higher wages than females in all occupations.

Job Satisfaction

There were significant differences in the degree of job satisfaction in 1976 and 1977. Males were more satisfied

with their employment than females. There were minimal differences in job satisfaction levels of males and females in 1978.

Continuing Education

Differences in males and females continuing their education full or part-time were minimal. Males continued their education more frequently in the areas of Health, Agriculture and Business & Office. Females continued their education more frequently in areas of Health, Agriculture and Home Economics.

This dissertation is dedicated to

MY PARENTS

for their guidance, understanding,
and encouragement to continue
my education.

ACKNOWLEDGEMENTS

I wish to express my sincere appreciation to Dr. Max Raines for his cheerful guidance and direction in the completion of this study.

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Finally, to my husband, Richard, whose super patience, love, and flexibility kept me going through this entire experience, I can only say thanks and thanks again.

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CHAPTER I

INTRODUCTION

Background of the Study

Congress mandated that a study be made to determine the extent of sex discrimination and sex stereotyping in vocational education with the passage of the Education Amendments of 1976. The Amendments further requested a report of progress being made toward reducing sex bias and sex-role stereotyping in both training programs themselves and the occupations to which they lead. Certain positive actions were also defined to reduce sex stereotyping and discrimination in vocational education. This study is intended to address Section 104.75(b) of the Rules and Regulations that states must gather, analyze and disseminate data on the status of men and women, students and employees in vocational programs of the State.[1]

The Education Amendments of 1976 were passed into law four years after the requirements of Title IX of the Education

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[1] Department of Health, Education and Welfare, Office of Education, Vocational Education, State Programs and Commissioners Discretionary Programs. Federal Register, Volume 42, No. 191, Section 104.75(b), October 3, 1977.

Amendments of 1972. While the present provisions and Title IX are similar in basic intent (i.e., seeking to insure equal opportunities for males and females), there are some significant differences. Title IX of the Education Amendments of 1972 states: "No person shall on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance."[2] Discrimination is defined in the Act as actions which limit or deny opportunities on the basis of sex. The Education Amendments of 1976 include discrimination but also address "sex bias and stereotyping; these factors are attitudinal in nature, much subtler, and perhaps more pervasive." While Title IX prohibits a variety of forms of discrimination, the current amendments mandate the development of programs to overcome sex stereotyping and discrimination in vocational education programs.

Vocational education has been impacted by the requirement of providing equal opportunity for all persons at all levels. There is great demand that persons be admitted to vocational preparation on the basis of interest and ability rather than on the basis of gender and/or interests and abilities traditionally associated with being male or female. It is

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[2] Department of Health, Education and Welfare, Office of the Secretary, Nondiscrimination on Basis of Sex. Federal Register, Volume 40, No. 108, page 24128, June 4, 1975.

reasonable to assume that if there were no gender-based factors influencing career selection and preparation, males and females would be enrolled in proportion to their representation in the vocational education population.

A study conducted by Steele in 1974 found that out of 128 Office of Education (O. E.) instructional wage earning programs, females were the majority in 15 of 17 health programs, 6 of 6 occupational home economics programs, and 8 of 10 office programs. Males were the majority in 8 of 8 agricultural, 14 of 20 distributive education, 22 of 22 technical, and 40 of 45 trade and industrial education programs.[3] Despite the thrust of recent legislation aimed at eradicating discrimination in employment and education, females although comprising two-thirds of all secondary students in vocational education[4] are concentrated in three areas: home economics, health and office occupations.[5]

It is very apparent from these studies that males and females are enrolled in nearly all occupational areas of vocational education in numbers disproportionate to their

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[3] Marilyn Steele, Women in Vocational Education. Project Baseline Supplemental Report, Washington, D.C.: Technical Education Research Center, October, 1974, page 154.

[4] Women's Rights Project, How to Erase Sex Discrimination in Vocational Education. (American Civil Liberties Union Foundation, 1977), page 4.

[5] Ibid, page 5.

representation in the total population. This skewed enrollment among occupations is best explained by factors that influence students to limit the consideration of a career solely on the basis of gender.

A variety of forces external and internal to vocational education encourages the stereotyping that results in a sexual division of occupational preparation. Vocational education itself cannot be held blameless, but to the extent that the institution of education is expected to reflect the values of society at large, it is unfair to assign total responsibility for defects in vocational education to vocational education alone.[6]

The socialization process is probably the most important influence of gender-based occupational selection. Career expectations have been so effectively expressed that large numbers of women seldom consider preparing for occupations in which men are the majority.[7] From the earliest years of a female's development, the message of socialization

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[6] John Philip Schenck, Sex Fairness in Vocational Education. The ERIC Clearinghouse on Career Education, The Center for Vocational Education, The Ohio State University, Columbus, Ohio, 1977, page 8.

[7] Mary L. Ellis, Women in Technical Education. Paper presented at National Education Clinic, Oklahoma City, Oklahoma, March 1971.

is to be feminine. These studies would lead us to conclude that socialization promotes sex bias and sex role stereotyping in vocational education and education in general.

A system of inherited occupational biases based on gender relegates many female vocational education graduates to the ranks of working poor. Wages and salaries are differentially distributed among traditionally male and female occupations, with the least money going to occupations filled by women.[9]

Increased education generally means that a woman will work, but the relationship between education, occupation, and earnings for women cannot be reconciled with the expected financial worth of education and training. Men earn high returns on education and training investments, both in status and income. Working women as a group are penalized both in earnings and job security.[10]

Vocational education is one of the major trainers of workers at less than the baccalaureate degree level. The decisions which students make and are assisted to make concerning the type of vocational training they will pursue can

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[8] Marcia S. Kimmil, Educational Influences on Career Opportunities for Women. Teacher Education Forum Series, Volume 2., No. 13, Washington, D. C., Bureau of Educational Personnel Development, Office of Education, March 1974.

[9] Schenck, op. cit., page 5.

[10] Ibid., page 7.

effect the remainder of their working lives. Vocational education has the opportunity to make a genuine impact on reducing sex discrimination.

Statement of the Problem

The purpose of this study was to compare the achievements of Michigan's male and female graduates of secondary vocational education programs in 1976, 1977 and 1978. Specifically, it has undertaken to compare the extent to which recently graduated males and females after one year: gain employment, earn comparable hourly wages, report satisfaction with their employment and continue their education beyond high school.

In this age of antidiscrimination and affirmative action programs, with interest in and pressures from special interest groups and recently enacted legislation, a look at the occupational patterns and achievements of males and females who are graduates of vocational education programs is in order.

There has been considerable controversy in recent years concerning the role, the objectives, and the adequacy of vocational education programs. Many of these questions arise from changes in society and the need of the educational system to define responses to these changes. Vocational education emphasizes educational programs that will bridge the gap between student interests and needs and the demands of our rapidly changing labor market.

Andrew and Roberts in their study of vocational and non-vocational graduates contend that one of the best means of evaluating the results of vocational education is found in the follow-up studies of the students who have graduated from various vocational programs.[11] The findings from follow-up studies can be used to improve vocational education programs.

The Michigan Department of Education, Vocational-Technical Education Service, annually follows up all secondary graduates of vocational programs. The follow-up survey has provided extensive data to those providing leadership to vocational programs at the local, state and federal levels by providing:

1. Recommendations from graduates for improving vocational education programs.
2. Information from graduates on their guidance and placement needs.
3. Detailed description of what happens to graduates after they leave vocational education programs.

Title II, Section 112 of the 1976 Vocational Amendments requires that each state evaluate the effectiveness of each funded program within a five year period. These evaluations must be in terms of the planning and operational process, results of student achievement, results of employment success and results of additional services the State provides under

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[11] Dean C. Andrew and Lawrence H. Roberts, A Comparative Study of the Occupational Achievements of Vocational and Non-Vocational High School Graduates in the State of Arkansas. Educational Planning and Evaluation Services, Magnolia, Arkansas, 1974.

the Act to special population groups.[12]

Although follow-up data are available for male and female graduates, there is no comparative data to show whether occupational achievement in the world of work is better for male than for female vocational graduates.

Hypotheses

The following hypotheses were tested in this study.

Hypothesis 1

There is no significant difference between male vocational education graduates and female vocational education graduates in the percent of graduates employed across 1976, 1977 and 1978.

Hypothesis 2

There is no relationship between male vocational education graduates and female vocational education graduates in the percentage of graduates employed full or part-time in 1976, 1977 and 1978.

Hypothesis 3

There is no significant difference between male vocational education graduates and female vocational education graduates in the amount of hourly wages they earned in 1976, 1977 and 1978.

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[12] United States Congress, Education Amendments of 1976, Public Law 94-482, 94th Congress, 1976.

Hypothesis 4

There is no significant difference between male vocational education graduates and female vocational education graduates in the amount of hourly wages they earned across 1976, 1977 and 1978.

Hypothesis 5

There is no significant difference between male vocational education graduates and female vocational education graduates in the degree of their job satisfaction in 1976, 1977 and 1978.

Hypothesis 6

There is no relationship between male vocational education graduates and female vocational education graduates in the percentage of graduates continuing their education full or part-time in 1976, 1977 and 1978.

Research Questions

The following research questions were explored by occupational area in this study.

Question 1

Is there a difference between male vocational graduates and female vocational graduates in the percentage employed by occupational area in 1976, 1977 and 1978?

Question 2

Is there a difference in the percentage of male vocational education graduates and female vocational

education graduates employed full-time by occupational area in 1976, 1977 and 1978?

Question 3

Is there a difference between male vocational education graduates and female vocational education graduates in the percentage employed part-time by occupational area in 1976, 1977 and 1978?

Question 4

Is there a difference in the hourly wages earned by male vocational education graduates and female vocational education graduates by occupational area in 1976, 1977 and 1978?

Question 5

Is there a difference in the degree of job satisfaction of male vocational education graduates and female vocational education graduates by occupational area in 1976, 1977 and 1978?

Question 6

Is there a difference between male vocational education graduates and female vocational education graduates in the percentage continuing education full-time by occupational area in 1976, 1977 and 1978?

Question 7

Is there a difference in the percentage of male vocational education graduates and female vocational education graduates continuing education part-time by

occupational area in 1976, 1977 and 1978?

Procedures

The population of this study consisted of 38,820 secondary vocational graduates in 1976; 42,100 secondary vocational graduates in 1977; and 54,439 secondary vocational graduates in 1978, who responded to the Michigan Department of Education, Vocational-Technical Education Follow-Up Studies.

The data were collected in the annual follow-up studies of secondary vocational graduates conducted by the Michigan Department of Education nine months after graduation. The 10 percent sample used in Section I of the study consisted of randomly selected male and female secondary vocational graduates who completed and returned the follow-up questionnaire in 1976, 1977 and 1978. The data in Section I were analyzed using a Chi-square, T-test and Analysis of Variance for differences between means and differences between percentages.

The entire male and female population who responded to the vocational education follow-up survey in 1976, 1977 and 1978 was used to explore questions related to the hypotheses for Section II of the study. The occupational areas used in Section II of this study were Agriculture, Distributive Education, Health, Home Economics, Business and Office, and Trade and Industry.

Definition of Terms

The following terms are defined for use in this study.

1. Continuing Education

   Graduates pursuing formal education beyond the secondary level.

2. Job Satisfaction

   The graduate's perception of their degree of contentment with their present employment situation.

3. Occupational Involvement

   The extent to which graduates of vocational programs are employed, full or part-time.

4. Vocational Education Program

   Organized educational programs which are directly related to the preparation of individuals for employment, or for additional preparation for a career requiring other than a baccalaureate or advanced degree.

Assumptions

1. The students completed programs that met the Michigan Department of Education's Program Standards of Quality for Approved Vocational-Technical Education Programs in Michigan.
2. Employment of students and/or continued education were considered to be valid indicators of occupational achievement of high school graduates.

3. Student response to the follow-up questionnaire was high enough to allow for generalization to all students enrolled in vocational education.
4. A normal population sample was drawn and the variances were homogeneous.

Limitations of the Study

This study is limited to the 1976, 1977 and 1978 vocational graduates who responded to the follow-up questionnaire. There was a total of 71.3 percent (38,820 graduates) response rate for 1976, 76.5 percent (42,100 graduates) response rate for 1977, and 76.9 percent (54,439 graduates) response rate for 1978. The response rates for the three years was sufficiently high to allow for generalization to the vocational population in Michigan.

Delimitations

This study compares males and females by the occupational areas of Agriculture, Distributive Education, Health, Home Economics, Business and Office, and Trade and Industry. It did not include a comparison of males and females by specific job titles within the occupational area.

Significance of Study

A statewide study of male and female secondary graduates in vocational education would provide needed information for vocational program efforts.

The results of this study should:

1. Determine if there is a difference between the employment rates of male and female graduates of vocational education. The data should indicate if there are changes in the total employment for 1976, 1977 and 1978. Systematic differences could indicate trends of employment for males and females in the labor market.
2. Determine if there is a difference between male and female secondary vocational graduates employed part-time and full-time. Vocational education planners, administrators and educators would have comparative information on trends in male and female employment. This would assist them in measuring changing needs and circumstances of graduates as well as measuring the effectiveness of objectives in the education program.
3. Determine if there is a difference in the amount of hourly wages earned by male and female graduates of secondary vocational programs. This data should provide comparative data on the hourly wages males and females have earned over the three years of this study.
4. Determine if there is a difference between male and female vocational graduates of secondary programs in their level of reported job satisfaction. This data could be used by counselors and career resource personnel when discussing career options with students.

5. Determine if there is a difference between the percent of male and female secondary vocational graduates continuing their education. This data should provide trend information on what is happening to graduates of vocational programs. It would provide educators with information on the placement patterns of graduates.

The information from this study could provide state and local planners with an accurate data base for use in long range planning, expansion and modification of vocational programs. Data from this study could be used to develop strategies for increasing the distribution of males and females throughout vocational occupations. Data from this study could also be a contribution to future related studies at the state and national levels.

The findings of this study will focus on the graduates of vocational education programs in the State of Michigan. Generalizations from this study should not be made to vocational graduates of other states. This study will focus only on the graduates occupational achievement one year after graduation.

The Secondary Follow-Up Survey instrument was not tested for validity and reliability, but was devised and piloted by a committee of researchers, vocational educators, counselors and administrators.

