AN ECONOMIC PERSPECTIVE OF NURSES' WAGES: COMPARISON OF THE ADMINISTRATIVE WAGE SCALES OF MALE AND FEMALE DOMINATED OCCUPATIONS IN THE PORTLAND METROPOLITAN AREA

by

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CHAPTER I

INTRODUCTION

Introduction to the Problem

> Research on women's economic roles...is about the well-being of individual women and the men and children whose lives are linked to theirs as family, friends and coworkers (Kahne & Kohen, 1975, p.1249)

At the present time a shortage of registered nurses is being experienced by most hospitals across the country. In recent years this shortage has increased, and there is evidence to show that the problem will become more acute in the near future (Jacox, 1979; Lucas, 1980; Quan & Lindeman, 1980; and Weiss, Sobiech & Sauer, 1980). In a highly complex socioeconomic milieu it is difficult to generate answers to this problem, but some research has been conducted to investigate the shortage.

From a national attitudinal survey of 1595 registered nurse respondents, Donovan (1980) reported that six out of ten respondents said they were inadequately rewarded for their work. Wages were not considered the main reason for dissatisfaction but were among the top 3 to 4 considerations. Slavitt, Stamps and Piedmont (1978) demonstrated this same pattern in a methodological study to improve a work satisfaction questionnaire. The scale measured the relative importance of various components of job satisfaction and attitudes. The results indicated that

nurses' pay ranked as high as number three in importance.

Dissatisfaction with wages is exemplified by the frequent statement heard among nurses, "A grocery clerk makes more than a registered nurse" (Donovan 1980). Donovan found that supermarket cashiers, clerks and meat cutters make more than general duty nurses in most parts of the country. Nursing leaders are also echoing this complaint. Quan and Lindeman (1980) stated in an article for The American Nurse: "In light of inflation most nurses' salaries are too low to absorb increased costs of living.... The ANA needs to have a data base that contains current vital information on...salaries and factors surrounding employment...to influence the socio-economic state of nurses at the national level" (p.5).

The importance of wages as an organizational reward has been downgraded in recent years, a position that is due, in part, to the theories of Maslow and Herzberg which place monetary rewards on the lower end of the hierarchy of motivational needs as said in Luthans (1977). Shapiro (1976) stated that it is common, in the profession of nursing, for nurses to downplay money as a motivator and claim altruism as the primary motivator. This attitude originates from a traditional female role orientation as well as the nursing professional orientation which developed in part from religious orders and the Florence Nightingale image (Jacox, 1979). According to Luthans (1977), however,

money is a very important and complex positive (potential) reinforcer. It can provide power and status and a means to measure achievement. In our society nurses have little power and status and below average pay, according to Donovan's survey (1980). Nurses are beginning to realize the part money plays in their position in the health system hierarchy and the relationship it has to their status and recognition as well as their own motivational needs.

Aiken, Blendon & Rogers (1981) believe that the nursing shortage has been caused by wages that have been depressed relative to other workers, especially those of comparable worth to nursing. They stated that the following have been common explanations for the shortage: 1) nurses are not working at all, or are working in jobs outside the health field; 2) all of the increase in supply of nurses has been absorbed by a rapid increase in nonhospital employment; and 3) the increasing intensity of hospital care and more hospitalization for the aging population have increased the need for nurses faster than additional nurses can be employed. In response, Aikens et al., however, contradicted these assumptions by stating that: 1) nurses have the highest labor force participation rates (75%) of any other occupation dominated by women; 2) only 3% are employed in other fields; 3) the number of nurses has kept pace with the intensity of hospital care mainly because the average length of time for hospitalization has decreased; and 4) in 1966,

with the implementation of Medicare, nursing salaries increased twofold, and the rates of vacant nursing positions dropped dramatically, from 23% in 1961 to 9% in 1971. A significant number of inactive nurses came back to active practice. "There is compelling evidence from the Medicare period that there was a direct relation between incomes of nurses and their availability for hospital employment" (Aikens et al., 1981, p.368).

> When compared with salaries of predominantly male professions that perform services for society, and then compared with salaries for mens' occupations generally nurses are considerably undervalued and underpaid (Jacox, 1979, p.4)

Theories for understanding wages in the labor market are found in the field of economics. Neoclassical theories of wage discrimination posit mechanisms which may help explain the phenomena underlying the relative positions of nursing wages. These are discussed in the literature review and form the basis for this study.

Statement of Purpose

The purpose of this study was to investigate the association between gender orientation and wage scales of occupations of comparable worth, by comparing nursing and two other female dominated occupations with three male dominated occpations. Not only were the current initial entry level base salaries of each of the male and female dominated occupations of comparable worth compared, but also the current planned rates of increase in salaries (wage

scales) which were designed to be based on years of experience on the job. This helped determine whether the problem of wage discrimination based on sex related mainly to the entry level wages or to the subsequent opportunities for salary increases.

Since only current planned administrative salary scales were analyzed and not actual salaries received, this study reflected more of an administrative projection influenced by economic conditions than an economic empirical study based on the reality of labor market conditions.

Definitions of Terms

Occupation: The job description given to a worker which defines what his/her role is in carrying out a task in the workplace.

Male dominated: Males comprise over 70% of the work force.

Female dominated: Females comprise over 70% of the work force.

Comparable Worth: Between occupations - a similar amount of knowledge, skills, mental demands, accountability, and educational preparation.

Base salary: Paid time worked and not worked (e.g. vacation and sick time) for a full time position.

Entry level salary: The lowest level of salary in a particular grade or specific job description.

Conceptual Model and Hypotheses

Based on Human Capital Theory, over a given period of time, wage differentials between occupations exist because of differences in productivity. This results in differences in investment of human capital primarily in the form of formal training, on-the-job training and experience between occupations.

If one holds these differences in productivity constant, any remaining observed wage differences can be attributed to discrimination based on gender dominance of occupations. In addition, over time, when females are given less specific on-the-job training than males, the gap in wages should widen between male and female dominated occupations.

If these residual wage differentials exist:

1. The mean of the base entry level salaries of three female dominated occupations (nurses, elementary school teachers & librarians) will be lower than the mean of the base entry level salaries of three male dominated occupations (engineers, pharmacists, & deputy sheriffs).

2. The mean of the planned third year salary of these female dominated occupations (F.D.O.) will be lower than the mean of the planned third year salary of the male dominated occupations (M.D.O.).

3. The rate of increase in the mean of the base salaries of these F.D.O. over the same three year planned

wage period will be lower than the rate of increase in the mean of the base salaries of these M.D.O. over the same period.

The following are expected findings of the study which are added to compare nursing both with the other F.D.O.s and the M.D.O.s. Because of favorable supply and demand conditions for nursing in recent years, specifically at entry level, with a shortage of nurses relative to the demand, one would expect to find that:

A. nursing will have the higher base entry level salary of the F.D.O.s and will remain so over the three year planned wage period.

B. the base entry level salary of nursing will be approximately the same as the base entry level salary of the mean of the M.D.O.s., but the rate of increase in wages for the planned three year period will be lower for nursing than the M.D.O.s.

Independent Variables: Dominate gender base of the occupation and the number of years of occupational experience.