Organization of the Study

Chapter I provides an introduction with a statement of the problem together with its significant scope and limitations. Chapter II is a review of the literature pertinent to the problems. Chapter III outlines the design and procedures of the study. Chapter IV contains an analysis of the data. Chapter V presents a general summary of the study, conclusions and recommendations for further study.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

All societies are confronted with the problem of improving the methods by which they bring youth into adulthood -- and particularly working productive adulthood. In our society, as opposed to one dominated by tradition, past approaches to bringing young people into adult participation in work are less likely to be appropriate or relevant to the present requirement of individuals. In our dynamic changing society, jobs change rapidly and what individuals need to expect from jobs changes rapidly.[1] No one is satisfied that youth know enough about the work world and young people frequently concur in this judgement, acknowledging that they make important educational and occupational decisions on impulse or by chance. As significant as the gaps in knowledge are, the false and over glamorized images implanted by the media and the erroneous or limited ideas conveyed by peers, parents, and relatives

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[1] Dennis Gallagher, "Community Efforts to Link Education and Work." From School to Work. Washington, D.C.: The National Commission for Manpower Policy, 1976.

have a greater impact on the career choices students make.[2]

The literature reviewed in this chapter is intended to examine: (1) the Socialization Process and Sex Role Stereotyping, (2) Vocational Education and Sex Role Stereotyping, (3) Follow-Up Studies, and (4) Criteria Suggested for Measuring Occupational Achievement.

Socialization and Sex Role Stereotyping

Socialization is defined as the process by which an individual learns the ways of a given society -- the behaviors, values, and expectations of others -- so that he or she can take on particular roles in society and function within it.[3] Elkin felt socialization includes both learning and internalizing appropriate patterns, values and feelings.[4]

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[2] Beatrice G. Reubens, "Youth in the Work World". Bridges to Work. International Comparisons of Transition Services (Monclair, New Jersey: Allanheld, Osmun and Company, Publishers, Inc., 1977) p. 51.

[3] A. E. Guskin and S. L. Guskin, A Social Psychology of Education (Reading, Massachusetts: Addison-Wesley, 1970) p. 98.

[4] F. Elkin, The Child and Society (New York: Random House, 1961) p. 7.

Socialization is a function of social interaction.[5] The child's interaction with his or her family beginning from birth, determines his or her idea of themselves, an essential aspect of his or her personality. From the beginning, boys and girls grow up in different culturally determined emotional atmospheres. At this time there is no firm evidence that males and females are destined by nature for the arbitrary roles and characteristics assigned to the two sexes in this or any other culture.[6]

Family childbearing practices reflect cultural expectations and in a sense provide a life style or "life script" for children and adults.[7] Sex role behaviors are among the first learnings of children and the evidence suggests that female/male distinctions are apparent to children as early as age two.[8] By the fourth grade, girl's perceptions of occupations open to them are limited to four: teacher, nurse, secretary or mother. Boys

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5 Ibid., p. 5.

6 P. H. Mussen, J. J. Conger, and J. Kagon, Child Development and Personality (New York: Harper and Row, 1974), p. 398.

7 National Education Association. "Education for Survival". Final Report: Sex Role Stereotypes Project. U.S.O.E.-0-72-2507. Washington, D. C.: N.E.A., Teacher's Rights, July 1973.

8 Jerome Kagen, "Check One: -- Male -- Female." Psychology Today 3 (July 1969), pgs 39-41.

of the same age perceive their occupational options to be considerably less restricted.[9] The basic values set in early grade school is a reflection of the female role in society. Women are expected to be cautious, rather than daring, and should always be ladylike and polite.

Young women tend to confuse femininity with the notion of romance and glamour. A decline in career aspirations of high school women was related to their feelings that male classmates disapproved of a female who exhibited her intelligence.[10] Barnett found that the range of occupations considered by girls is not only restricted, but that girls of all ages between nine and seventeen select occupations of lower status than those chosen by boys.[11]

A powerful part of the socialization process for females is the "motherhood mandate".[12] The main reason

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[9] Robert O'Hara, "The Roots of Careers". Elementary School Journal 62 (February 1962), pgs 277-280.

[10] Peggy Hawley, "What Women Think Men Think". Journal of Counseling Psychology 18 (Autumn 1971), pgs 193-194.

[11] R. Barnett, Vicissitudes of Occupational Preferences and Aversion Among Boys and Girls Ages 9-17. Paper presented before the American Psychological Association. Montreal: August 1973.

[12] Nancy F. Russo; "The Motherhood Mandate". Journal of Social Issues 32, No. 3 (Summer 1976), pgs. 143-153.

for keeping women at home is to bear and rear children. Motherhood is a woman's reason for existing. For the pre-school child, there is limited access to female role models other than mothers. In industrially sophisticated societies, advanced training, education or experience is needed to acquire jobs that are alternatives to motherhood. Many young females do not pursue these jobs primarily because they perceive their adult role to be that of mother only. The potentially irrevocable impact of such behavior is not apparent to many young women.

Cultural trends affect all agencies. The special interest groups are proclaiming their concern about propagation of sexism in schools. There is a growing awareness of the damage done to individual growth by channeling people into narrow roles according to sex.[13]

The Michigan Women's Commission stated the following concerning sex stereotyping:

> "Sex stereotypes arise from the belief that certain abilities, traits, and interests usually occur only in men and boys and other abilities, traits, and interests occur only in women and girls. These stereotypes are grounded in ignorance and fear and unreasonably restrict the rights of individuals to make their own life choices. They are particularly destructive to children, because they profoundly influence their level

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[13] C. Jacobs and C. Eaton, "Sexism in the Elementary School," Today's Education, December, 1972, p. 20.

of self-esteem choice of occupation, and means of self-expression."[14]

Allport defines stereotype as "an exaggerated belief associated with a category." Its function is to justify or rationalize our conduct in relation to that category.[15]

In another article sex role stereotypes were defined as "the beliefs we hold about the 'right' way for girls to act or the 'right' way for boys to act". Further it was stated that these beliefs are part of our basic value system.[16]

Howe defined sexual stereotypes as assumed differences, social conventions or norms, learned behavior, attitudes, and expectations.[17]

The messages that children, adolescents, and adults get from their culture, however, do emphasize the differences between the sexes. Images on television, in newspapers, and magazines do, for the most part depict women as dependent adults, unable to make decisions or use their talents in a

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[14] Sex Discrimination in an Elementary Reading Program (Lansing: Michigan Women's Commission), p. 1.

[15] G. W. Allport, The Nature of Prejudice (New York: Doubleday, 1958), p. 187.

[16] Decoding the Messages, "The Awareness Game 6' (1973): 8.

[17] F. Howe, "Sexual Stereotypes Start Early," Saturday Review 54 (1971), pg. 76.

variety of ways. In the same way a distorted picture of men is presented -- tough as nails, violent, unable to express emotion, always needing to get ahead at the expense of others, and supremely successful in all they undertake. What is needed is a more balanced picture of what adults can do so that this can be reflected in the world of work for women and men.[18]

Patterns of socialization erect internalized barriers that limit men and women in their occupational choices. These barriers are the attitudes, values, prejudices and norms taught boys and girls about what are properly male and female behaviors and roles in society. The socialization both sexes receive limits their thinking openly and objectively about preferences, interests, choices and decisions for their futures.

Vocational Education and Sex Role Stereotyping

Vocational education programs are designed to prepare young people and adults with knowledges and skills to successfully enter and progress in occupations that require less than a baccalaureate degree. Vocational education occurs at a critical juncture in the lives of students. It forms a valuable linkage between school and work. Vocational

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[18] Marla Peterson and Louise Vitter, Sex Fairness in Career Education, The Center for Vocational Education, Columbus, Ohio, 1977, p. 2.

educators recruit students, provide them with skills and knowledge necessary for successful job entry and place students in their first jobs. Within education, its unique responsibility is to represent the utilitarian purposes of education and to meet our society's economic needs. The intractable problems of occupational and education segregation must be addressed at all levels.[19]

Vocational education is being restricted by the prevailing stereotypes as to the proper occupations for women. These are the same stereotypes that restrict the vocational self concepts of young girls. It has been established for some time that there are no basic differences in intelligence between the sexes. When given the opportunity, women have proven that they can handle almost any job that a man can.[20]

Enrollment in vocational education programs, however, is reflective of our cultural, social and economic predisposition to favor males and masculine characteristics. National enrollment data for 1976 demonstrates the power of cultural and social norms to shape student choices into

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[19] Corinne H. Reeder, Women, Work and Vocational Education, Occasional Paper No. 26, Ohio State University, Columbus Center for Vocational Education, April, 1977, p. 17.

[20] Jacob J. Kaufman, Carl J. Shalfen, Morgan V. Lewis, David M. Stevens and Elaine W. House, The Role of Secondary Schools in the Preparation of Youth for Employment, Institute for Research on Human Resources, 1967, pg. 10-13.

traditional patterns.[21] Females predominate in the traditional areas of Health, Consumer Homemaking, Home Economics Related Occupations and Business and Office. Males predominate in the areas of Agriculture, Technical and Trade and Industry. Only in Distributive Education does the enrollment of males and females approach equity, with 40.7 percent representation by females and 59.3 percent males.[23]

Since vocational education is directly concerned with the educational goal of preparing individuals for work, they have a special responsibility to work toward the elimination of the negative effects of sex role stereotyping. Their efforts should also extend into the work place policies and practices which overtly and covertly discriminate.

A rationale commonly cited for continuing sex stereotyped vocational education is that there is little likelihood that graduates of non-traditional programs will be able to find employment. There is reason to believe, however, that more and more employers and unions are at least officially willing to accept men and women into non-traditional occupations. Some employers continue to define jobs as suitable

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21 Karla Atkinson, Eliminating Sex-Role Stereotyping in Vocational Education - National and State Perspective, Center for Women's Services, Western Michigan University, Kalamazoo, Michigan, March, 1979.

22 Summary Data Vocational Education, Fiscal Year 1976, Bureau of Adult Occupational Education, Division of Vocational and Technical Education, Washington, D. C.

or unsuitable for women and men based on stereotyped perceptions. The Olympus Research Corporation found that sex designations appeared as late as 1972 in the want ads of two metropolitan newspapers.[23] A study by Gilbreath further emphasizes this point in describing defenses that employers use to justify sex discrimination. Included were occupation qualifications, seniority systems, business necessity and customer preference.[24]

A study conducted in 1950 estimated that 90 percent of the sex differential in wages could be attributed to differences in education, residence, occupations, job turnover, absentism and experience.[25] Most studies done more recently show disparities even after adjusting for such factors. Fuchs' data showed that women earn only 66 percent of the male wage even after marital status, classification of job, length of work trip, schooling, age and city size are taken into account.[26]

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23 John Walsh and Miriam Johnson, "Want Ads and the Job Market," Manpower 6, (October, 1974), pg. 15-22.

24 Jerri D. Gilbreath, "Sex Discrimination and Title VII of the Civil Rights Act," Personnel Journal 56, (January, 1977), pg. 23-26.

25 Henry Sanborn, "Pay Differences Between Men and Women," Industrial and Labor Relations Review 17, No. 4, 1964, pg. 534-50.

26 Victor R. Fuchs, "Differences in Hourly Earnings Between Men and Women," Monthly Labor Review 94, 1971, pg. 9-15.

Most research studies reflect agreement on occupational differentiation by sex. The process is the most important productivity characteristic in accounting for wage differentials. Research that has managed to equate job classifications for men and women generally shows much closer earnings.[27] Studies that control for census classification of jobs continue to demonstrate sex differentials in earnings. Hamilton found in her study of four occupations that 8 to 18 percent of the male wage is the discrimination figure.[28] Suter and Miller report that women teachers earn $2,800 less than men and women sales persons $3,800 less than men.[29] These studies support the fact that sex stereotyping and discrimination play a critical role in the economic status of women.

Follow-Up Studies

The importance of follow-up studies is emphasized in a report by Paul for the Urban Observatory of Metropolitan Nashville and University Centers. This reported stated:

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27 John E. Buckley, "Pay Differences Between Men and Women in the Same Job," Monthly Labor Review 94, 1971, pg. 36-40.

28 Mary Hamilton, "A Study of Wage Discriminatory Sex: A Sample Survey in the Chicago Area," (Ph. D. Dissertation, University of Pennsylvania, 1969.)

29 Larry E. Suter and Herman P. Miller, "Income Differences Between Men and Career Women," American Journal of Sociology 78, No. 4, 1973, pg. 962-975.

> "There may not be an obvious or direct relationship between economic development and follow-up of vocational graduates; but to the extent that vocational training produces skilled manpower, follow-up data will measure the success or failure of each endeavor. Follow-up data, therefore, are essential to plan and evaluate the development of human resources which are essential for industrial and economic development.
>
> In addition to their usage as an evaluative measure of vocational education trainings' success, follow-up data provide an essential dimension to the information systems for human resources planning. The concepts of manpower supply and demand are highly related to placement on jobs. Success or failure of program participants can be best verified by the kind of jobs on which they are placed. Verifying the placement is an important function of follow-up. Planning and implementation of vocational education will be incomplete without approriate follow-up data."[30]

Other studies have been conducted that compare the achievements of men and women students. Astin and Panos concluded from their research on students attending a national sample of colleges and universities that the sex of the student was more important than any other predictor in explaining the choice of major field and occupational preference.[31]

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[30] K. K. Paul, "What Happens After Training: A Review of Follow-Up of Vocational Graduates," The Urban Observatory of Metropolitan Nashville and University Centers, Nashville, Tennessee, 1976.

[31] Alexander W. Astin and Robert J. Panos, The Educational and Vocational Development of College Students, (Washington: American Council on Education, 1969.)

A critical area relating to employment is the wage difference between women and men. In 1971, an informal telephone survey conducted by the United States Office of Education, Office of Legislation, found that in the District of Columbia, Baltimore, Maryland, New York City, and Boston there were separate vocational schools for men and women. In the Boston school system, which had two vocational schools for each sex, the school for boys provided courses in automobile mechanics, electronics, cabinet making, carpentry, drafting, machine shop, printing and welding. The trade school for girls offered programs in clothing, foods, beauty culture and commercial art. An investigation of wage rates for occupations taught in the Boston schools found that the average expected wages for the trades taught at the schools for girls were 47 percent less than the average for the trades taught at the boys' schools.[32]

A 1972 national report concerning issues and problems in evaluating vocational education provides further justification that large wage rate differentials in favor of male vocational education graduates do exist. Male vocational high school students earn about $.38 more per hour on their first job than females. While the differences

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[32] U. S. Office of Education, Department of Health, Education and Welfare, "A Look at Women in Education: Issues and Answers for H.E.W.," Report of the Commissioners Task Force on the Impact of Office of Education Programs, 1972.

in pay varied from one program area to another, it was noted that even in office occupations where women are the predominate sex, men make $.34 more per hour than women on their first job.[33]

A study in Wisconsin in 1978 at Gateway Technical Institute in Wisconsin found that a comparison of male and female graduates showed that females averaged 25 percent less in wages than males and started at lower salaries. Respondents tended to graduate from either male or female intensive fields.[34]

Pucel conducted a follow-up study on the success of women in traditionally male occupations in the State of Minnesota. The study included a random sample of males and females in traditionally male occupations. It was found that not only do proportionally fewer women obtain employment in traditionally male occupations, but they receive significantly less wages. Women were also found to be less

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[33] U. S. Office of Education, Department of Health, Education and Welfare, Bureau of Adult, Vocational Technical, and Manpower Education, "Vocational and Technical Education Selected Statistical Tables, Fiscal Year 1972," Washington, Government Printing Office, 1973.

[34] Lauren DeVuyst, Kenneth Mills, and Keith W. Stoehr, "Educating for Underemployment? A Comparison of Female and Male Respondents of Student Follow-Up Studies."

satisfied with their jobs and saw less potential for advancement.[35]

The education aspirations of women have also been studied. Sewell and his associates found in a longitudinal follow-up study of the post-high school educational experiences of 9,000 students that the lower educational aspirations of women while in high school played an important role in accounting for sex differential in educational attainment in subsequent years. Women were further disadvantaged by having had less educational encouragement from teachers and parents while in high school.[36]

Men at both the high school and college levels express aspirations for high paying and more prestigious jobs. Women predominately aspire to those jobs that at the present time are held mostly by women - teaching, nursing, social work and clerical jobs.[37]

Crowley and his associates found that women attending college make their occupational decisions earlier than men,

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[35] David J. Pucel, "The Success of Vocationally Trained Women in Traditionally Male Occupations." Paper presented at the American Vocational Association Conference, New Orleans, December 9, 1974.

[36] William H. Sewell, "Inequality of Opportunity for Higher Education," American Sociological Review 36, October, 1971, pg. 793-809.

[37] Ibid.

enter with lower aspirations, and when they shift during college, change to a lower rather than higher level of aspiration.[38]

Occupational Achievement

A review of related literature reveals that there is no single criterion that should be used to measure occupational achievement. Duncan and associates conducted a study to identify factors influencing occupational achievement. The outcomes of the study revealed that Income Earnings, Occupational Status, Job Satisfaction, Security (Economic Status) and Educational Attainments were the best indicators of occupational achievement.[39]

To explain why teenagers accounted for over one-quarter of the unemployed in 1977, but represented only one-tenth of the State's labor force, the possibility that employers systematically avoid hiring younger workers must be considered. Indeed studies conducted at the national level show that two-thirds to four-fifths of all employers are reluctant to hire youth for regular full-time jobs. It is

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38 J. Crowley, Theresa Leviton, Robert Quinn, "The Seven Deadly Half-Truths About Women," Psychology Today, March, 1973, pg. 94.

39 Otis Dudley Duncan, David L. Featherman, and Beverly Duncan, Socioeconomic Background and Occupational Achievement: Extensions of a Basic Model, Final Report, Ann Arbor, University of Michigan.

not surprising that many employers prefer to hire skilled and/or experienced workers, particularly where substantial on-the-job training costs are involved.[40]

The effects of minimum wage laws on employment opportunities for youth is also a debatable issue. Teenage unemployment relative to adult unemployment generally rises with increases in the federal minimum wage.[41]

In the summer of 1975, the National Commission for Manpower Policy, as part of its study of youth school-to-work transition problems and work establishment processes, requested the cooperation of three major private sector employers to explore in some detail their experiences with young workers as well as the quality and quantity of employment and work experience opportunities available to youth in their organizations. The companies are among the largest in their industrial sector -- manufacturing, utilities and retail trade.

Results of this study revealed that youths 16 to 21 constituted a surprisingly high proportion of total new hires in each of the surveyed companies. Between 33 percent and 47 percent were in this age group.

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[40] Michigan Employment Security Commission, "Youth in Michigan's Work Force," Detroit, Michigan, 1979, p. 16.

[41] Ibid, p. 17.

The male/female composition for the overall sample was nearly evenly divided, but there were substantial differences between companies with females representing 20 percent of new youth hires in the manufacturing company and 80 percent of new hires in the utility company.

The high school diploma seems to be a highly valuable asset in obtaining employment in a large company.[42]

In Eninger's studies of trade and industrial graduates, higher degrees of job satisfaction were reported by vocational graduates than graduates of other curricula. Only 15 percent of the graduates indicated job dissatisfaction as the reason for leaving the first job.[43]

Educators have frequently disagreed as to the merits and demerits of vocational training as it relates to continuing education. A 1976 study by the National Academy of Sciences found that researchers often expect secondary vocational training to lead directly to employment upon graduation; desire for further education suggests failure of the

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42 "Corporate Hiring Practices," Staff Report on Data Furnished by Three Large Companies, From School to Work, Washington, D. C., National Commission for Manpower Policy, 1976.

43 M. V. Eninger, The Process and Products of Trade and Industry Higher School Level Vocational Education in the United States, Pittsburgh, Pennsylvania: Educational Systems Research Institute, 1968.

vocational program.[44] In contrast, some look upon subsequent enrollment in postsecondary education as proof that secondary vocational training delivers alternatives rather than saddles the able student with possibly undesirable, low-paying jobs.[45]

Project Metro reports that approximately 30 percent of the vocational graduates studied were subsequently enrolled as full or part-time college students. An additional seven percent were attending other schools.[46]

Summary

The educational system contributes to and continues the powerful socialization process of males and females. The effect of this process on both females and males is to limit their career options and mobility. The socialization process provides a strong set of cues regarding what is male/female appropriate behavior. Appropriate behavior for women is to think of childbearing and motherhood in deference to working. The educational system is a powerful socialization force

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44 Committee on Vocational Education Research and Development, Assessing Vocational Research and Development, National Academy of Sciences -- National Research Council, Washington, D. C., 1976, p. 108.

45 Beatrice G. Reubens,"Vocational Education: Performance and Potential," Manpower, July, 1974, p. 26.

46 M. V. Eninger, Effectiveness Evaluation Data for Major City Secondary Education Systems in the United States, Volume I, Pittsburgh, Pennsylvania: Educational Systems Research Institute, 1972, pg. 1-17.

that reinforces affective behaviors provided at home and also adds some of its own.

Vocational education perpetuates sex role stereotyping and sex bias. The very fact that occupations are predominantly male and female reflects the sustaining of a system of virtually inherited occupations. It is a system that discourages students from training for occupations for which they have aptitude and ability. While vocational education is not solely at fault for the sex bias and sex role stereotyping that exists, it must assume major responsibility for eliminating such bias.

A review of the literature shows that various factors have been used as criteria for occupational achievement. The criteria selected for this study are representative of previous studies conducted.

CHAPTER III

METHODOLOGY

In this chapter, the description of the population, the sample, the instruments, the data collection procedures, the statistical treatments and the procedures for analysis used to evaluate the Hypotheses in Chapter I will be discussed. The instrument and data collection procedures used in this study were acquired from the Michigan Department of Education, Vocational-Technical Education Service.

Population

The population of this study consisted of 38,820 vocational graduates in 1976, 42,100 vocational graduates in 1977, and 54,439 vocational graduates in 1978. These numbers represent the number of Michigan secondary vocational graduates of approved vocational programs who responded to the follow-up survey during their first year after graduation. The graduates were divided into two groups based on their sex. The respondents to this question consisted of 20,944 females and 17,560 males in 1976, 22,206 females and 19,294 males in 1977, and 22,001 females and 18,946 males in 1978. The two groups were further stratified by occupational program area. The numbers and percentages are reflected beginning in Table 16.

Sample

The sample of students used in Section I of this study consisted of a random sample of 1976, 1977 and 1978 secondary vocational graduates who responded to the follow-up survey. The graduates were divided into two groups based on their sex. From each group an a priori 10 percent sample was chosen. The entire male and female population who responded to the vocational education follow-up survey in 1976, 1977 and 1978 were used to explore questions related to the hypotheses for Section II of the study. The occupational areas used in Section II of this study were Agriculture, Distributive Education, Health, Home Economics, Business and Office and Trade and Industry.

Instrument

The instruments used in this study were the Michigan Department of Education's follow-up survey forms of 1976, 1977 and 1978 graduates (See Appendix A, Form VE-4045-A). This form, with revisions, has been used annually in following up secondary vocational graduates since 1973. The response rate using this form has risen from 45 percent in 1973 to 76.9 percent in 1978. The follow-up survey has provided extensive data to those providing leadership to vocational programs at the local, state and federal levels on what happens to graduates of vocational education programs.

The Michigan Department of Education, with the assistance of an ad hoc committee on follow-up studies, has developed and/or modified the survey instrument annually. The primary purpose was to gather data on the employment status of vocational graduates one year after graduation. The employment status question was further subdivided into categories of: (1) Employed (Full vs. Part-Time), (2) Unemployed, (3) Full or Part-Time Student, (4) Homemaker, and (5) Military Service.

The survey asks further information on whether employment is full or part-time, what the job is, how satisifed the graduate is with his/her employment and what salary are they making. Job satisfaction is determined on the basis of question number 8 on the follow-up questionnaire. The student responses of very satisfied and somewhat satisfied were used to denote job satisfaction in the study. This data provides vocational education information on the entry level occupations of graduates.

Data Collection

The follow-up data is collected using a 10 step process throughout the state. A brief explanation of that process follows:

1. November - A set of instructions on conducting the follow-up is provided the Technical Specialist of each Career Education Planning District.

2. December - Forms are distributed to each Career Education Planning District. The packets of information include instructions, survey forms, and transmittal sheets.
3. January - The Technical Specialist of each Career Education Planning District conducts an inservice session for the local education agencies in his/her school district.
4. January - Local educational agencies code the survey forms from their graduate files. These files usually contain the graduate's name, address, telephone number, vocational or non-vocational status, occupational area of training and a code number to identify respondents and non-respondents.
5. January - Survey forms are mailed to graduates by a designated date.
6. January - Press releases are distributed to the media to coincide with the local mailing to graduates.
7. February - The returned surveys are processed by each local educational agency. Each district completes the "School Use Only" section of the form. This section of the follow-up form also requests information as to whether the student was a vocational or non-vocational student, occupational area of training, participation in a cooperative education program, and whether the student was Disadvantaged and/or Handicapped.

8. February - Local educational agencies identify non-respondents to the survey. A follow-up letter is sent to each of the non-respondents. If a response to the second mailing is not received within two weeks, non-respondents are telephoned and interviewed via a prepared telephone script.
9. February - Local educational agencies complete processing of survey forms and return forms to their Career Education Planning District Specialist by a designated date. The Career Education Planning District Specialist checks to see if all information is completed in "School Use Only" section, verifies the respondent count and sends data as a Career Education Planning District packet to the Follow-Up Support Center, where forms are reviewed and keypunched.
10. March - All survey forms are logged in at the Support Center and checked for completion and accuracy prior to data processing.

Data Processing Procedures

All follow-up survey forms are keypunched onto magnetic tape and verified at the Survey Support Center. The tape is sent to the Michigan Department of Education for the generation of various printouts of the data.

A test run of the data is done to assure that frequency counts and data are in the proper format. Three reports

were generated on vocational graduates, non-vocational graduates, and all graduates. These reports are distributed to all educational agencies statewide. These reports were: T 1608 - Item Analysis that reflects response to all questions, X 0607 - Job Placement Summary, and X 0608 - Continuing Education Summary.

The aforementioned procedures are used by the Michigan Department of Education when conducting the annual follow-up. This researcher obtained the master tapes for 1976, 1977 and 1978 for use in this study. The data was further processed using Michigan State's Statistical Package for the Social Sciences (SPSS) for analysis of data.[1]

Statistical Methods

The data analysis techniques employed in this study were Chi-square, T-test, and Analysis of Variance. Means and standard deviations were calculated for certain ordinal and interval variables.

The Chi-square statistic was used to determine if significant differences existed between variables for Hypotheses 1, 2 and 6. A significant difference was said to exist at the .05 level of confidence.

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[1] Norman H. Nie, C. Hadlai Hull, Jan G. Jenkins, Karin Steinbrenner, Dale H. Bent, SPSS, Statistical Package for the Social Sciences, McGraw-Hill Book Company, 1975.

A two-tailed T-test was used to determine the differences between the means and percentages for Hypotheses 3 and 5. A significant difference was said to exist at the .05 level of confidence.

The aforementioned analyses were employed for 1976, 1977 and 1978 data. An Analysis of Variance was employed to test for significant differences between the years on Hypothesis 4. Significance was said to exist at the .05 level of confidence.

Analysis Procedures - Section I

The specific Hypotheses examined in this study are stated descriptively in the null form. Significance was said to exist at the .05 level of confidence.

Chi-square Tests of Homogeniety:

Hypothesis 1

There is no significant difference between male vocational education graduates and female vocational education graduates in the percentage of graduates employed across 1976, 1977 and 1978.

Hypothesis 2

There is no relationship between male vocational education graduates and female vocational education graduates in the percentage of graduates employed full or part-time in 1976, 1977 and 1978. This hypothesis was tested

using 30 hours or more per week as the criterion for full-time employment and 29 hours or less of work per week as the criterion for part-time employment.

Hypothesis 6

There is no relationship between male vocational education graduates and female vocational education graduates in the percentage of graduates continuing their education full or part-time in 1976, 1977 and 1978.

The following hypotheses were tested for significance using a two-tailed T-test:

Hypothesis 3

There is no significant difference between male vocational education graduates and female vocational education graduates in the amount of hourly wage they earned in 1976, 1977 and 1978.

Hypothesis 5

There is no significant difference between male vocational education graduates and female vocational education graduates in the degree of their job satisfaction in 1976, 1977 and 1978.

Hypothesis 4 was tested using an Analysis of Variance to compare differences across 1976, 1977 and 1978.

Hypothesis 4

There is no significant difference between male vocational education graduates and female vocational

education graduates in the amount of hourly wage they earned across 1976, 1977 and 1978.

Analysis Procedures - Section II

This section will explore questions underlying the hypotheses. The entire population of male and female 1976, 1977 and 1978 secondary vocational graduates stratified by occupational area will be used for this section of the study. A descriptive analysis will be used for this section.