Dependent Variables: The entry level wage and the rate of increase in wage.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction.

The review of the literature is presented in three main sections. Definitions of wage discrimination with a brief overview of the comparable worth concept are included in the first section. The second consists of various economic theories explaining possible causes of gender-based wage discrimination. The model on which this study is based is the Human Capital Theory which is an economic Neoclassical approach to wage discrimination. This theory is contained in the first section of the review dealing with economic theories. The other theories and approaches are included to demonstrate that the issue of wage discrimination is broad and multifaceted. Research studies relating to nursing are also included; and finally, a conceptual framework of the literature review, incorporating the hypotheses for this study, is diagrammed.

Definitions of Wage Discrimination.

The term discrimination is used in the literature to demonstrate the distinction between male and female wages. According to Cohen (1971), wage discrimination refers to the payment of higher wages to men than to equally qualified

women holding the same job. Oaxaca (1973, p.643) stated that wage discrimination against females exists "whenever the relative wage of males exceeds the relative wage that would have prevailed if males and females were paid according to the same criteria". She demonstrated the concept in the following equation which she referred to as the discrimination coefficient (D).

$$D = \frac{Wm/Wf - (Wm/Wf)^{o}}{(Wm/Wf)^{o}}$$

where (Wm/Wf) = the observed male/female wage ratio and $(Wm/Wf)^{o}$ = the male/female wage ratio in the absense of discrimination.

Cohen's definition was somewhat limited in that it did not account for differences in male/female wages for jobs of equal merit (not just those which are exactly the same) and did not take into account other types of wage discrimination (which will be described later). Oaxaca's definition does take equal merit into consideration, but the task of determining the meaning of "same criteria" is problematic and complex (which will be demonstrated in later discussion on "comparable worth").

Madden (1975) stated that there are three types of sex discrimination in income: 1) wage discrimination; 2) occupational or job discrimination; and 3) cumulative discrimination. Wage discrimination occurs when wage differentials between males and females are not based on productivity differences. This type of discrimination

occurs when women performing (producing) the same work as men have different job titles and lower pay. Occupational or job discrimination occurs when criteria other than productivity are used in determining the workers who are hired. Different sex patterns in occupations (i.e. male & female dominated) are an illustration of the criteria used. Cumulative discrimination occurs when a worker has a lower level of productivity due to past discrimination. An example of this is seen when younger women make choices concerning types of training and levels of education on the basis of job patterns of older women who have previously been victims of discrimination.

Comparable Worth Concept.

Currently, the "Comparable Worth Concept" is a new issue supported by the federal Equal Employment Opportunity Commission (which deals, in part, with cases of sex discrimination in wages). This concept is increasingly being used in courts of law and a few union contracts. The method used in determining comparable worth is to analyze work by giving a point value to the amount of knowledge and skills, mental demands and accountability involved in a job. Occupational and interpersonal skills, decision-making, problem-solving, and the level of responsibility of the job are all taken into consideration, as well as the working conditions of environmental discomforts, health hazards and physical effort expended. A dollar value is then given to

each point, and the result is a "comparable worth" computed wage. The original study of comparable worth was started in 1974 in the state of Washington. Comparable worth or pay equity is supposed to correct past discrimination against women and minorities but is still a new idea and, as yet, is controversial and not fully accepted. Some think that it discriminates against anyone not managing employees or money. Since nurses manage patients and not other employees or money they lose points in the category of 'accountability'. However, the method helps the lowest paying categories significantly, such as Licensed Practical Nurses (Celarier, 1981). This points out part of the difficulty in dealing with wage discrimination and trying to define 'comparable worth'.

The following discussion presents theories which have been formulated on wage discrimination.

Economic Theories and Perspectives on Male/Female Wage Differentials

There are three main schools of thought in economic analysis regarding pay differentials and sex segregation in the labor market: the Neoclassical approach, the Institutional framework and the Radical-Political economic approach. This paper focusses on the first two. The Radical approach is not included due to its lack of an empirical data base. (For further information on this approach refer to Hartmann, (1977).)

The Neoclassical Approaches.

Neoclassical theory was the first theory on sex discrimination in wages or women's role in the economy. It was formulated as the result of an attempt to understand what was inadequate about traditional theories of economics when applied to women. It is concerned mainly with choices; that is, looking at people in their roles as producers and consumers. It assumes that there is free choice and that people take actions with a specific goal, and that the choice made maximizes the benefit that will be received (Waehrer, 1977). Some neoclassical economists use models of perfect competition in which wages equal the value of workers' marginal products (Blau & Jusenius, 1977). (Marginal revenue product is the amount added to the total output by the last worker hired times the price at which the output sells (Madden, 1975)).

Human Capital Theory. The term human capital refers to the economic worth of a person based on his/her education, training and experience. Using the theoretical perspective of human capital, economists view sex differences in wages as being the result of individual (and family) decision making about investment in human capital and the division of labor in the household (Kahne & Kohen, 1975). Human Capital Theory (HCT) is analyzed by economists in the same framework as investment theory. Any activity which raises future productivity as a result of direct or indirect (opportunity)

costs is analyzed. Investments can be anything that enhance productivity (Lloyd & Niemi, 1979). Blau & Jusenius (1977) state that the major point brought out in HCT is that men and women are not perfectly substitutable for one another in the labor force. Women accumulate less human capital than men because of fewer years in the work force even though their Intelligence Quotient and education may be the same.

Frank (1978) explained HCT in reference to married couples and their decision-making process concerning job searches. He stated that most adult participants in the labor force are married, and the husbands, as a group, work more hours and possess larger stocks of human capital than their wives. Couples who are searching for a pair of jobs are limited geographically because they must both, ultimately, be in the same geographic labor market. Initially, both partners try to get job offers from a range of labor markets to generate the optimum offer, but in the final result, one partner must compromise his/her best offer, since it would be unlikely that the best offers for both would occur in the same location. The economic view is that the total family income will be maximized in the process of deciding which jobs will be accepted. Since the husband generally works more hours and has the largest stock of human capital, the smaller compromise will probably be made with his job. The result is that the wives compromise more by taking a lower-paying job than they would have taken

given their best offer, and this sets up a pattern of wage differentiation. "If wives do indeed move less or stay less in response to considerations involving their own careers than to considerations involving their husbands, cost-minimizing employers will respond by investing in less firm-specific human capital for women" (Frank, 1978, p.372).

Polechek (1975) argued that women have different expectations of labor force participation, and that they make different decisions about the investment of their own human capital both during and after formal schooling. He said that the woman's skills (human capital) will depreciate during withdrawals from the work force, and that those who choose to work will try to adjust their work schedules to accommodate family responsibilities, and that this will lead to a decrease in productivity and wages. HCT has also been used to explain the division of labor in the household as well as other phenomena of division of labor force participation, but as Kahne and Kohen (1975) indicated, the theory is not fully developed and needs further research.

In a study of 272 professional employees in a single corporation, Malkiel and Malkiel (1973) found data consistent with the HCT. Their study concerned "equal pay for equal work". The organization employed a large number of men and women. The sample was homogeneous in terms of career interests and attachment to the labor force. The employees had invested many years in higher education and

post-schooling. Salaries were analyzed, and it was found that women with job characteristics equal to those of men received equal pay.