Question 1

Is there a difference between male vocational graduates and female vocational graduates in the percentage employed by occupational area in 1976, 1977 and 1978?

Question 2

Is there a difference in the percentage of male vocational education graduates and female vocational education graduates employed full-time by occupational area in 1976, 1977 and 1978?

Question 3

Is there a difference between male vocational education graduates and female vocational education graduates in the percentage employed part-time by occupational area in 1976, 1977 and 1978?

Question 4

Is there a difference in the hourly wages earned by male vocational education graduates and female vocational

education graduates by occupational area in 1976, 1977 and 1978?

Question 5

Is there a difference in the degree of job satisfaction of male vocational education graduates and female vocational education graduates by occupational area in 1976, 1977 and 1978?

Question 6

Is there a difference between male vocational education graduates and female vocational education graduates in the percentage continuing education full-time by occupational area in 1976, 1977 and 1978?

Question 7

Is there a difference in the percentage of male vocational education graduates and female vocational education graduates continuing education part-time by occupational area in 1976, 1977 and 1978?

Summary

The population of this study consisted of 38,820 vocational graduates of 1976; 42,100 vocational graduates of 1977; and 54,439 vocational graduates of 1978 who responded to the Michigan Department of Education Vocational-Technical Education Follow-Up Studies. The ten percent sample used in the study consisted of randomly selected male and female graduates who completed the follow-up questionnaire.

The data were analyzed using a Chi-square, T-test, and Analysis of Variance for differences between means and differences between percentages. Research questions were analyzed descriptively by occupational area.

CHAPTER IV

ANALYSIS OF DATA

In this chapter, a report of the analysis of data and a discussion of the results are presented. The procedures followed for analysis were in accordance with the methodology outlined in Chapter III. The findings reported in this chapter are divided into basic parts. Section I will discuss the findings of the ten percent sample. Section II will discuss the vocational education population by occupational area. Each hypothesis is stated in the null form, followed by a narrative description of the findings. Tables summarizing the results for each hypothesis follow the discussion.

FINDINGS

Section I - Survey of Sample Population

Hypothesis I

HO: There is no significant difference between male vocational education graduates and female vocational education graduates in the percentage of graduates employed across 1976, 1977 and 1978.

This hypothesis was tested for statistical significance at the .05 level and was not significant. The totals represent the number of males and females who responded to the question on the follow-up questionnaire. The percentage of male and female graduates employed is similar for each of

the years, with females slightly higher in 1976 and 1977. However, in 1978, the percentage of males was higher (see Table 1).

TABLE 1 Comparison of Employed Graduates by Sex and Year

Sex	1976 No.	1976 %	1977 No.	1977 %	1978 No.	1978 %
Male	1,312	49.6	1,492	49.0	1,529	50.2
Female	1,322	50.4	1,550	51.0	1,516	49.8
TOTAL	2,634	100.0	3,042	100.0	3,045	100.0

Chi-Square = .8525 Not significant at .05 level.

Hypothesis 2

HO: There is no relationship between male vocational education graduates and female vocational education graduates in the percentage employed full or part-time across 1976, 1977 and 1978.

The relationship between sex and type of employment was tested using the Chi-square test for significance. This hypothesis was rejected for all three years with p values of .0000 which showed probability below the .05 level of significance. When looking within full-time employment for males and females in Tables 2, 3 and 4 in 1976, there do not appear to be large differences. Males are employed full-time at 53.8 percent while female full-time employment was 46.2

percent. The percentage of males employed full-time dropped to 52.5 percent in 1977, but returned to 54.0 in 1978. The percentage of females rose to 47.5 percent in 1977, but dropped back to 46.0 percent in 1978.

When looking at Tables 2, 3 and 4, the majority of males, 85.6 percent in 1976, 86.9 percent in 1977, and 88.5 percent in 1978, work full time. The percentage seems to be stable with slight increases across 1977 and 1978. When looking at the female work force, there were 74.0 percent working full-time in 1976, 75.1 percent in 1977, and 75.2 percent in 1978. The female full-time work force has increased over the three years, but not as rapidly as the increase for males.

TABLE 2 Comparison of Male & Female Vocational Graduates Employed Full-Time and Part-Time in 1976

	Sex			
	Male		Female	
Employment	n	%	n	%
Full-Time	1,029	85.6	884	74.0
Part-Time	173	14.4	311	26.0
TOTAL	1,202	100.0	1,195	100.0

Chi-square = 49.3984

p value < .0000

TABLE 3 Comparison of Male & Female Vocational Graduates Employed Full-Time and Part-Time in 1977

Employment	Sex			
	Male		Female	
	n	%	n	%
Full-Time	1,165	86.9	1,055	75.1
Part-Time	176	13.1	350	24.9
TOTAL	1,341	100.0	1,405	100.0

Chi-square = 60.7924

p value < .0000

TABLE 4 Comparison of Male & Female Vocational Graduates Employed Full-Time and Part-Time in 1978

Employment	Sex			
	Male		Female	
	n	%	n	%
Full-Time	1,227	88.5	1,047	75.2
Part-Time	160	11.5	345	24.8
TOTAL	1,387	100.0	1,392	100.0

Chi-square = 81.1230

p value < .0000

Hypothesis 3

HO: There is no significant difference between male vocational education graduates and female vocational education graduates in the amount of hourly wages they earned in 1976, 1977 and 1978.

This hypothesis was not retained for any of the three years on the basis of a computed probability of .000 that the t-test ratios could be obtained by chance. This indicated that there was a significant difference between the hourly wage rates of males and females. The researcher's analysis of the data in Tables 5, 6 and 7 show that in 1976, the hourly wage for males was $3.66 compared to $2.83 for females. There was a difference of $.83 per hour. The difference between the hourly wages increased to $1.05 in 1977 with males earning $4.15 per hour while females earned $3.10 per hour. There was a slight decrease in the hourly wage difference in 1978 to $.99 with males earning $.4.56 and females earning $3.57. It is worth noting the differences in the Standard Deviation. For all three years, the Standard Deviation of wages for females is much lower than for males. This indicates that the spread of males' wages is greater.

TABLE 5 Comparison of Hourly Wage by Sex in 1976

Sex	N	M	SD	SE	t	df	p
Male	938	3.66	1.44	.047			
					15.93	1962	.000
Female	1,026	2.83	.79	.025			

Significant at < .05 level

TABLE 6 Comparison of Hourly Wage by Sex in 1977

Sex	N	M	SD	SE	t	df	p
Male	1,047	4.15	1.59	.049			
					20.27	2304	.000
Female	1,259	3.10	.83	.23			

Significant at < .05 level

TABLE 7 Comparison of Hourly Wage by Sex in 1978

Sex	N	M	SD	SE	t	df	p
Male	1,031	4.56	1.64	.051			
					19.11	2197	.000
Female	1,168	3,57	.98	.029			

Significant at < .05 level

N = number of subjects, M = mean, SE = Standard Deviation, SE = Standard Error, t = t-ratio, df = Degrees of Freedom, p = level of significance

Hypothesis 4

HO: There is no significant difference between male vocational education graduates and female vocational education graduates in the amount of hourly wages they earned across 1976, 1977 and 1978.

An analysis of variance was used to test hypothesis 4 across the three years. The alpha level for the univariate analysis was set at alpha = .05. The two-way univariate Anova reveals that the sex by year interaction effect was significant ($p < .002$). The null hypothesis was not retained. There is significant sex year interaction as measured by wages.

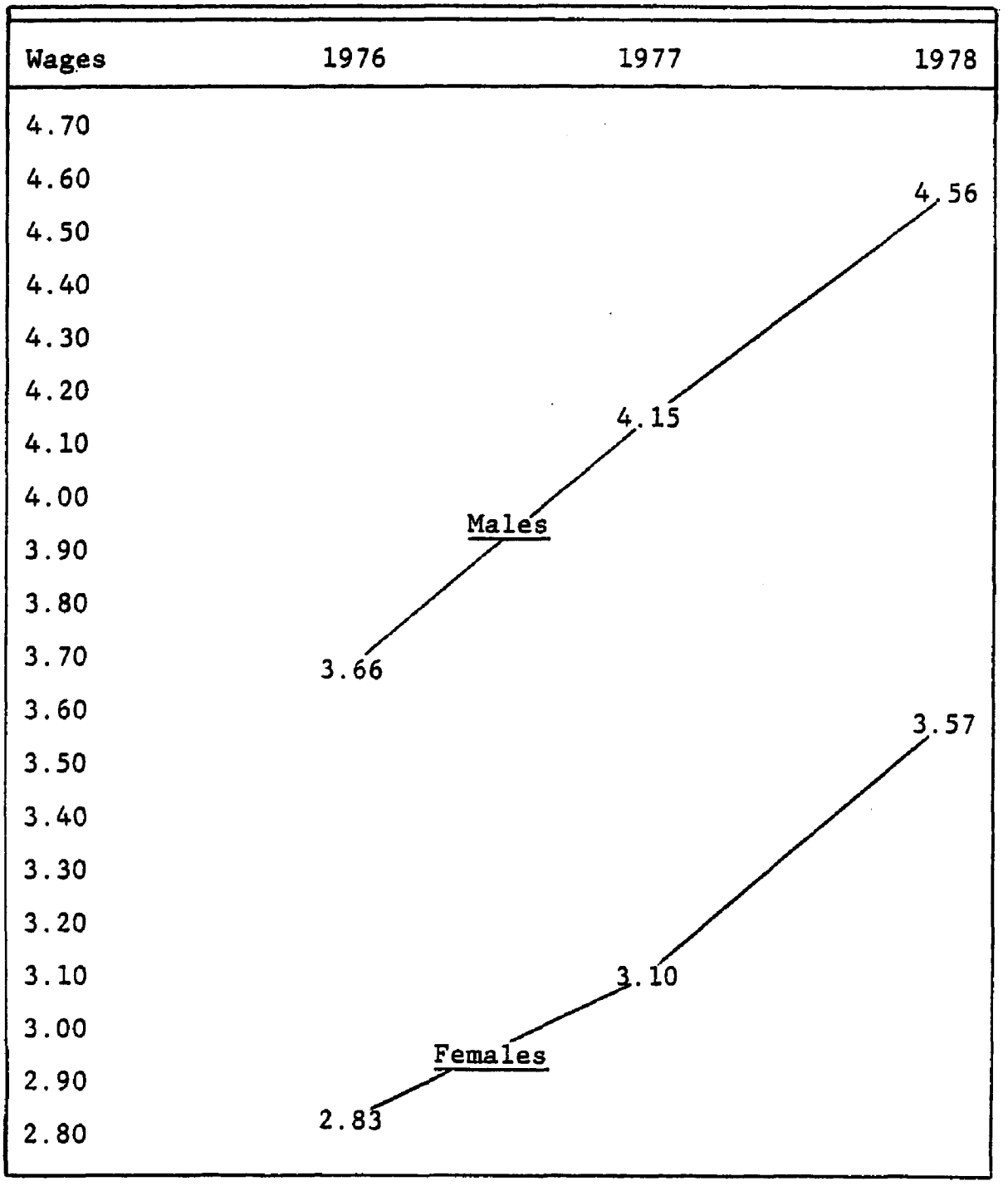
Examination of the table of means indicates that the grand mean for male and female wages over the three year period was $3.61. Male respondents to this question had wages that were $.53 higher than the mean across the years. Female respondents had wages that were $.46 lower than the mean. The average wage for males and females was $.39 lower than the mean in 1976 and $.03 lower in 1977. However, in 1978, the average for males and females was $.37 higher than the mean. The two-way Anova on Wages by Sex and Year is presented in Table 8. Hourly wage for males and females is graphically shown in Table 9 over the three years. A trend can be seen of increasing wages across the three years for both male and female vocational graduates. However, the overall effect is that male vocational graduates earn a significantly higher hourly wage than female vocational graduates.

TABLE 8 Two-Way Anova Wages by Sex Across Years

Sources	SS	DF	MS	F	Significance p level
Main effects	2182.504	3	727.501	471.480	.001
Sex	1585.046	1	1585.046	1027.240	.001
Year	609.453	2	304.727	197.488	.001
Sex & Year Interaction	20.010	2	10.005	6.484	.002
Within Error	9972.506	6463	1.543		
TOTAL	12175.020	6468	1.882		

SS = Sum of the Squares
DF = Degrees of Freedom
MS = Mean Square
F = F-ratio
P = Level of Significance

TABLE 9 Mean Hourly Wage for Vocational Graduates by Sex and Year



Hypothesis 5

HO: There is no significant difference between male vocational graduates and female vocational graduates in the degree of their job satisfaction in 1976, 1977 and 1978.

This hypothesis was not retained in 1976 and 1977 on the basis of a computed t-value at .005 and .002. There is a significant difference in the degree of job satisfaction of male and female vocational graduates during 1976 and 1977. However, in 1978, the hypothesis is retained based on a computed t-value at .931. The computed probability of .931 was above the a priori .05 level which signified retention. (See Tables 10, 11 and 12.)

The mean job satisfaction for males was reported at 1.88 in 1976 and 1.80 in 1977. Females reported job satisfaction at 1.78 in 1976 and 1.70 in 1977. Males reported higher job satisfaction with their employment than females during 1976 and 1977. There was minimal difference in job satisfaction for males and females in 1978. Males reported a mean of 1.71 while the mean for females was 1.70.

TABLE 10 Comparison of Job Satisfaction by Sex in 1976

Sex	N	M	SD	SE	t	df	p
Male	1,180	1.88	.855	.025			
					2.84	2431	.005
Female	1,253	1.78	.844	.024			

Significant at < 05 level

TABLE 11 Comparison of Job Satisfaction by Sex in 1977

Sex	N	M	SD	SE	t	df	p
Male	1,356	1.80	.852	.023			
					3.04	2821	.002
Female	1,467	1.70	.806	.021			

Significant at < .05 level

TABLE 12 Comparison of Job Satisfaction by Sex in 1978

Sex	N	M	SD	SE	t	df	p
Male	1,367	1.71	.775	.021			
					.09	2785	.931
Female	1,420	1.70	.776	.021			

N = number, M = mean, SD = Standard Deviation, SE = Standard Error, t = t-ratio, df = Degrees of Freedom, p = level of significance.

Hypothesis 6

HO: There is no relationship between male vocational education graduates and female vocational education graduates continuing education full or part-time in 1976, 1977 and 1978.

The relationship between sex and continuing education was tested using the Chi-square test for significance. This hypothesis was retained based on $p < .8951$ in 1976, $p < .8662$ in 1977, and $p < .1189$ in 1978.

Tables 13, 14 and 15 compare continuing education full and part-time. There are minimal differences in the percentages. The percentage for males was 77.6 percent in 1976, 75.5 percent in 1977, and 72.3 percent in 1978 continuing education full-time. The percentage of males Continuing Education decreased across the three year period. The female graduates Continuing Education were 77.1 percent in 1976, 76.0 percent in 1977, and 76.1 percent in 1978. The female percentage appears to be stable over the three years with a slight decrease between 1976 and 1977. The percentage of males continuing education part-time was 22.4 percent in 1976, 24.5 percent in 1977, and 27.7 percent in 1978. Female percentages were 22.9 percent in 1976, 24.0 percent in 1977, and 23.9 percent in 1978.

TABLE 13 Comparison of Male & Female Vocational Graduates Continuing Education Full-Time and Part-Time in 1976

Employment	Sex			
	Male		Female	
	n	%	n	%
Full-Time	398	77.6	569	77.1
Part-Time	115	22.4	169	22.9
TOTAL	513	100.0	738	100.0

Chi-square = 0.1737

p value < .8951

TABLE 14 Comparison of Male & Female Vocational Graduates Continuing Education Full-Time and Part-Time in 1977

Employment	Sex			
	Male		Female	
	n	%	n	%
Full-Time	419	75.5	619	76.0
Part-Time	136	24.5	195	24.0
TOTAL	555	100.0	814	100.0

Chi-square = .02840

p value < .8662

TABLE 15 Comparison of Male & Female Vocational Graduates Continuing Education Full-Time and Part-Time in 1978

Employment	Sex			
	Male		Female	
	n	%	n	%
Full-Time	428	72.3	600	76.1
Part-Time	164	27.7	188	23.9
TOTAL	592	100.0	788	100.0

Chi-Square = 2.43149

p value < .1189

SUMMARY

SECTION I

An analysis of data shown in Table 1 indicates there is not a significant difference in the percentage of male and female vocational education graduates employed.

There is a relationship between the variable sex and employment. The difference between the percentages of male graduates employed full-time and part-time and female graduates employed full-time and part-time is significant in 1976, 1977, and 1978.

The hourly wage rate of male vocational graduates was significantly higher than the hourly wage rate of female vocational graduates. The difference in hourly wages was significant in each of the three years. The analysis of variance further supports the sex by year interaction. Although wages increased for males and females over the three years, the hourly wage for males was consistently higher.

In the area of job satisfaction, there were significant differences in 1976 and 1977 between male vocational graduates and female vocational graduates. However, in 1978 there was no significant difference in the degree of job satisfaction of male and female vocational graduates.

There was no relationship between the variables sex and continuing education. The difference between the percentage of male graduates continuing education full and part-time and

female vocational graduates continuing education full and part-time was not significant in 1976, 1977 and 1978.

SUMMARY

TABLE 16 MALE & FEMALE VOCATIONAL GRADUATES 10% SAMPLE

	Male Percentages			Female Percentages		
	1976	1977	1978	1976	1977	1978
Employment	49.6	49.0	50.2	50.4	51.0	49.8
Full-Time	85.6	86.9	88.5	74.0	75.1	75.2
Part-Time	14.4	13.1	11.5	26.0	24.9	24.8
Hourly Wages (Dollars)	3.66	4.15	4.56	2.83	3.10	3.57
Job Satisfaction (Mean)	1.88	1.80	1.71	1.78	1.70	1.70
Continuing Education						
Full-Time	77.6	75.5	72.3	77.1	76.0	76.1
Part-Time	22.4	24.5	27.7	22.9	24.0	23.9

SECTION II

This section will explore questions underlying the hypotheses stated in Chapter III. The questions underlying each hypothesis were explored using all vocational education respondents for 1976, 1977 and 1978. Conclusions drawn from these analyses uphold the results of the ten percent sample. In addition, differences across occupational areas were examined. Occupational areas were not explored with the ten percent sample due to small cell sizes for certain occupations. A description of the findings relative to these questions follows.

Question 1

Is there a difference between male vocational graduates and female vocational graduates in the percentage employed by occupational area in 1976, 1977 and 1978?

An analysis of Table 17 shows that the largest numbers of males and females are employed in traditional occupations of Trade and Industry (male) and Business and Office (female). The percentage of males in Trade and Industry has been stable with a slight increase over the three year period. The percentage of females in Business and Office decreased slightly between 1976 and 1977 but showed a small increase in 1978. The increase in 1978 was still less than the 1976

percentage.

Distributive Education appears to be the occupational field that comes closest to an equal proportion of males and females. The percentage of females employed in this area was 19 percent in 1976 while the male percentage was 17.5 percent. The percentage of both males and females in Distributive Education decreased each year of the study. However, the percentage between males and females increased with two percent more females employed in this occupation.

The non-traditional occupations for males of Health and Home Economics show the percentage of males in Health occupations remained steady at 9 percent for all three years and showed a slight increase in Home Economics from 3.4 percent in 1976 to 3.9 percent in 1978.

The non-traditional occupations for females of Agriculture and Trade and Industry show that females increased in Agriculture from 2.0 percent in 1976 to 2.2 percent in 1978. There was also a slight increase in Trade and Industry from 7.0 percent in 1976 to 8.4 percent in 1978.

Question 2

Is there a difference in the percentage of male vocational education graduates and female vocational education graduates employed full-time by occupational area in 1976, 1977 and 1978?

TABLE 17 Male & Female Vocational Graduates Employed by Occupational Area & Year

Occupational Area	Sex	1976 n	1976 %	1977 n	1977 %	1978 n	1978 %
Agriculture	M	853	6.7	994	6.7	948	6.4
	F	215	2.0	317	2.1	325	2.2
Distributive Education	M	2,229	17.5	2,399	16.2	2,329	15.7
	F	2,510	19.0	2,779	18.5	2,655	17.6
Health	M	113	.9	129	.9	147	.9
	F	1,629	12.0	1,880	12.5	1,873	12.4
Home Economics	M	434	3.4	534	3.6	572	3.9
	F	1,286	9.0	1,414	9.4	1,456	9.6
Business & Office	M	468	3.7	665	4.5	622	4.2
	F	6,518	50.0	7,403	49.2	7,516	49.8
Trade & Industry	M	8,605	67.7	10,079	68.1	10,182	68.8
	F	913	7.0	1,255	8.3	1,271	8.4
TOTAL	M	12,702	99.0*	14,800	100.0	14,800	99.9*
	F	13,071	99.0*	15,048	100.0	15,096	100.0

*Does not equal 100% due to rounding.

Initial analysis of Table 18 indicates that the number of males employed full-time exceeds the number of females employed full-time. The highest percentage of males, 69.6 percent in 1976, 69.7 percent in 1977, and 70.7 percent in 1978 are employed full-time in Trade and Industry occupations. Distributive Education has the second highest percentages of 16.6 percent in 1976, 15.8 percent in 1977, and 15.1 percent in 1978. The majority of males, 86.2 percent in 1976; 85.5 percent in 1977; and 85.8 percent in 1978, are employed in the two occupational areas of Trade and Industry and Distributive Education.

The highest percentage of females, 51.2 percent in 1976, 51.0 percent in 1977, and 51.6 percent in 1978, are employed full-time in the occupational area of Business and Office. Distributive Education is second with 18.7 percent in 1976, 18.5 percent in 1977, and 17.4 percent in 1978. Health occupations with percentages of 11.9 in 1976, 11.2 in 1977, and 10.8 in 1978 represented the third highest full-time occupational area for women. The majority of females, 81.8 percent in 1976; 80.7 percent in 1977; and 79.8 percent in 1978, are employed full-time in the occupational areas of Business and Office, Distributive Education and Health.

Non-traditional occupations for males employed full-time showed small increases between 1976 and 1978. The percentage of males employed full-time in Home Economics was

TABLE 18 Male & Female Vocational Graduates Employed Full-Time by Occupational Area and Year

Occupational Area	Sex	1976 n	1976 %	1977 n	1977 %	1978 n	1978 %
Agriculture	M	647	6.5	761	6.5	743	6.3
	F	153	1.7	217	2.1	234	2.2
Distributive Education	M	1,631	16.6	1,847	15.8	1,777	15.1
	F	1,650	18.7	1,940	18.5	1,821	17.4
Health	M	72	.7	65	.5	102	.9
	F	1,054	11.9	1,176	11.2	1,136	10.8
Home Economics	M	336	3.4	418	3.6	448	3.8
	F	827	9.4	954	9.0	991	9.5
Business & Office	M	304	3.1	436	3.7	384	3.2
	F	4,509	51.2	5,357	51.0	5,406	51.6
Trade & Industry	M	6,845	69.6	8,129	69.7	8,340	70.7
	F	615	6.9	858	8.2	889	8.5
TOTAL	M	9,835	99.9*	11,656	99.8*	11,794	100.0
	F	8,808	99.8*	10,502	100.0	10,477	100.0

*Does not equal 100% due to rounding.

3.4 percent in 1976, 3.6 percent in 1977, and 3.8 percent in 1978. This represented a .2 percent increase each year. Business and Office showed a gain from 3.1 percent in 1976 to 3.7 percent in 1977. The percentage dropped to 3.2 in 1978.

Non-traditional occupations for females employed full-time also showed small increases between 1976 and 1978. The percentage of females employed full-time in Trade and Industry was 6.9 percent in 1976, 8.2 percent in 1977, and 8.5 percent in 1978. There were also small increases in the number of females employed full-time in Agriculture with 1.7 percent in 1976, 2.1 percent in 1977, and 2.2 percent in 1978.

Question 3

Is there a difference between male vocational education graduates and female vocational education graduates in the percentage employed part-time by occupational area in 1976, 1977 and 1978?

An analysis of Part-Time employment for male and female vocational graduates is shown in Table 19. The number of female vocational graduates employed part-time exceeds the number of males employed part-time.

The highest percentage of males, 58.7 percent in 1976, 57.6 percent in 1977; and 56.5 percent in 1978, are employed in Trade and Industry occupations. Distributive Education

TABLE 19 Male & Female Vocational Graduates Employed Part-Time by Occupational Area and Year

Occupational Area	Sex	1976 n	1976 %	1977 n	1977 %	1978 n	1978 %
Agriculture	M	76	4.7	87	5.2	75	4.6
	F	47	1.5	68	2.2	49	1.5
Distributive Education	M	386	23.8	358	21.4	375	23.0
	F	613	19.7	570	18.1	620	18.6
Health	M	27	1.6	39	2.3	30	1.9
	F	427	13.7	492	15.6	545	16.3
Home Economics	M	56	3.5	65	3.9	56	3.5
	F	322	10.3	286	9.1	299	8.9
Business & Office	M	125	7.7	160	9.6	168	10.4
	F	1,515	48.7	1,511	48.0	1,596	47.8
Trade & Industry	M	951	58.7	964	57.6	916	56.5
	F	188	6.0	221	7.0	231	6.9
TOTAL	M	1,621	100.0	1,673	100.0	1,620	99.9
	F	3,112	99.9*	3,148	100.0	3,340	100.0

*Does not equal 100% due to rounding.

was second with 23.8 percent in 1976, 21.4 percent in 1977, and 23.0 percent in 1978. The majority of males, 82.2 percent in 1976; 79.0 percent in 1977; and 79.5 percent in 1978, are employed part-time in the occupations of Trade and Industry and Distributive Education.

The highest percentage of females, 48.7 percent in 1976; 48.0 percent in 1977; and 47.8 percent in 1978, are employed part-time in Business and Office occupations. Distributive Education is second with 19.7 percent in 1976, 18.1 percent in 1977, and 18.6 percent in 1978. Health occupations with 13.7 percent in 1976, 15.6 percent in 1977, and 16.3 percent in 1978 represented the third highest part-time occupational area for women.

Part-time employment in non-traditional occupations for males showed small increases in Business and Office occupations from 7.7 percent in 1976, 9.6 percent in 1977, and 10.4 percent in 1978. There were slight increases in Health and Home Economics from 1976 to 1977. However, the percentage dropped in both areas in 1978.

Part-time employment in non-traditional occupations for females increased in the area of Trade and Industry from 6.0 percent in 1976 to 7.0 percent in 1977, and dropped slightly to 6.9 percent in 1978. Part-time employment in Agriculture increased from 1.5 percent in 1976 to 2.2 percent in 1977. This percentage dropped to 1.5 percent in 1978.

Question 4

Is there a difference in the hourly wages earned by male vocational graduates and female vocational graduates by occupational area in 1976, 1977 and 1978?

The hourly wages of males and females by occupational field reveals large differences for males and females. The mean hourly wage for male graduates was $3.64 in 1976, $4.10 in 1977, and $4.56 in 1978. The mean hourly wage for females was $2.85 in 1976, $3.11 in 1977, and $3.44 in 1978. This was a difference of $.79 an hour in 1976. The gap widened to $.99 per hour difference in 1977 and increased further to $1.12 per hour in 1978.

Looking at hourly wages for males in 1976 by occupational field, the highest hourly wage of $3.71 was earned in Trade and Industry occupations. Distributive Education and Home Economics had identical wage rates of $3.55 per hour. Trade and Industry paid the highest hourly wage again in 1977 with a $4.19 rate. Distributive Education was second with $4.00 per hour and Agriculture third with $3.95 per hour. In 1978, the occupations ranked the same with Trade and Industry at $4.66, Distributive Education at $4.40 and Agriculture at $4.38. Traditional occupations for males paid the highest hourly salaries in 1977 and 1978. Home Economics which tied for second in 1976 was the only traditionally female occupation that was competitive. It ranked fourth in 1977 and 1978.

The results for females reveals that the traditional occupation of Business and Office paid the highest hourly wage of $2.93 in 1976. Health occupations were second at $2.85 per hour. Distributive Education and Trade and Industry ranked third at $2.77 per hour; 1977 showed a similar picture by occupation. Business and Office was first at $3.20 per hour, Trade and Industry was second with $3.11 and Distributive Education and Health were tied at $3.04. The 1978 picture again showed Business and Office first at $3.51 per hour, Trade and Industry second at $3.48 per hour, and Health occupations third at $3.39 per hour.

The traditional occupation of Business and Office paid the highest salaries to females for each of the three years. However, the non-traditional occupation of Trade and Industry, while third in 1976, emerged second in 1977, and remained second in 1978. Health occupations and Distributive Education were tied in 1977 with Health third in 1978.