Corcoran (1978) found exception to the HCT in re-analyzing data from the 1976 Panel Study of Income Dynamics (PSID), which had originally been analyzed by Mincer & Polachek. This was a longitudinal study of 5,000 families which began in 1968. Detailed information was provided on earnings, education, work history, absenteeism and self-imposed restrictions on job hours and job location. By not restricting her sample to women aged 30-44 years as Mincer & Polachek had done, Corcoran formulated conclusions contrary to the expectations of HCT. For instance, her finding showed that women's work skills depreciated only slightly during periods of non-work. The reduction in expected wages was less than 1% for each year out of work if the women had not originally begun work directly after schooling. She found no significant effect on women's wages with an interruption in work if they had originally begun work directly after schooling.

Human Capital theorists argue that wages increase with work experience because of the training acquired while at work, but Corcoran (1978) found that this did not apply to womens' labor force experience. She found that women who were frequently absent from work or who had imposed limitations on work hours or job locations earned no less

than similarly qualified women who attended work regularly and who had imposed no limitations. Women working part time, voluntarily, earned no less than other women. Differences in wage changes between those who moved during the period of 1970-1975 and those who did not move was trivial. In addition, Corcoran's study included differences in white and black womens' earnings (and other associated variables). The 1976 Panel Study of Income Dynamics contained the following information on earnings differences between white men (WM), white women (WW), and black women (BW): Hourly earnings 1975 - WM $6.67, WW $4.17, and BW $3.75. Corcoran stated that the substantial difference between the work continuity of white men and white & black women accounted for less than 5% of the wage gap between them and the difference in labor force attachment (i.e. timing of job hours, amount of job hours, and job location) accounted for none of the wage gap between white men and women (black and white). This evidence can lead one to the conclusion that HCT does not explain in full the male/female wage differential which exists in society today. Because of this, the following discussion reviews other economic perspectives on the subject.

Taste for discrimination. Becker, the first economist to study wage discrimination in the labor market, theorized that this phenomenon is the result of a "taste for discrimination" by employers, employees, and consumers.

Becker explained this in the following way: He (the employee) "acts as if he were willing to pay something, either directly or in the form of reduced income, to be associated with some persons instead of others. When actual discrimination occurs, he must either pay or forfeit income for this privilege " (Becker, 1967, p.6). Becker's original focus was on racial discrimination, for which this theory seems more pertinent (since association with women would not seem to be as much of a problem as with a racial minority), but this theory paved the way for studies and other theories on this topic, including HCT. It is also similar to some of the theories which will be discussed further on in this review.

In a study which conforms with Becker's theory, Fuchs (1971) studied 1960 Census data to determine the size of the sex differential in hourly earnings for all nonfarm employed persons. He controlled for race, education, age, city size, marital status and class of worker. Fuchs expressed the sex differential in terms of female earnings being a percentage of male earnings. Using regression analysis he adjusted the female/male ratio to .66. He stated that his results rejected the hypothesis that the employer or supervisor is the source of discrimination, and stated that the hypothesis of discrimination by customers (consumers) was supported. He said that there is a tendency for women in predominantly male industries to have higher earnings. His results also

supported the hypothesis that much of the overall differential is related to lower attachment to the labor force of women and to less post-school investment (as in HCT). He referred to this as "role differentiation", and stated that it causes 40% of the differential and also affects choice of occupation, location of work, hours of work and other variables.

Government versus Non-Government Employment. Earning differentials vary according to type of employment, as found by Brown (1976), who studied the effects of government, private and self-employment on wages. He found that self-employment provides the highest income class for white men with private employment next and government last. The reverse was true for white women. In other words, government employment tends to raise the earnings of women while depressing the earnings of men. Women may experience the least return for self-employment because of consumer discrimination as mentioned above in Fuch's study.

Overcrowding Hypothesis. This theory, formulated by Bergmann, explains discrimination in terms of exclusion, that is, unequal access to some types of jobs. The hypothesis is that women are crowded into a smaller number of occupations by the power and preferences of men. This causes an excess supply to those occupations, and therefore reduces their productivity. This leads to a decrease in their value, and thus wage differentials exist (Kahne &

Kohen, 1975). Bergmann (1973) says that jobs of women have very little interest, opportunity or pay, no penalty for high turnover and pay that remains much the same over a period of time. Women have learned from the past that applying and training for higher paying jobs is not beneficial due to exclusion. Bergmann's theory is similar to Becker's theory of the "taste for discrimination" by the employer. One weakness of the Bergmann hypothesis is that it assumes that men and women are perfectly substitutable for each other in the market place (Blau & Jusenius, 1977). However, several studies (Cohen, 1971; Gunderson, 1978; Malkiel & Makiel, 1973; Oaxaxa, 1973; Sawhill, 1973) support the Bergmann hypothesis. They conclude that the sex differential is significantly large, and that unequal pay for equal work does not account for very much of this difference. Instead, they said, it is the concentration of women in lower paying jobs that produces the differentials. Cohen (1971) stated that the reason women occupy the lower paying occupations is tradition. Certain occupations (e.g. nursing) may have been more socially acceptable for women than others.

In a study based on 1967 Census Population Survey data on wage and salary workers, Sawhill (1973) adjusted the female/male annual earnings rate from .46 to .56 by controlling race, region of residence, education, age and hours of work. She concluded that her results were

consistent with the hypothesis that discriminatory segregation of women into occupations is at the root of the earnings gap, because it prevents women from receiving training, lowers their aspirations and restricts their job search.

The Monopsony Model. This model was applied by Madden (1975) who said that discrimination is a manifestation of male power, rather than of male tastes. A monopsonistic labor market is one in which there is only one employer in an area for a particular type of labor versus a highly competitive labor market. This theory suggests that, other things being equal, wages will be depressed in monopsonistic labor markets relative to wages paid in competitive markets (Link & Settle, 1979). The female labor force in this situation is not competitive but instead is controlled by male interests which makes the market place one of imperfect competition. The theories described above assume perfect competition. In the monopsonistic market employers will pay women less than equally productive males simply because women are willing to take less, but both sexes are paid less overall for their productivity. Madden (1975) emphasized that the key element in the model is the idea that the power of some group in the economy is used as a tool for profit maximization. This power is increased by women's immobility and/or by a lack of demand for women in other occupations (Blau & Jusenius, 1977).

This theory explains to a large extent the situation faced by the nursing profession, since the majority of nurses work in hospitals. Because of this, studies relating specifically to nursing are presented next. Institutional economic theories will then be discussed, ending with a conceptual model which demonstrates how all these theories relate to nursing and the hypotheses of this study.