When looking at rankings in Table 20 of males and females, the difference in wages within the occupation is quite dramatic. With the exception of Health occupations, the gap in hourly wages has widened every year. Males consistently earn a higher hourly wage than females. By multiplying the hourly difference in Distributive Education where employment rates are similar (see Table 17), females over a one-year period earn about $2,000 less than males.

TABLE 20 Hourly Wage of Male & Female Vocational Graduates by Occupational Area, Year & Rank

Occupational Area	Sex	1976 W	1976 R	1976 D	1977 W	1977 R	1977 D	1978 W	1978 R	1978 D
Agriculture	M	3.44	4	.83	3.95	3	.94	4.38	3	1.07
	F	2.61	5		3.01	5		3.31	5	
Distributive Education	M	3.55	2.5	.78	4.00	2	.96	4.40	2	1.04
	F	2.77	3.5		3.04	3.5		3.36	4	
Health	M	3.19	5	.34	3.79	5	.75	4.02	6	.63
	F	2.85	2		3.04	3.5		3.39	3	
Home Economics	M	3.55	2.5	.86	3.89	4	.95	4.27	4	.99
	F	2.69	6		2.94	6		3.28	6	
Business & Office	M	3.29	6	.36	3.68	6	.48	4.13	5	.62
	F	2.93	1		3.20	1		3.51	1	
Trade & Industry	M	3.71	1	.94	4.19	1	1.08	4.66	1	1.18
	F	2.77	3.5		3.11	2		3.48	2	
MEAN	M	3.64		.79	4.10		.99	4.56		1.12
	F	2.85			3.11			3.44		

W = Wages
R = Ranking
D = Difference

Question 5

Is there a difference in the degree of job satisfaction of male vocational education graduates and female vocational education graduates by occupational area in 1976, 1977 and 1978?

Job satisfaction for males and females for each of the three years reveals high percentages of job satisfaction in all occupations. The range for males was 79.7 percent to 88.1 percent. The range for females was 80.3 percent to 88.2 percent.

Occupations with the highest percentage of job satisfaction for males in 1976 were Health at 87.4 percent, Agriculture at 84.5 percent, and Home Economics at 82.5 percent. The rankings changed in 1977 to Agriculture and Home Economics tied for first with 85.4 percent satisfaction, Health was second at 84.7 percent, and Distributive Education third at 84.3 percent.

Agriculture remained the occupation with highest job satisfaction in 1978 at 88.1 percent for males. However, Trade and Industry emerged second at 85.8 percent and Health occupations dropped to third.

It should be noted that in 1976 and 1977, males reported two non-traditional occupations -- Health and Home Economics -- as offering the highest levels of job satisfaction. Health retained high percentages for all three years. In 1978, the

TABLE 21 Job Satisfaction of Male & Female Vocational Education Graduates by Occupational Area and Year

Occupational Area	Sex	1976 n	1976 %	1977 n	1977 %	1978 n	1978 %
Agriculture	M	648	84.5	773	85.4	746	88.1
	F	160	80.3	244	81.3	247	82.6
Distributive Education	M	1,649	80.1	1,874	84.3	1,799	85.3
	F	1,937	81.2	2,187	83.0	2,100	84.1
Health	M	90	87.4	100	84,7	113	85.6
	F	1,305	85.5	1,530	85.9	1,507	86.1
Home Economics	M	325	82.5	411	85.4	423	85.3
	F	992	81.4	1,084	81.8	1,102	84.3
Business & Office	M	342	79.7	511	81.9	7,884	85.8
	F	5,342	85.7	6,134	86.6	6,317	88.2
Trade & Industry	M	6,305	81.1	7,701	83.9	7,884	85.8
	F	700	82.9	945	81.4	968	83.9

highest job satisfaction was in traditional male occupations.

High percentages of job satisfaction for females followed traditional patterns. Business and Office was first in 1976, with 85.7 percent, followed by Health with 85.5 percent, and Trade and Industry at 82.9 percent. The results were much the same in 1977. Business and Office was first with 86.6 percent, Health was second at 85.9 percent and Distributive Education third at 83.0 percent. In 1978, the occupations with high percentages were all traditionally female. Business and Office was first with 88.2 percent, Health second at 86.1 percent, and Home Economics third at 84.3 percent.

Question 6

Is there a difference between male vocational graduates and female vocational graduates in the percentage continuing education full-time by occupational areas in 1976, 1977 and 1978?

The percentage of male and female graduates continuing education full-time ranged from 67.6 percent to 84.9 percent. In 1976, the occupation with the highest number of males continuing education was Health at 83.7 percent. Agriculture was second at 83.2 percent, and Business and Office third at 81.5 percent. The same occupations remained high but ranked differently in 1977. Agriculture was first at 84.9 percent, Business and Office and Health occupations were tied at 81.4 percent. In 1978, Agriculture and Business and

Office were tied at 84.2 percent. Health occupations followed at 76.0 percent. A high percentage of males are continuing education in non-traditional occupations. Health occupations and Business and Office show high percentages of males continuing education full-time in 1976, 1977 and 1978.

The highest percentage of females continuing education full-time in 1976 were in the occupational areas of Health at 80.6 percent, Agriculture at 77.4 percent, and Home Economics at 77.3 percent. In 1977, Agriculture had the highest percentage of 89.1, Health was second at 81.9, and Home Economics was third at 75.7. The highest occupations in 1978 were Health at 80.4 percent, Agriculture at 76.5, and Trade and Industry at 76.0 percent.

Occupations with high percentages of females continuing education were consistent in 1976 and 1977. Agriculture was the only non-traditional occupational area for females in 1976, 1977 and 1978. Trade and Industry emerged in 1978 with a high percentage of females continuing education in that area.

Question 7

Is there a difference in the percentage of male vocational graduates and female vocational graduates continuing education part-time by occupational area in 1976, 1977 and 1978?

TABLE 22 Male & Female Vocational Graduates Continuing Education Full-Time by Occupational Area and Year

Occupational Area	Sex	1976 n	1976 %	1977 n	1977 %	1978 n	1978 %
Agriculture	M	253	83.2	237	84.9	240	84.2
	F	89	77.4	115	89.1	130	76.5
Distributive Education	M	874	77.7	908	76.0	888	74.8
	F	951	74.6	1,026	74.8	1,016	72.9
Health	M	87	83.7	92	81.4	79	76.0
	F	1,032	80.6	1,144	81.9	1,121	80.4
Home Economics	M	109	70.3	126	70.4	115	67.6
	F	470	77.3	437	75.7	448	75.5
Business & Office	M	321	81.5	494	81.4	463	84.2
	F	2,730	76.4	2,985	74.7	3,004	73.5
Trade & Industry	M	2,165	73.5	2,353	73.1	2,259	70.3
	F	265	75.9	329	70.6	384	76.0

Occupations with the highest percentage of males continuing education part-time were Health, Trade and Industry, and Distributive Education in 1976, 1977 and 1978. Health occupations were first at 29.7 percent in 1976, 28.5 percent in 1977, and 31.8 percent in 1978. Trade and Industry was second with 26.5 percent in 1976, 26.8 percent in 1977, and 29.6 percent in 1978. Distributive Education ranked third with 22.2 percent in 1976, 23.8 percent in 1977, and 24.9 percent in 1978. Health occupations were the only non-traditional occupational area where a high percentage of males continued education part-time.

Occupations with high percentages of females continuing education part-time did not vary significantly in 1976 and 1977. In 1976, Distributive Education was first at 25.3 percent, Trade and Industry was second at 24.1 percent and Business and Office third at 23.5 percent. The same occupations were high in 1977; however, Trade and Industry was highest with 29.2 percent, followed by Business and Office at 25.2 percent, and Distributive Education at 27.0 percent. Occupations high in 1978 were Distributive Education at 27.0 percent, Business and Office at 26.3 percent and Home Economics at 24.5 percent.

Trade and Industry was the non-traditional occupational area with a large percentage of women continuing education part-time.

TABLE 23 Male & Female Vocational Graduates Continuing Education Part-Time by Occupational Area and Year

Occupational Area	Sex	1976 n	1976 %	1977 n	1977 %	1978 n	1978 %
Agriculture	M	49	16.1	39	14.0	43	15.1
	F	26	22.6	14	10.9	39	22.9
Distributive Education	M	250	22.2	284	23.8	296	24.9
	F	322	25.3	343	25.0	376	22.0
Health	M	16	15.4	21	18.6	25	24.0
	F	247	19.3	251	18.0	271	19.4
Home Economics	M	46	29.7	51	28.5	54	31.8
	F	138	22.7	140	24.3	145	24.5
Business & Office	M	72	18.3	109	18.0	86	15.6
	F	840	23.5	1,007	25.2	1,076	26.3
Trade & Industry	M	780	26.5	861	26.8	950	29.6
	F	84	24.1	136	29.2	120	23.8

SUMMARY

SECTION II

There are differences between male and female graduates in the percentages employed by occupational areas. Males have high employment in the Trade and Industry area and females have high employment in Business and Office. These occupations have traditionally been high for males and females. Distributive Education came closest to an equal proportion of males and females.

Health and Home Economics showed increases for males in non-traditional occupations. Agriculture and Trade and Industry showed increases for females in non-traditional occupations.

The hourly wage rate varied for males and females by occupation. Wages were highest for males in Trade and Industry with Distributive Education and Home Economics second and third. Wages were highest for females in Business and Office and Trade and Industry.

In the area of job satisfaction, males were more satisfied with their jobs in the occupations of Health, Agriculture and Home Economics. Females were more satisifed in Business and Office and Health occupations.

Occupations with high percentages of males continuing education were Health, Agriculture and Business and Office. The highest percentages for females were the occupations of Health and Agriculture.

TABLE 24 SUMMARY - MALE & FEMALE VOCATIONAL GRADUATES BY OCCUPATIONAL AREA

	SEX	AGRICULTURE 1976 %	AGRICULTURE 1977 %	AGRICULTURE 1978 %	DISTRIBUTIVE EDUCATION 1976 %	DISTRIBUTIVE EDUCATION 1977 %	DISTRIBUTIVE EDUCATION 1978 %	HEALTH 1976 %	HEALTH 1977 %	HEALTH 1978 %
Employed	M	6.7	6.7	6.4	17.5	16.2	15.7	.9	.9	.9
	F	2.0	2.1	2.2	19.0	18.5	17.6	12.0	12.5	12.4
Full-Time Employment	M	6.5	6.5	6.3	16.6	15.8	15.1	.7	.5	.9
	F	1.7	2.1	2.2	18.7	18.5	17.4	11.9	11.2	10.8
Part-Time Employment	M	4.7	5.2	4.6	23.8	21.4	23.0	1.6	2.3	1.9
	F	1.5	2.2	.15	19.7	18.1	18.6	13.7	15.6	16.3
Hourly Wage (Dollars)	M	3.44	3.95	4.38	3.55	4.00	4.40	3.19	3.79	4.02
	F	2.61	3.01	3.31	2.77	3.04	3.36	2.85	3.04	3.39
Job Satisfaction	M	84.5	85.4	88.1	80.1	84.3	85.3	87.4	84.7	85.6
	F	80.3	81.3	82.6	81.2	83.0	84.1	85.5	85.9	86.1
Full-Time Continuing Education	M	83.2	84.9	84.2	77.7	76.0	74.8	83.7	81.4	76.0
	F	77.4	89.1	76.5	74.6	74.8	72.9	80.6	81.9	80.4
Part-Time Continuing Education	M	16.1	14.0	15.1	22.2	23.8	24.9	15.4	18.6	24.0
	F	22.6	10.9	22.9	25.3	25.0	22.0	19.3	18.0	19.4

TABLE 24 SUMMARY - MALE & FEMALE VOCATIONAL GRADUATES BY OCCUPATIONAL AREA CONTINUED

	SEX	HOME ECONOMICS 1976 %	1977 %	1978 %	BUSINESS & OFFICE 1976 %	1977 %	1978 %	TRADE & INDUSTRY 1976 %	1977 %	1978 %
Employed	M	3.4	3.6	3.9	3.7	4.5	4.2	67.7	68.1	68.8
	F	9.0	9.4	9.6	50.0	49.2	49.8	7.0	8.3	8.4
Full-Time Employment	M	3.4	3.6	3.8	3.1	3.7	3.2	69.6	69.7	70.7
	F	9.4	9.0	9.5	51.2	51.0	51.6	6.9	8.2	8.5
Part-Time Employment	M	3.5	3.9	3.5	7.7	9.6	10.4	58.7	57.6	56.5
	F	10.3	9.1	8.9	48.7	48.0	47.8	6.0	7.0	6.9
Hourly Wage (Dollars)	M	3.55	3.89	4.27	3.29	3.68	4.13	3.71	4.19	4.66
	F	2.69	2.94	3.28	2.93	3.20	3.51	2.77	3.11	3.48
Job Satisfaction	M	82.5	85.4	85.3	79.7	81.9	85.8	81.1	83.9	85.8
	F	81.4	81.8	84.3	85.7	86.6	88.2	82.9	81.4	83.9
Full-Time Continuing Education	M	70.3	70.4	67.6	81.5	81.4	84.2	73.5	73.1	70.3
	F	77.3	75.7	75.5	76.4	74.7	73.5	75.9	70.6	76.0
Part-Time Continuing Education	M	29.7	28.5	31.8	18.3	18.0	15.6	26.5	26.8	29.6
	F	22.7	24.3	24.5	23.5	25.2	26.3	24.1	29.2	23.8

CHAPTER V

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Statement of the Problem

The purpose of this study was to compare the achievement of male students who graduated from vocational education programs with the achievement of female vocational education graduates from vocational programs during 1976, 1977 and 1978. Specifically, the study was undertaken to compare: (a) the extent to which males and females were gainfully employed, (b) their hourly earnings, (c) the satisfaction expressed toward their employment, and (d) the number of males and females continuing their education.

One purpose of the study was to exmamine a ten percent sample of males and females who graduated from vocational education programs in 1976, 1977 and 1978, who responded to the Follow-Up Survey. The second purpose of the study was to examine all male and female vocational graduates who responded to the follow-up survey by occupational area.

Scope of the Study

The population of this study consisted of 38,820 vocational graduates in 1976, 42,100 vocational graduates in 1977, and 54,439 vocational graduates in 1978. These numbers

represent the number of Michigan secondary vocational graduates of approved vocational programs who responded to the follow-up survey during their first year after graduation. The graduates were divided into two groups based on their sex. The respondents to this question consisted of 20,944 females and 17,560 males in 1976, 22,206 females and 19,294 males in 1977, and 22,001 females and 18,946 males in 1978. The two groups were further stratified by occupational program area.