Studies Related to Nursing. Nursing research in the area of wage discrimination is very limited. However, there are two studies by Link and Settle (1979, 1980). They studied the extent to which collective bargaining agreements with hospital employers enhanced salaries of registered nurses (RNs) and the relationship between RN salaries and the degree of competition among hospitals for the services of RNs. They used the theory of monopsonistic wage discrimination as a conceptual base, stating that nurses must deal with monopsonistic employers. Hospitals are the major employers of nurses, and the majority of U.S. hospitals are located in 1-hospital towns. Married nurses usually have little geographic mobility, and the profession is characterized by a specialized set of skills which are not easily transferrable to other professions. Link and Settle (1979) concluded that hospitals behave as monopsonistic employers of nurses by capitalizing on their geographic and specialized skill limitations. They also found that collective bargaining arrangements have the

potential for offsetting this. In reference to RN salaries, their findings indicated that financial rewards were significantly higher for additional years of formal schooling and number of years of experience.

Link and Settle (1980) also conducted a study to estimate how an increase in nurse compensation could increase the quantity of labor services offered by the existing stock of RNs. Obtaining data from the U.S. Bureau of the Census, they used a sample of approximately 3000 (a 1 in 100 public use sample). In studying married female nurses, a group which comprised over 70% of female RNs, they found that higher wages would probably have no effect on providing more nursing services but would have the opposite effect - reducing the number of hours worked by RNs. The labor supply curves showed a tendency for married female RNs initially to work extra hours per year as wage rate rose, but, at some point, further increases in wage rate led, on an average, to reductions in the quantity of services supplied by RNs. Link and Settle explained this as being a function of the same factors that economic theory and research have suggested: 1) the husband's wage; 2) nonlabor income (individual family wealth); 3) the wife's productivity as a housewife and mother; 4) the family's attitudes towards the wife working; and 5) the wage the wife could earn if she worked.

This last study appears to be a contradiction to the

argument that nurses desire higher wages. It supports the HCT that wives (nurses) compromise economic worth and career involvement for family considerations. However, as seen in the set of theories on discrimination including monopsonistic economic theory, the issue is much broader. The following approach exemplifies this even further.

The Institutional Framework.

This approach to wage discrimination looks at the structure of the institution itself rather than the supply and demand factors of the external labor market, and focusses upon the historic development, growth, technological change, and social characteristics of the institution (Waehrer, 1977). Blau and Jusenius (1977) divided this approach into an internal labor market and dual labor market analysis. Following descriptions of these is a brief explanation of the statistical discrimination theory which relates to both of these analyses.

The internal labor market approach (ILM) focusses on divisions of job structures which are found inherent in the institution. These comprise two categories of jobs: those filled from external sources, such as new recruits (usually filling entry level positions), and those filled from internal sources through promotion or upgrading. Supply and demand determine wages at entry level, but promotional ladders define wages within the firm. The process by which workers progress up the ladder is specifically defined and

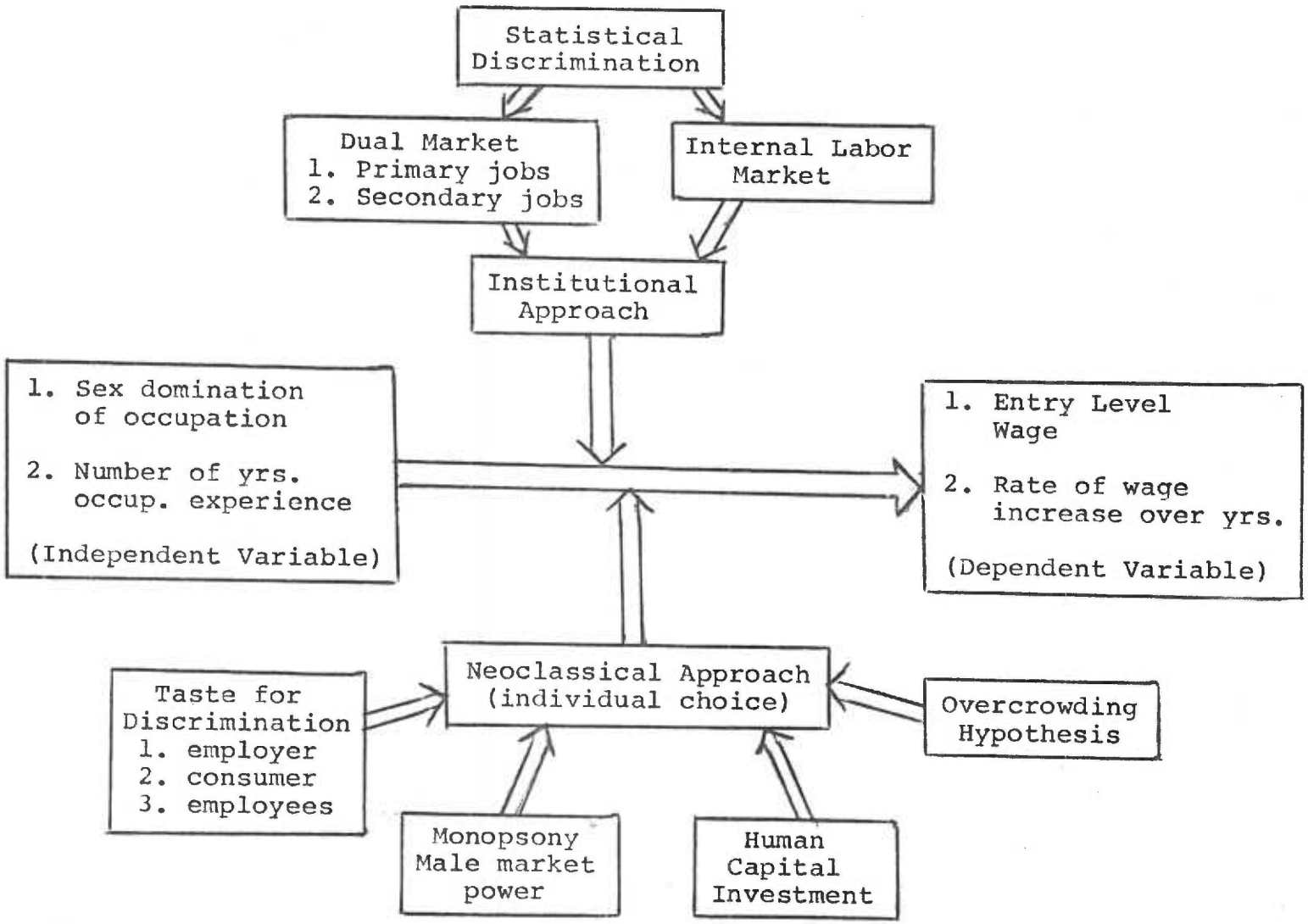
is usually determined by the original entry level position. The internal labor market may be a way of discriminating in selecting workers at the point of entry. Since institutions usually have more than one promotion ladder, the determination of which ladder the entrant is placed in can result in discrimination. Categorical treatment of individuals or groups is the norm in the ILM and segregation is the result. Occupational and sex segregation lead to male/female pay differentials.

Dual labor market analysis, the second category of institutional approaches, describes the segmentation of the internal labor market into primary and secondary jobs (Reich, Gorden & Edwards, 1977). Primary job characteristics include: stable working habits, skills often acquired on the job and wages relatively high with existent job ladders. Secondary jobs usually discourage stable working habits, wages are low, turnover high and job ladders few. Secondary jobs are mostly filled by minority workers, women and youth.

Statistical Discrimination Theory. This theory explains, in part, the process of sex segregation and pay differentials. It describes a situation in which an employer does not dislike a group (age, race or sex) but rather, thinks that it is less productive. He bases this on probability, which derives from his judgments on the characteristics of these groups. His motivation is one of

efficiency and reducing cost in the search for job applicants. "The employer can discriminate between these groups on a statistical basis by restricting his search to the group that is believed to have the highest average productivity, or the group whose productivity is least expensive to ascertain" (Lloyd & Niemi, 1979, p.187). In the internal and dual labor market, statistical discrimination may be the determining factor in accessibility to jobs (Reich et al., 1977).

The following is a model which summarizes the information presented in this review. It illustrates the effect that different labor market phenomena (demonstrated by different economic theories and approaches) have on the wages of women. In this model, these wages are depicted in terms of the independent and dependent variables of this study. The model is followed by a summary of the literature review.



Conceptual Model: Edonomic Theories and Factors Identified as Causes for Gender-Bases Wage Discrimination

Summary and Conclusion. The definition of wage discrimination, as payment of higher wages to men than to equally qualified women holding the same job, was found to be limited in its scope due to other variables affecting the issue, as evidenced in subsequent discussions on theories of wage differences among men and women. The definitions presented dealt mostly with equal pay for equal work. However, Madden broadened the definition in describing the three types of wage discrimination: wage, operational and cumulative. The concept of comparable worth, in the legal sense, was also discussed and shown to be a complex issue in that it did not speak to all the variables inherent in different jobs, thus emphasizing the difficulty in comparing them.

Two main economic perspectives on sex differentials in wages were presented in the paper: the Neoclassical and Institutional approaches. Neoclassical was the economic theory dealing with the individual choice of employers, employees and consumers. Several theories encompassed this approach. Human Capital Theory provided the conceptual framework for this study and dealt with the individual's investment in his/her education, training and experience, stating that these determine his/her economic worth (or human capital). According to the "taste for discrimination" theory, employers, employees and consumers choose to discriminate, and pay for this privilege in various ways.

The overcrowding hypothesis stated that there is an unequal access to some types of jobs with women being crowded into the lower paying jobs. Finally, the monopsony model used by Link and Settle in studying nurses, was concerned with male market power and the condition of having one employer in a limited geographical area, having the effect of decreasing womens' (nurses) choice and increasing the employers' (hospitals) power. Link and Settle showed that increased wages would lead to decreased labor force participation for married professional nurses.

The second group of theories about institutional factors of employment were described briefly. They included the internal and dual labor market analyses and statistical discrimination theory. These dealt with the institutional structure. The internal labor market analysis focussed on divisions of job structures within the institution. The dual labor market analysis described primary and secondary job characteristics. Statistical discrimination theory described, in part, the process with which these divisions occur.

In conclusion, it is evident in reviewing the economic literature, that the issue of gender-based wage discrimination has not been fully evaluated and understood. The amount of literature on this issue in the nursing realm, specifically, is scarce. Much research is needed both in economics and nursing to clarify the issue.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this study was to compare the planned administrative wage scales of nursing with two other female dominated occupations (F.D.O.) and three male dominated occupations (M.D.O.) to determine whether a possible trend of wage discrimination based on gender dominance existed. Assuming that these populations were of comparable worth in terms of educational requirements, experience and on-the-job training, it was hypothesized that the F.D.O.s would have a lower base entry level salary, third year salary and lower percentage rate of increase over the three years. This chapter attempts to demonstrate their comparable worth and describe how the study was conducted.

Design

This research study was a descriptive survey. The design resembled a survey analysis. Data on current planned administrative wage scales for entry level to the third year level were collected for the identified occupations. It was ex post facto research in that data had been gathered which already existed (Polit & Hungler, 1978). The independent variables were not manipulated by the researcher so any cause and effect relationship between gender domination and salary structure which might have existed could not be

inferred with confidence but only through previous research done on the topic of wage discrimination and the logic of the theoretical base which was used for the study. Because the study was restricted to a small number of occupational groups, and these groups only represented a small geographical area, it could not be assumed that the data collected represented a larger population of male and female dominated occupations.

Sample and Setting

The occupational groups which were used in this study were obtained from the Portland Standard Metropolitan Statistical Area (SMSA) (Portland, Oregon). The male and female occupational groups chosen were considered comparable to the nurse population chosen for the following reasons. Each group had a baccalaureate degree requirement or the equivalent, and was dominated by over 70% of its work force by one sex. These occupations were chosen from not-for-profit organizations rather than from private business enterprises because the nurse population came from such an organization, and because of the need for controlling for differences in profit and not-for-profit organizational salary scales. Research has shown that government institutions demonstrate less discrimination than those in the private sector (Brown, 1976). No administrative level occupations were included because of the need to control for the different salary scales of

management and labor.

The female dominated occupations chosen were public health nurses, elementary school teachers and librarians; and the male dominated occupations were engineers, hospital pharmacists and deputy sheriffs. These occupations were chosen because they fulfilled the requirements previously described, and because they were the only ones found in the Portland area which did fulfill all the requirements.

The setting for this study was confined to the Portland SMSA for several reasons: 1) the data needed could potentially change frequently due to renewed salary contracts; a broader sample would have caused major difficulties in gathering data; 2) a broadened geographical area increased the likelihood of confounding factors which affect supply and demand; and 3) because the data were not available in national statistics.

The following is a more detailed description of the occupational groups chosen for this study. The purpose of the detail given for each occupation is to demonstrate their similarities and comparable worth. In order to show that the occupation could be considered dominated by over 70% of one gender, the most recent census information is provided showing the number of males and females employed in each occupation in the Portland SMSA and the percentage domination of each sex. The 1970 census information was used because the 1980 census information on this subject was

not available until the summer of 1982, after the data were collected. The population figure represents the number of people employed in the specific agency defined in the sample and fitting the occupational description defined.

NURSES

97% (4932) Female / 2.4% (119) Male (U.S. Census 1970)

Sample: Public Health Nurses from Multnomah County

Population: 87

Public Health Nurses (PHNs) were chosen for this study as a representative nursing sample because baccalaureate degrees (B.S.) were a requirement for employment for this group of nurses in the Portland SMSA. A B.S. degree was not a requirement for entry level staff nurses in the hospitals in the area. Although it would have been preferential to have the larger sample of hospital RNs, it was not possible because the hospitals hired nurses with a two or three year degree at the same salary as B.S. degree nurses.

Minimum Qualifications

One year of experience in community health nursing and a bachelor's degree in nursing with emphasis on community health nursing;

OR

Substituting two years of community health nursing experience or training which demonstrates a knowledge of family nursing, epidemiology, research techniques, interviewing, counseling, human development, and community nursing for the desirable degree;

AND

Possesion of a valid license to practice nursing in the state of Oregon.