Limitations

This study is limited to the 1976, 1977 and 1978 vocational graduates who responded to the follow-up questionnaire. There was a total of 71.3 percent (38,820 graduates) response rate for 1976, 76.5 percent (42,100 graduates) response rate for 1977, and 76.9 percent (54,439 graduates) response rate for 1978. The response rates for the three years were sufficiently high to allow for generalization to the vocational population in Michigan.

The findings in Section II of this study compared males and females by the occupational areas of Agriculture, Distributive Education, Health, Home Economics, Business and Office, and Trade and Industry.

Methodology

Data used in this study were collected by the Michigan Department of Education, Vocational-Technical Education

Service, in a statewide follow-up of secondary graduates. The survey questionnaire and data collection procedures presented in Chapter III delineate the process used by the state agency to gather information.

A ten percent random sample of 38,820 secondary vocational graduates in 1976, 42,100 secondary vocational graduates in 1977, and 54,439 secondary vocational graduates in 1978, who completed their vocational training and responded to the follow-up questionnaire, was used to complete this study. The vocational graduates were divided into two groups by sex to complete Section I of the analysis. The entire population of males and females who responded to the follow-up survey for 1976, 1977 and 1978 were compared by occupational area in Section II of the study.

Findings from Survey of Graduates - Section I

Males and females were compared in this study by the following criteria: (1) employment, (2) full or part-time employment, (3) hourly wages, (4) job satisfaction, (5) continuing education (full or part-time). Important findings derived from analysis of the criteria are presented and discussed by section.

Employment Status

Differences in the employment levels of male and female vocational graduates were minimal.

Full and Part-Time Employment

Differences in full and part-time employment of males and females were significant. The percentage of males employed full-time exceeded the number of females each year studied. The percentage of females employed part-time exceeded the number of males each year.

Hourly Wages

There were significant differences in the hourly wages of males and females. Males consistently earned higher wages than females.

Job Satisfaction

There were significant differences in the degree of job satisfaction in 1976 and 1977. Males were more satisfied with their employment than females. There were minimal differences in job satisfaction levels of males and females in 1978.

Continuing Education

Differences in males and females continuing their education full or part-time were minimal.

Findings from Survey of Graduates by Occupational Area - Section II

Males and females in Agriculture, Distributive Education, Health, Home Economics, Business and Office and Trade

and Industry were compared in this section by the criteria of: (1) employment, (2) full or part-time employment, (3) hourly wages, (4) job satisfaction, and (5) continuing education (full or part-time).

Employment Full-Time

The largest percentage of males were employed full-time in Trade and Industry occupations in 1976, 1977 and 1978. The largest percentage of females were employed full-time in Business and Office in 1976, 1977 and 1978.

Employment Part-Time

The largest percentage of males were employed part-time in Trade and Industry occupations in 1976, 1977 and 1978. The largest percentage of females were employed part-time in Business and Office occupations in 1976, 1977 and 1978.

Hourly Wages

Trade and Industry occupations paid the highest hourly wages to males of $3.71 in 1976, $4.19 in 1977, and $4.66 in 1978. Business and Office occupations paid the highest hourly wages to females of $2.83 in 1976, $3.11 in 1977 and $3.48 in 1978.

Job Satisfaction

The occupation with the highest percentage of job satisfaction for males was Health occupations in 1976, Home

Economics and Agriculture in 1977, and Agriculture in 1978. The occupation with the highest percentage of job satisfaction for females was Business and Office in 1976, 1977 and 1978.

Continuing Education Full-Time

The occupation with the highest percentage of males continuing education full-time was Health in 1976, Agriculture in 1977, Agriculture and Business and Office in 1978. The occupation with the highest percentage of females continuing education full-time was Health in 1976, Agriculture in 1977, and Health in 1978.

Continuing Education Part-Time

The occupation with the highest percentage of males continuing education part-time was Home Economics in 1976, 1977 and 1978. The occupation with the highest percentage of females continuing education part-time was Distributive Education in 1976, Trade and Industry in 1977, and Distributive Education in 1978.

Conclusions - Sections I & II

Employment

The data indicate that differences in employment rates of males and females are minimal. Both sexes have been successful in obtaining employment. Differences in full-time and part-time employment, however, were significant.

Males were more often employed full-time, while females were more often employed part-ime. The largest percentages of males were employed full and part-time in Trade and Industry, while females were employed in Business and Office. Findings related to traditional employment patterns of vocational education students in Michigan are consistent with national studies. The national job market shows females clustered in clerical and service occupations while males are more heavily distributed in craft and technical areas. Distributive Education is the only occupational area in Michigan where the percentage of male and female employment is close to equal.

Hourly Earnings

There were significant differences in the hourly wages earned by males and females for each year of this study. There are large wage differentials in the State of Michigan that favor males. The differences between hourly wages of males and females in all occupations ranged from $.83 per hour in 1976, to $1.05 in 1977, to $.99 in 1978. When looking within occupations, the figures were more dramatic. Males consistently earned higher wages in traditionally females occupations than females. In the Business and Office occupations field in 1976, males earned $.36 per hour more than females. The figure increased to $.62 per hour in 1978. This discrimination in hourly wages was

previously confirmed by a 1972 national report concerning issues and problems in evaluating vocational education. The study found that large wage differentials in favor of male vocational graduates did exist. Male vocational high school students earned about $.38 more per hour on their first job than females. While the differences in pay varied from one program area to another, it was noted that even in office occupations where women are the predominant sex, men made $.34 more per hour than women on their first job.

A study in Wisconsin in 1978 at Gateway Technical Institute further confirms data in this study. Researchers found that a comparison of male and female graduates showed that females averaged 25 percent less in wages than males and started at lower salaries. Respondents tended to graduate from either male or female intensive fields.

Differences in hourly earnings reported by Michigan graduates confirm national patterns of earning differentials of males and females. This study concludes that sex bias has an immediate impact on the lives of young women who enter the labor market.

The data would indicate that females employed in traditionally male occupations are not guaranteed equal wages following graduation. However, the potential for females to earn more in traditionally male occupations does exist.

Continuing Education

Differences in males and females continuing education full or part-time was minimal. Males continued their education more frequently in the areas of Health, Agriculture, and Business and Office. Females continued their education more frequently in areas of Health, Agriculture and Home Economics. Trade and Industry was reported as an area where females were continuing education in greater numbers. Males and females in Michigan tend to continue their education in the same proportion.

When reviewing data over the three year period, the researcher can conclude:

1. Male and female graduates are employed in the same proportions.
2. Increases in males and females employed in non-traditional occupations were not significant.
3. The hourly wages of males were significantly higher than females in every occupation each of the three years studied.
4. Males were significantly more satisfied with their jobs in 1976 and 1977. There was no significant difference in job satisfaction between males and females in 1978.

Recommendations

The findings of this study will provide meaningful facts about the occupational achievement of male and female

graduates of vocational education during 1976, 1977 and 1978 for policy makers, vocational educators and students. The following recommendations will provide direction in some aspects:

1. It is recommended that the Michigan Department of Education and local school districts should provide recruitment and career information to males and females on the wages and employment opportunities in traditionally male or female occupations.
2. It is recommended that model recruitment programs be developed to increase enrollments of males and females in non-traditional vocational training programs.
3. It is recommended that inservice training programs be developed and provided to all counselors, teachers and administrators in eliminating bias and sex role stereotyping.
4. It is recommended that support systems be developed to assist females enrolled in traditionally male occupations or males in traditionally female occupations adjust and complete occupational program objectives.
5. It is recommended that placement services be provided to assist completers of non-traditional occupations find employment.
6. It is recommended that business and industry be encouraged to allow trial periods of work in

non-traditional areas for males and females.

7. It is recommended that bonuses be provided as incentive to employees who recruit and assist persons seeking non-traditional jobs.
8. It is recommended that counter-socialization activities be initiated by the Vocational-Technical Education Service and local school districts in Child Care Programs to provide awareness of non-traditional occupations.

Future Studies

1. It is recommended that future studies be conducted to determine the method and extent to which districts recruit and place students in non-traditional programs.
2. It is recommended that future studies be conducted to assess the effectiveness of support services provided students in non-traditional programs.
3. It is recommended that future studies assess and compare males and females by United States Office of Education six digit codes (job titles) to determine differences in hourly wages.

APPENDICES

APPENDIX A

FOLLOW-UP SURVEY OF 1976 GRADUATES

VE-4045-A
4/76

Michigan Department of Education

Please return survey form to:

SCHOOL DISTRICT LABEL

FOLLOW-UP SURVEY OF 1976 GRADUATES

By answering the following questions you can help us to plan better educational programs for present high school students. The information you return will be used for educational purposes only. Thank you for your cooperation and assistance in completing this survey. Your name will not be released or otherwise connected with the information you provide.

PLEASE ANSWER THE ITEMS IN THIS QUESTIONNAIRE BY PLACING AN "X" IN THE BOX NEXT TO THE RESPONSE OF YOUR CHOICE.

PART I

DIRECTIONS: EVERYONE SHOULD COMPLETE PART I.

1. Racial-Ethnic Group:

14 [1] American Indian
[2] Black
[3] Oriental
[4] Spanish Surnamed American
[5] White
[6] Other

2. Sex:

15 [1] Male
[2] Female

3. Check the WORD that best describes how well your high school (or area vocational education center) courses prepared you to do what you are doing now.
(Check ONE only.)

19 [1] Excellent
[2] Good
[3] Fair
[4] Poor

4. Which of the following statements describe your present status?
(Check ALL that apply.)

A. 17 [1] I am now employed.
I work about _____ hours per week.
18

B. 20 [1] I am not now employed.

C. 21 [1] I am looking for a job.
[2] I am not looking for a job.

D. 22 [1] I am a full time student.
[2] I am a part time student.

E. 23 [1] I am a homemaker.

F. 24 [1] I am in (or will be by April 1977) the military service.

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(Page 2)

PART 2 – EMPLOYED
DIRECTIONS FOR PART 2

IF YOU ARE EMPLOYED FULL OR PART TIME NOW, OR IF YOU ARE IN THE MILITARY, PLEASE COMPLETE THIS PART OF THE QUESTIONNAIRE. OTHERWISE GO DIRECTLY TO PART 3, UNEMPLOYED – SEEKING WORK.

Name of Company or Branch of Military	City	State
Your Job Title		

5. In addition to training you, what did your HIGH SCHOOL or AREA VOCATIONAL EDUCATION CENTER do to HELP you FIND a job?
(Check ALL that apply.)

25 ☐ 1 Told me about job openings
26 ☐ 1 Sent me for an interview
27 ☐ 1 Taught me to fill out a job application
28 ☐ 1 Gave information about me to my employer
29 ☐ 1 Other (please specify) _____
30 ☐ 1 None of the above

6. Who helped you to find a job?
(Check ALL that apply.)

31 ☐ 1 High school or area vocational education center counselor
32 ☐ 1 Teacher or co-op coordinator
33 ☐ 1 Parent, other relative or friend
34 ☐ 1 High school or area vocational education center placement office
35 ☐ 1 Public employment agency
36 ☐ 1 Private employment agency
37 ☐ 1 College placement office
38 ☐ 1 Other (Please specify) _____
39 ☐ 1 No one but myself

7. On your present job, how much do you use the vocational training you received in high school or area vocational education center?
(Check ONE only.)

40 ☐ 1 A lot
☐ 2 Some
☐ 3 Hardly any
☐ 4 None

8. Overall, how satisfied are you with your present job?
(Check ONE only.)

41 ☐ 1 Very satisfied
☐ 2 Somewhat satisfied
☐ 3 Not very satisfied
☐ 4 Not at all satisfied

9. On my present job I am paid about $_____ per hour.
42

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(Page 3)

PART 3 – UNEMPLOYED - SEEKING WORK

DIRECTIONS FOR PART 3.

IF YOU ARE PRESENTLY UNEMPLOYED AND ARE LOOKING FOR A JOB, COMPLETE THIS PART OF THE QUESTIONNAIRE. OTHERWISE, GO DIRECTLY TO PART 4 – FURTHER EDUCATION.

10. Whom have you asked for help in finding a job?
(Check ALL that apply.)

46 ☐ 1 High school or area vocational education center counselor
47 ☐ 1 Teacher or co-op coordinator
48 ☐ 1 Parent, other relative or friend
49 ☐ 1 High school or area vocational education center placement office
50 ☐ 1 Public employment agency
51 ☐ 1 Private employment agency
52 ☐ 1 College placement office
53 ☐ 1 Other (Please specify) _____
54 ☐ 1 None of the above

PART 4 – FURTHER EDUCATION

DIRECTIONS FOR PART 4.

IF YOU ARE NOW ATTENDING SCHOOL OR ARE ENROLLED IN A TRAINING OR APPRENTICESHIP PROGRAM, PLEASE COMPLETE THIS PART OF THE QUESTIONNAIRE. OTHERWISE, GO DIRECTLY TO PART 5 – COMMENTS.

Name of School, Training or Apprentice Program	City	State

11. Check the type of school or program you are now attending.
(Check ONE only)

55 ☐ 1 2 year college (vocational-technical training program)
☐ 2 2 year college (liberal arts program)
☐ 3 4 year college or university
☐ 4 Business or trade school
☐ 5 Apprentice Program
☐ 6 Other (Please specify.) _____

12. My major area of study (or training) is _____

13. In your major area of study (or training), how much do you use the vocational training you received in high school or area vocational education center?
(Check ONE only.)

56 ☐ 1 A lot
☐ 2 Some
☐ 3 Hardly any
☐ 4 None

14. Check all who assisted you in finding and/or getting into your present educational program.
(Check ALL that apply)

57 ☐ 1 High school or area vocational education center counselor
58 ☐ 1 Teacher or co-op coordinator
59 ☐ 1 Parent, other relative or friend
60 ☐ 1 High school or area vocational education center placement office
61 ☐ 1 Training or apprentice program recruiter
62 ☐ 1 Other (Please specify) _____
63 ☐ 1 No one but myself

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(Page 4)

PART 5 – COMMENTS

DIRECTIONS FOR PART 5

ANY COMMENTS OR SUGGESTIONS YOU MAY HAVE CAN BE WRITTEN IN THE SPACE BELOW. (INCLUDE ANY TYPE OF ASSISTANCE YOU MIGHT NEED NOW OR THINGS YOU WOULD HAVE LIKED TO HAVE HAD IN YOUR HIGH SCHOOL PROGRAM.)