Occupational Description:

Employees occupying positions of this class are responsible for providing specialized or generalized nursing services which emphasize the prevention, control or treatment of diseases and mental or physical health problems of the community. Work involves the utilization of professional nursing diagnosis and referral of all age groups. Counseling or treatment services may be provided in regularly scheduled or special purpose clinics or comprehensive nursing care of individuals or families with multiple health problems; or, in an indepth manner in a specialized area such as pediatrics or mental health nursing. Individuals may receive in-service training in specialty areas prior to being assigned duties. The level of expertise of positions in this class require the application of knowledge, abilities, and skills acquired through experience. (Multnomah County Personnel Department, Portland, Oregon, 1981).

ELEMENTARY SCHOOL TEACHERS

73.4% (5576) Female / 26.6% (1483) Male (U.S. Census, 1970)

Sample: from the Portland Public School District

Population: 393

Minimum Qualifications

All public school teachers must be certified by the Teacher Standards and Practices Commission. There are three kinds of certificates in Oregon--Basic, Standard and Vocational. Entry-level teachers, both elementary and secondary, earn a basic certificate by completing a bachelor's degree at an accredited school. Elementary teachers may teach without a Standard certificate. Elementary teachers must complete a bachelor's degree in elementary education. (Oregon Career Information System (OCIS) 1981). In the Portland School District the minimum qualification is to have a teacher's certificate, but most of those who are hired have a bachelor's degree at least. (Information from the Portland School District Personnel Department, 1981).

Occupational Description:

Elementary teachers provide classroom instruction to students. They normally work with one group of pupils during the entire school day and teach students a number of subjects. They introduce students to basic concepts in math, language arts, science and social studies. They need the ability to relate well with people of all ages and to organize materials and ideas (OCIS, 1981). The classromm teacher performs under the supervision of a principal or other designated supervisors and has major responsibility for the instruction and supervision of students.

Instruction of students includes individual skill development, expansion of knowledge and development of ability to reason. Supervision of students shall include guidance, development and safety (Portland School District, 1981).

LIBRARIANS:

82.7% (532) Female / 17.3% (92) Male (U.S. Census, 1970)

Sample: from Multnomah County Library System

Population: 78

Minimum Qualifications:

A master's degree in library science is required for entry positions in public libraries, government agencies, and college and university libraries.

Occupational Description:

Librarians organize the information contained in libraries and help people locate materials. They typically order, catalog, and classify materials and maintain the library's collection of books, periodicals, documents, films, and recordings. They may also prepare reading lists; and furnish information on library activities, facilities, rules and services to other agencies and specialists.

Aptitudes: Librarians must have above average ability to clearly present information and ideas, the ability to understand information presented in verbal or tabular manner, the ability to plan and carry out library programs and procedures, above average ability with numbers and

words, and the ability to communicate and relate well with people (OCIS, 1981).

ENGINEERS

1.8% (107) Female / 98.2% (6637) Male (U.S. Census, 1970)

Sample: Electrical Engineers from Bonneville Power Administration (Federal Agency: salary scale same for all federal engineers)

Population: 305

Minimum Qualifications:

Entry level positions require a bachelor's degree. Licensing is not required at the entry level.

Occupational Description:

Electrical Engineers design and supervise the manufacturing of electrical and electronic equipment systems and machinery. In doing their work, they may try to find ways to make better use of electrical energy or design and develop new circuits and other devices used in equipment such as computers, telephones and stereos. Others apply their knowledge of science and math in testing equipment, solving operating problems and writing performance standards.

Aptitudes: Above average ability to visualize objects from pictures and descriptions, to communicate and use numbers; a liking for science, machines and techniques (OCIS, 1981).

HOSPITAL PHARMACISTS

17% (119) Female / 83% (581) Male (OCIS, 1981)

Sample: Retail Employees Union Local 1092
Pharmacists' union in Portland
metropolitan area

Population: 92 (number of union members from not-for-profit organizations)

Minimum Qualifications:

A bachelor's degree in pharmacy is the minimum educational qualification for most jobs. All pharmacists must be licensed. Hospital pharmacies may require completion of a residency program at an accredited hospital or several years of experience. Licensing: Graduation from a 5-year accredited pharmacy program, passage of a written exam and completion of a 1,500 hour internship.

Occupational Description:

Pharmacists dispense drugs and medicine's prescribed by medical and dental practitioners. They must be able to recognize and classify hundreds of medicines, many of which are new. Pharmacists supply and advise doctors and other prescribers on the proper selection and effect of drugs. Duties may also include maintaining patient medication profiles, buying and selling non-pharmaceutical supplies, hiring and supervising personnel.

Aptitudes: Good use of words, above average ability in science and math, good at working with detail, ability to deal with the public (OSIC, 1981).

DEPUTY SHERIFFS

11.4% (18) Female / 88.6% (139) Male (Multnomah County Personnel Dept, 1981).

Sample: from Multnomah County

Population: 157

Minimum Qualification:

Bachelor's degree from an accredited college or university. At least 21 years of age. Must have valid driver's license.

Occupational Description:

This is law enforcement work involving patrolling an assigned area in a radio equipped car to prevent and/or investigate law violations and accidents and provide other community services. Employees occupying positions in this class investigate criminal cases, collect information on criminal activities, apprehend criminals, investigate accidents, issue traffic citations, and testify in court. Employees must also manage noncriminal actions such as conflict resolution, social services, and first aid. Some employees perform work of a non-sworn nature in support services. Employees in this class are expected to deal with a wide variety of situations independently, maturely, and with discretion (Multnomah County Personnel Department, 1981).

Data Collection

In this study, for all groups, current planned administrative wage scales from entry level to the third yearly step increase were collected for comparison. Only yearly salary increases were used rather than other increases which might occur inbetween. Although the initial intention in developing this study was to obtain scales which would indicate planned yearly increases for up to ten years, it was found that only two agencies had scales which had a forecast this long. The wage scale for the pharmacists covered only three years. (This was due to the fact that this group was unionized and therefore had to abide by a three-year contract (Leslie, 1979)). Since the purpose of this study was to compare all samples and their means, the comparison could only be made up to the three year wage. (However, data on the subsequent years on the other occupations is presented to demonstrate differences.)

Entry level and planned third year salaries that were considered for this study were defined in the definition of terms. Only the base salary was used. This did not include any other factors which might influence the actual amount of salary which the group or individuals within the group might be getting, such as shift differentials or higher allotments given to part-time employees due to lack of fringe benefit packages.

No data collection form was used since the data were

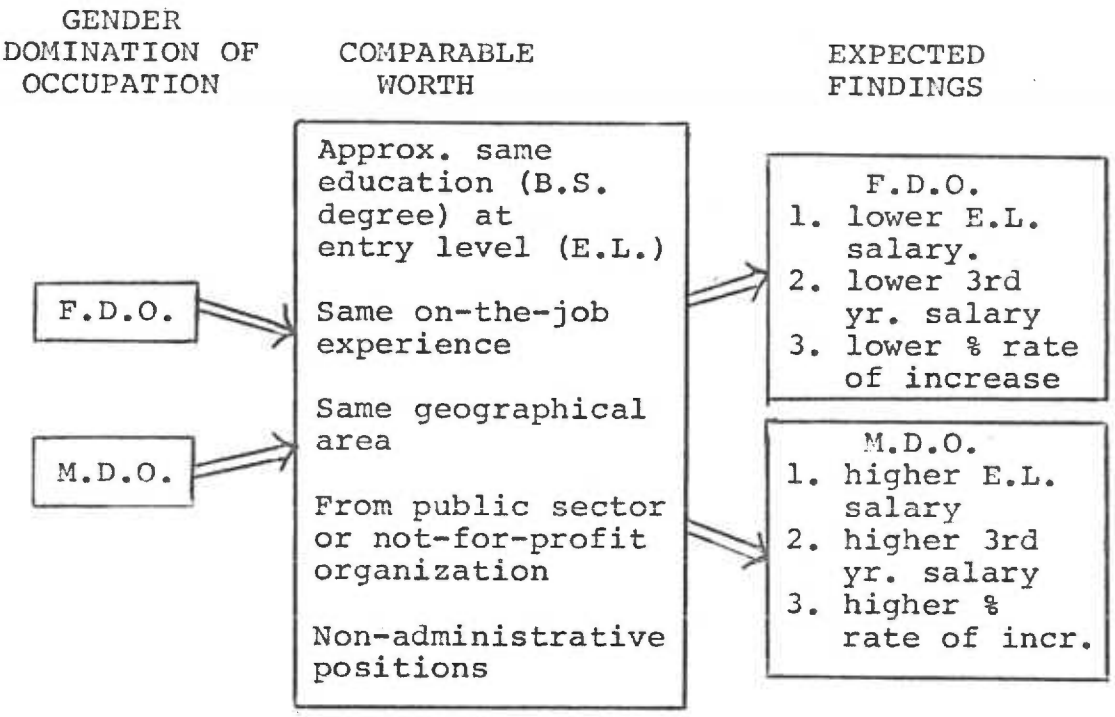
readily obtained by asking the agencies for their salary scales for each occupation. Because public agencies were used, the information was available to the public, making a signed consent form unnecessary.

Procedure

The data for this study were collected by personal visits and telephone calls to the agencies which employed the occupational groups sampled. The current wage scales for the public health nurses and the deputy sheriffs were obtained from the Multnomah County Personnel office. The Central Public Library for the Multnomah County Library system supplied the information for the wage scales of the librarians. The wage scale was the same for all the librarians in the Multnomah County system so the total number which defined this population (72) represented all the Multnomah County librarians. The wage scale which was used for the sample of electrical engineers from Bonneville Power Administration was obtained from the Job Information Center at the Federal Building in Portland, Oregon. The personnel office in the administration building of the Portland Public School District supplied the wage scale for the elementary school teachers. The data on the wage scale for the hospital pharmacists was obtained in the union office for Local 1092 in Portland. The wage scales were obtained in July and August of 1981, so they represented the current scales that were being used at that time.

Conceptual Model

The model that follows is a representation of the conceptual model for this study using the material from this chapter which demonstrates the comparable worth of the male and female dominated occupations selected. It shows that both groups are of comparable worth using these criteria, and each group has different wage scales from entry level to the third year level. Since the only variable that is different between the two groups is gender domination, it can be hypothesized that this is the variable which causes the difference in wages (i.e. gender-based wage discrimination).



F.D.O. = Female dominated occupations
M.D.O. = Male dominated occupations

Data Analysis

For each set of occupations (male and female dominated) a mean was be taken of the entry level salaries and the current planned third year salaries. (Since five of the occupations in the sample provided at least 4 years of wage structure, these salaries were further compared at higher wage levels as a matter of interest but means were not taken of these data). Each mean that was used was a representation of the salary of the range of occupations of comparable worth to nursing that were male or female dominated. Using the supposed comparable worth factor of the occupations, for purposes of this study, had the effect of eliminating most other variables which influenced salary structures, and of retaining the variable of sex orientation of the occupation.

A t-test was not used to study the data because the sample size was too small to determine any significant difference between the means of the two groups of this study (Phillips & Thompson, 1967). Only descriptive statistics were used to illustrate the results. Although this sample was not random, it contained all the occupations that the author could find to fulfill the requirements which were set up for the study.

In order to demonstrate the degree of difference between the means, three values are shown. None indicates whether the difference is significant (as done in a t-test),

but are descriptive in nature. The first is the slope of the two lines of the salary scales representing the means of the gender dominated occupations from entry level to the third year. The slope represents the degree to which the salary increased over a period of time. A higher slope would indicate that one salary range increased at a greater rate than the other over the same period of time. To obtain this value a linear equation was used:

$Y = mX + b$ (Polit & Hungler, 1978)

where Y = the third year salary,
X = the number of years difference between the entry level and third year (2)
b = the Y intercept (entry level salary)
m = the slope of the line

The percentage difference in the entry level and third level salaries were also obtained. The following formula was used:

$$\frac{Y - X}{Y} = \%\ \text{difference (ratio converted to \%)}$$

where Y = the third year salary
X = the entry level salary

The final statistic used was the wage differential between the occupational groups. This was a ratio demonstrating whether the salaries were equal; or in other words, how much, out of every dollar the male dominated occupation made, the female dominated occupation made. The formula is:

$$\frac{\text{salary of female dominated occupation}}{\text{salary of male dominated occupation}}$$

CHAPTER IV

RESULTS AND DISCUSSION

Introduction

The data on planned administrative wage scales for three female dominated occupations (F.D.O.) and three male dominated occupations (M.D.O.) of comparable worth were collected to determine whether the M.D.O.s had higher entry level (E.L.) wages, third year wages and higher percentage rates of increase over three planned yearly step increases. The purpose was to show that possible differences might be due to gender-based wage discrimination.

The results of the data collection, discussion and summary of the results are presented. The comparisons of wages are presented in the following manner.

Comparison of the means of male and female dominated occupations:

The mean salaries for the M.D.O. and F.D.O.s at each step are presented in table and graph form for the first three yearly salary steps (Table 1 and Figure 1), with a description of these data. (Each step represents each yearly increase. Step 1 = the the E.L. salary and Step 3 is the third year planned salary.)

Comparison of individual occupations:

The data on each individual occupation is presented in table and graph form for the first three steps and described

(Tables 2 & 3 and Figure 2).

Further comparison of individual occupations:

This is an extension of the previous data, but includes the highest level of wage scales that were available from the agencies employing the occupations up to step 7 (Tables 4 & 5 and Figure 3). Means were not taken of this information due to the lack of data on the pharmacists.

Mean wage differentials between the F.D.O. and M.D.O.s:

These ratios (differentials) of F.D.O. wage/ M.D.O. wage illustrate an additional way of viewing the same data presented before. Table 6 and Figure 4 contain data on the means of the two groups over the three step increases.

Wage differentials between public health nurses (P.H.N.) and the M.D.O.s:

This description is an illustration of the position of the nursing population in relation to the mean of the M.D.O.s and each individual M.D.O. (Table 7 and Figure 5). This relates to the expected findings of the study.

In the discussion, the data are analyzed and related to the hypotheses of the study. Restrictions and others factors that may have affected the results are also included.