Comments and/or Suggestions:

SCHOOL USE ONLY

1. 64 [1.] [2.]

If an AREA CENTER, report student's home district identification. CERD CODE [| | | | | |] 73

Information obtained by telephone contact [ ] 10

2. O. E. Code ___ ___ . ___ ___ ___ ___ 65

Name of Program _____

3. 71 [1.] [2.]

4. 72 [1.] [2.]

APPENDIX B

FOLLOW-UP SURVEY OF 1977 GRADUATES

VE-4045-A
9/77

Michigan Department of Education

Please return survey form to:

SCHOOL DISTRICT LABEL

FOLLOW-UP SURVEY OF 1977 GRADUATES

By answering the following questions you can help us to plan better educational programs. The information you return will be used for educational purposes only. Thank you for your cooperation and assistance in completing this survey.

PLEASE ANSWER THE ITEMS IN THIS SURVEY BY PLACING AN "X" IN THE BOX NEXT TO THE RESPONSE OF YOUR CHOICE.

PART 1

1. Check ALL that apply.

   A. 15 [1] I am now employed.
   I work about _____ hours per week (16)
   B. 18 [1] I am unemployed and looking for a job.
   C. 19 [1] I am a full time student.
   [2] I am a part time student.
   D. 20 [1] I am a homemaker.
   E. 21 [1] I am in (or will be by April 1978) the military service.

2. Check the WORD that best describes how well your high school (or area vocational education center) courses prepared you to do what you are doing now. (Check ONE only.)

   22 [1] Excellent
   [2] Good
   [3] Fair
   [4] Poor

3. Sex:

   23 [1] Male
   [2] Female

4. Racial-Ethnic Group:

   24 [1] American Indian or Alaskan Native or Native American
   [2] Black, not of Latino or Hispanic origin
   [3] Asian or Pacific Islander
   [4] Latino or Hispanic
   [5] White, not of Latino or Hispanic origin

IF YOU ARE EMPLOYED FULL OR PART TIME NOW, OR IF YOU ARE IN THE MILITARY, PLEASE COMPLETE PART 2 OF THE SURVEY. OTHERWISE GO DIRECTLY TO PART 3, UNEMPLOYED — SEEKING WORK.

VS-4045-A
(Page 2)

PART 2 — EMPLOYED

Name of Company or Branch of Military	City	State

Your Job Title

5. In addition to training you, what did your HIGH SCHOOL or AREA VOCATIONAL EDUCATION CENTER do to HELP you FIND a job?
(Check ALL that apply.)

25 ☐ Told me about job openings
26 ☐ Sent me for an interview
27 ☐ Taught me to fill out a job application
28 ☐ Gave information about me to my employer
29 ☐ Other (please specify) _____
30 ☐ None of the above

6. Who helped you to find a job?
(Check ALL that apply.)

31 ☐ High school or area vocational education center counselor
32 ☐ Teacher or co-op coordinator
33 ☐ Parent, other relative or friend
34 ☐ High school or area vocational education center placement office
35 ☐ Public employment agency
36 ☐ Private employment agency
37 ☐ College placement office
38 ☐ Other (please specify) _____
39 ☐ No one but myself

7. On your present job, how much do you use the vocational training you received in high school or area vocational education center?
(Check ONE only.)

40 ☐ 1 A lot
☐ 2 Some
☐ 3 Hardly any
☐ 4 None

8. Overall, how satisfied are you with your present job?
(Check ONE only.)

41 ☐ 1 Very satisfied
☐ 2 Somewhat satisfied
☐ 3 Not very satisfied
☐ 4 Not at all satisfied

9. On my present job I am paid about $ _____ per hour.
42

IF YOU ARE PRESENTLY UNEMPLOYED AND ARE LOOKING FOR A JOB, COMPLETE PART 3 OF THE SURVEY. OTHERWISE, GO DIRECTLY TO PART 4 — FURTHER EDUCATION.

PART 3 — UNEMPLOYED — SEEKING WORK

10. Whom have you asked for help in finding a job?
(Check ALL that apply.)

46 [1] High school or area vocational education center counselor
47 [1] Teacher or co-op coordinator
48 [1] Parent, other relative or friend
49 [1] High school or area vocational education center placement office
50 [1] Public employment agency
51 [1] Private employment agency
52 [1] College placement office
53 [1] Other (please specify) _____
54 [1] None of the above

IF YOU ARE NOW ATTENDING SCHOOL OR ARE ENROLLED IN A TRAINING OR APPRENTICESHIP PROGRAM, PLEASE COMPLETE PART 4 OF THE SURVEY. OTHERWISE, GO DIRECTLY TO PART 5 — COMMENTS.

PART 4 — FURTHER EDUCATION

Name of School, Training or Apprentice Program	City	State

11. Check the type of school or program you are now attending.
(Check ONE only.)

55 [1] 2 year college (vocational-technical training program)
[2] 2 year college (liberal arts program)
[3] 4 year college or university
[4] Business or trade school
[5] Apprentice Program
[6] Other (please specify.) _____

12. My major area of study (or training) is _____

13. In your major area of study (or training), how much do you use the vocational training you received in high school or area vocational education center?
(Check ONE only.)

56 [1] A lot
[2] Some
[3] Hardly any
[4] None

14. Check all who assisted you in finding and/or getting into your present educational or training program.
(Check ALL that apply.)

57 [1] High school or area vocational education center counselor
58 [1] Teacher or co-op coordinator
59 [1] Parent, other relative or friend
60 [1] High school or area vocational education center placement office
61 [1] Training or apprentice program recruiter
62 [1] Other (please specify) _____
63 [1] No one but myself

ANY COMMENTS OR SUGGESTIONS YOU MAY HAVE CAN BE WRITTEN IN PART 5. (INCLUDE ANY TYPE OF ASSISTANCE YOU MIGHT NEED NOW AND LIST THE TYPES OF ASSISTANCE OR PROGRAMS YOU HAD IN YOUR SCHOOL THAT WERE MOST BENEFICIAL TO YOU.)

PART 5 — COMMENTS

Comments and/or Suggestions:

SCHOOL USE ONLY

1.
64 [1]
[2]

If an AREA CENTER, report student's home district identification. CEPD CODE 73

2. O. E. Code ____ ____ . ____ ____ ____ ____ (65)

Information obtained by telephone contact [ ] 80

Name of Program _____

3.
71 [1]
[2]

4.
72 [1]
[2]

APPENDIX C

FOLLOW-UP SURVEY OF 1978 GRADUATES

VE-4045-A
9/78

Michigan Department of Education

Please return survey form to:

SCHOOL DISTRICT LABEL

FOLLOW-UP SURVEY OF 1978 GRADUATES

By answering the following questions you can help us to plan better educational programs. The information you return will be used for educational purposes only. Thank you for your cooperation and assistance in completing this survey.

PLEASE ANSWER THE ITEMS IN THIS SURVEY BY PLACING AN "X" IN THE BOX NEXT TO THE RESPONSE OF YOUR CHOICE.

PART 1

1. Check ALL that apply.

   A. 15 [1] I am now employed.
   I work about _____ hours per week (16)
   B. 16 [1] I am unemployed and looking for a job.
   C. 19 [1] I am a full time student.
   [2] I am a part time student.
   D. 20 [1] I am a homemaker.
   E. 21 [1] I am in (or will be by April 1979) the military service.

2. Check the WORD that best describes how well your high school (or area vocational education center) courses prepared you to do what you are doing now. (Check ONE only.)

   22 [1] Excellent
   [2] Good
   [3] Fair
   [4] Poor

3. Sex:

   23 [1] Male
   [2] Female

4. Racial-Ethnic Group:

   24 [1] American Indian or Alaskan Native
   [2] Black, not of Latino or Hispanic origin
   [3] Asian or Pacific Islander
   [4] Latino or Hispanic
   [5] White, not of Latino or Hispanic origin

IF YOU ARE EMPLOYED FULL OR PART TIME NOW, OR IF YOU ARE IN THE MILITARY, PLEASE COMPLETE PART 2 OF THE SURVEY. OTHERWISE GO DIRECTLY TO PART 3, UNEMPLOYED — SEEKING WORK.

VE-4045-A
(Page 2)

PART 2 — EMPLOYED

Name of Company or Branch of Military	City	State

Your Job Title

5. In addition to training you, what did your HIGH SCHOOL or AREA VOCATIONAL EDUCATION CENTER do to HELP you FIND a job?
(Check ALL that apply.)

25 ☐ Told me about job openings
26 ☐ Sent me for an interview
27 ☐ Taught me to fill out a job application
28 ☐ Gave information about me to my employer
29 ☐ Other (please specify) _____
30 ☐ None of the above

6. Who helped you to find a job?
(Check ALL that apply.)

31 ☐ High school or area vocational education center counselor
32 ☐ Teacher or co-op coordinator
33 ☐ Parent, other relative or friend
34 ☐ High school or area vocational education center placement office
35 ☐ Public employment agency
36 ☐ Private employment agency
37 ☐ College placement office
38 ☐ Other (please specify) _____
39 ☐ No one but myself

7. On your present job, how much do you use the vocational training you received in high school or area vocational education center?
(Check ONE only.)

40 ☐ A lot
☐ Some
☐ Hardly any
☐ None

8. Overall, how satisfied are you with your present job?
(Check ONE only.)

41 ☐ Very satisfied
☐ Somewhat satisfied
☐ Not very satisfied
☐ Not at all satisfied

9. On my present job I am paid about $ _____ per hour.
42

IF YOU ARE PRESENTLY UNEMPLOYED AND ARE LOOKING FOR A JOB, COMPLETE PART 3 OF THE SURVEY. OTHERWISE, GO DIRECTLY TO PART 4 — FURTHER EDUCATION.

PART 3 — UNEMPLOYED — SEEKING WORK

10. Whom have you asked for help in finding a job?
(Check ALL that apply.)

46 ☐ 1 High school or area vocational education center counselor
47 ☐ 1 Teacher or co-op coordinator
48 ☐ 1 Parent, other relative or friend
49 ☐ 1 High school or area vocational education center placement office
50 ☐ 1 Public employment agency
51 ☐ 1 Private employment agency
52 ☐ 1 College placement office
53 ☐ 1 Other (please specify) _____
54 ☐ 1 None of the above

IF YOU ARE NOW ATTENDING SCHOOL OR ARE ENROLLED IN A TRAINING OR APPRENTICESHIP PROGRAM, PLEASE COMPLETE PART 4 OF THE SURVEY. OTHERWISE, GO DIRECTLY TO PART 5 — COMMENTS.

PART 4 — FURTHER EDUCATION

Name of School, Training or Apprentice Program	City	State

11. Check the type of school or program you are now attending.
(Check ONE only.)

55 ☐ 1 2 year college (vocational-technical training program)
☐ 2 2 year college (liberal arts program)
☐ 3 4 year college or university
☐ 4 Business or trade school
☐ 5 Apprentice Program
☐ 6 Other (please specify.) _____

12. My major area of study (or training) is _____

13. In your major area of study (or training), how much do you use the vocational training you received in high school or area vocational education center?
(Check ONE only.)

56 ☐ 1 A lot
☐ 2 Some
☐ 3 Hardly any
☐ 4 None

14. Check all who assisted you in finding and/or getting into your present educational or training program.
(Check ALL that apply.)

57 ☐ 1 High school or area vocational education center counselor
58 ☐ 1 Teacher or co-op coordinator
59 ☐ 1 Parent, other relative or friend
60 ☐ 1 High school or area vocational education center placement office
61 ☐ 1 Training or apprentice program recruiter
62 ☐ 1 Other (please specify) _____
63 ☐ 1 No one but myself

ANY COMMENTS OR SUGGESTIONS YOU MAY HAVE CAN BE WRITTEN IN PART 5. (INCLUDE ANY TYPE OF ASSISTANCE YOU MIGHT NEED NOW AND LIST THE TYPES OF ASSISTANCE OR PROGRAMS YOU HAD IN YOUR SCHOOL THAT WERE MOST BENEFICIAL TO YOU.)

VE-4048-A
(Page 4)

PART 5 — COMMENTS

Comments and/or Suggestions:

SCHOOL USE ONLY

1.
54 [1]
[2]

If an AREA CENTER, report student's home district identification. CSPD CODE 73

2. O. E. Code ___ ___ . ___ ___ ___ ___ (46)

Information obtained by telephone contact [ ] 50

Name of Program _____

3.
71 [1]
[2]

4.
72 [1]
[2]

APPENDIX D

ASSURANCES REQUIRED TO OBTAIN ACCESS TO DATA

RP-2969
8 71

Michigan Department of Education
RESEARCH, EVALUATION AND ASSESSMENT SERVICES
Box 420 Lansing, Michigan 48902

ASSURANCES REQUIRED TO OBTAIN ACCESS TO DATA

MAILING INSTRUCTIONS: Return TWO copies to the STATE address indicated above.

I. IDENTIFICATION OF DATA SUPPLIED BY THE MICHIGAN DEPARTMENT OF EDUCATION

Edited Master of the Vocational Technical Education Service Follow-up Survey for 1976, 1977, and 1978 Graduates

II. DESCRIBE ANTICIPATED USE OF THE DATA

Ph.D. Thesis on the comparison of Occupational Achievement of Male and Female Vocational Education Graduates

III. ASSURANCES

The following assurances are given to the Michigan Department of Education in return for access to data for educational research purposes:

1. The data supplied will be used exclusively under the direction of the researcher whose name appears below, and will not be supplied to any other individual, agency, or organization.
2. No school or school district, nor any individual staff member of any school or school district will be identified in any report of the research conducted with these data.
3. The expense of obtaining a copy of the required assessment data will be borne by the researcher.
4. The researcher will supply at least one copy of all completed research reports based upon these data to the Director, Research, Evaluation and Assessment Service, Michigan Department of Education.

IV. CERTIFICATION:

I certify the above assurances will be followed while using data provided by the Michigan Department of Education.

Date 5/29/79 Person Requesting Data [signature]

Position Vocational Education Specialist

Address Box 30009

City Lansing Zip 48909

Telephone 517/ 373-0402
Area Code/Local No.

STATE USE ONLY

ADDITIONAL CONDITIONS (Please describe)

Date 5/29/79 Service Director Approval 109 [signature] (Signature)

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