Comparison of the means of the male and female dominated groups

Table 1 indicates that the mean salary of the F.D.O salaries is lower than the mean of the male salaries. The rate of increase is also lower in the F.D.O. salaries than the M.D.O. salaries over a three year period (see Figure 1). This can be shown in the slope of the line. Using the formula $Y = mx + b$, where m = the slope of the line, it was found that the slope of the mean of the F.D.O. salaries was 521/1 and of the M.D.O. salaries was 2349/1. This meant that for each year, over a three year period, the wage of the mean of the F.D.O. increased by $521 and the wage of the M.D.O. increased by $2349. The differential found between these two differences in wage increases, that is, female/male or $521/$2,349 was .22. The percentage rate of increase in the mean of the F.D.O. between Step 1 and Step 3 was 6.7%. The percentage rate for the mean of the M.D.O. was 18.3%.

These findings are in the direction predicted by the hypotheses and are further explained in the discussion later.

Table 1

Mean Annual Wages of Three Female Dominated Occupations and Three Male Dominated Occupations over Three Planned Yearly Increases

Occupational Group	Yearly Step Increases 1	2	3
F.D.O. mean	$14,473	15,001	15,516
M.D.O. mean	$21,554	24,089	26,251

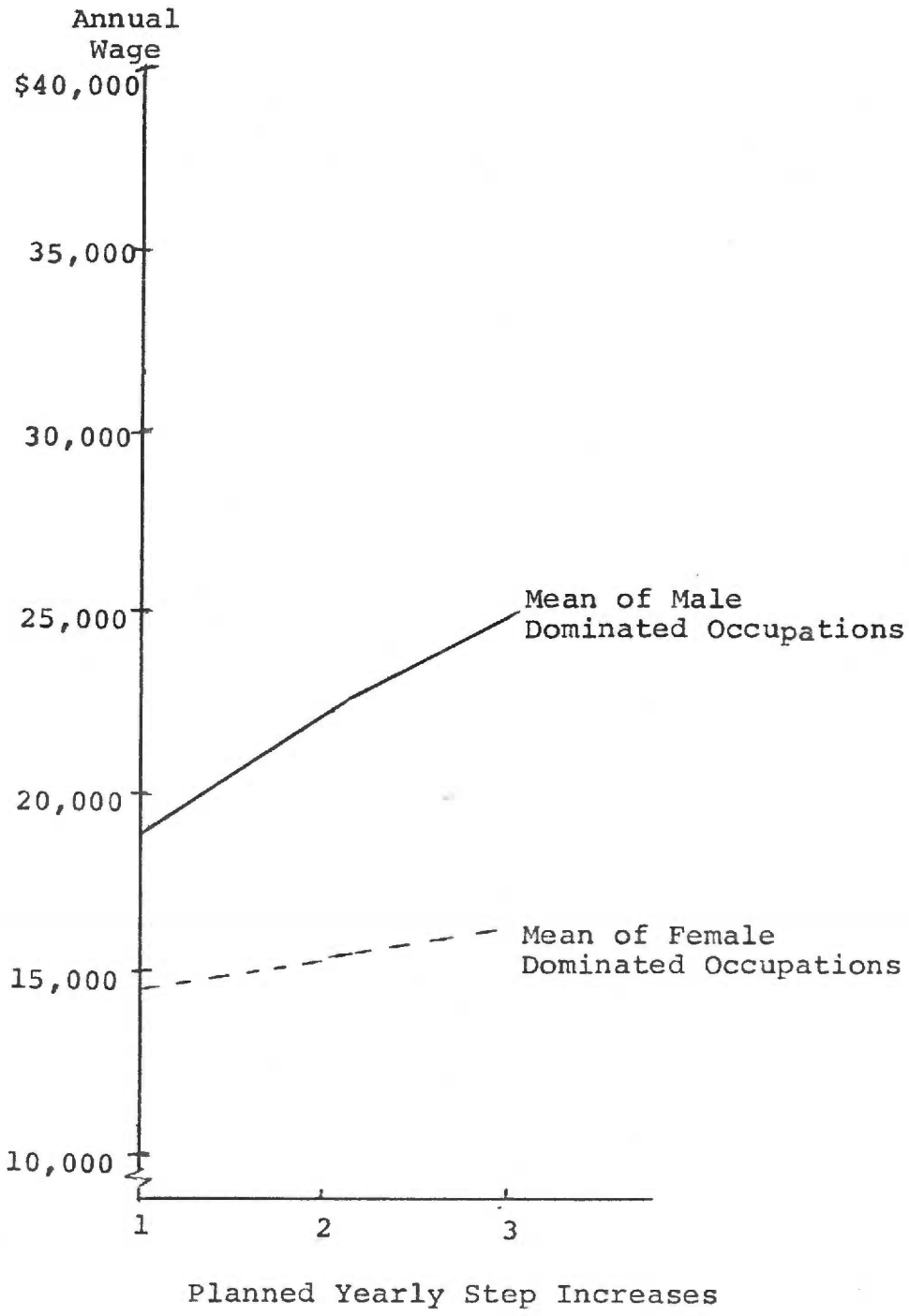


Figure 1. Mean Annual Wages of Three Female Dominated Occupations and Three Male Dominated Occupations over Three Planned Yearly Wage Increases

Comparison of individual occupations

The findings for the individual male and female occupations are presented in Table 2, Figure 2 and Table 3. Several observations were made from this data.

A. With the male occupations:

1. The wage scale for the pharmacists appeared to be significantly higher than all the other occupations.

2. The wage for engineers began at the lowest level for the M.D.O., but increased at the highest percentage rate.

3. The deputy sheriffs' wage began slightly below that of the nurses' and increased at approximately the same percentage rate but slightly higher. It began at a level between the two other M.D.O. but ended at the lowest rate.

4. The entry level salary of the public health nurses (P.H.N.) was higher than all other occupations except the pharmacists'. However, at Step 3, it was lower than all M.D.O. but still the highest of the F.D.O. The P.H.N. wage was most similar to the wage of the occupation that was employed by the same agency (deputy sheriffs in Multnomah County).

5. Elementary school teachers had the middle range salary for the F.D.O. and were the next lowest of all the occupations.

6. Librarians had the lowest salary range.

7. The percentage rates of increase were variable

between M.D.O.s.

8. The percentage rates of increase were approximately the same between P.H.N.s and the F.D.O.s.

In sum, these data were similar to the expected findings for the third year level which showed a higher wage for each M.D.O. than the nursing sample. However, the first year was dissimilar than the expected findings, especially with pharmacists who had $10,629 more than P.H.N.s and engineers who had $3168 less than P.H.N.s. P.H.N.s did have a higher wage at E.L. than the two other female dominated occupations: $5648 more than elementary teachers and $8278 more than librarians. It remained higher over the three yearly increases as expected.

Table 2

Annual Wages of Each Female Dominated Occupation and Male Dominated Occupation over Three Planned Yearly Increases

	Yearly Step Increases		
Occupation	1	2	3
Elementary School Teachers	$13,467	13,862	14,343
Librarians	$10,837	11,319	11,801
Public Health Nurses	$19,115	19,822	20,405
Hospital Pharmacists	$29,744	32,240	34,736
Deputy Sheriffs	$18,970	20,280	21,091
Electrical Engineers	$15,947	19,747	22,925

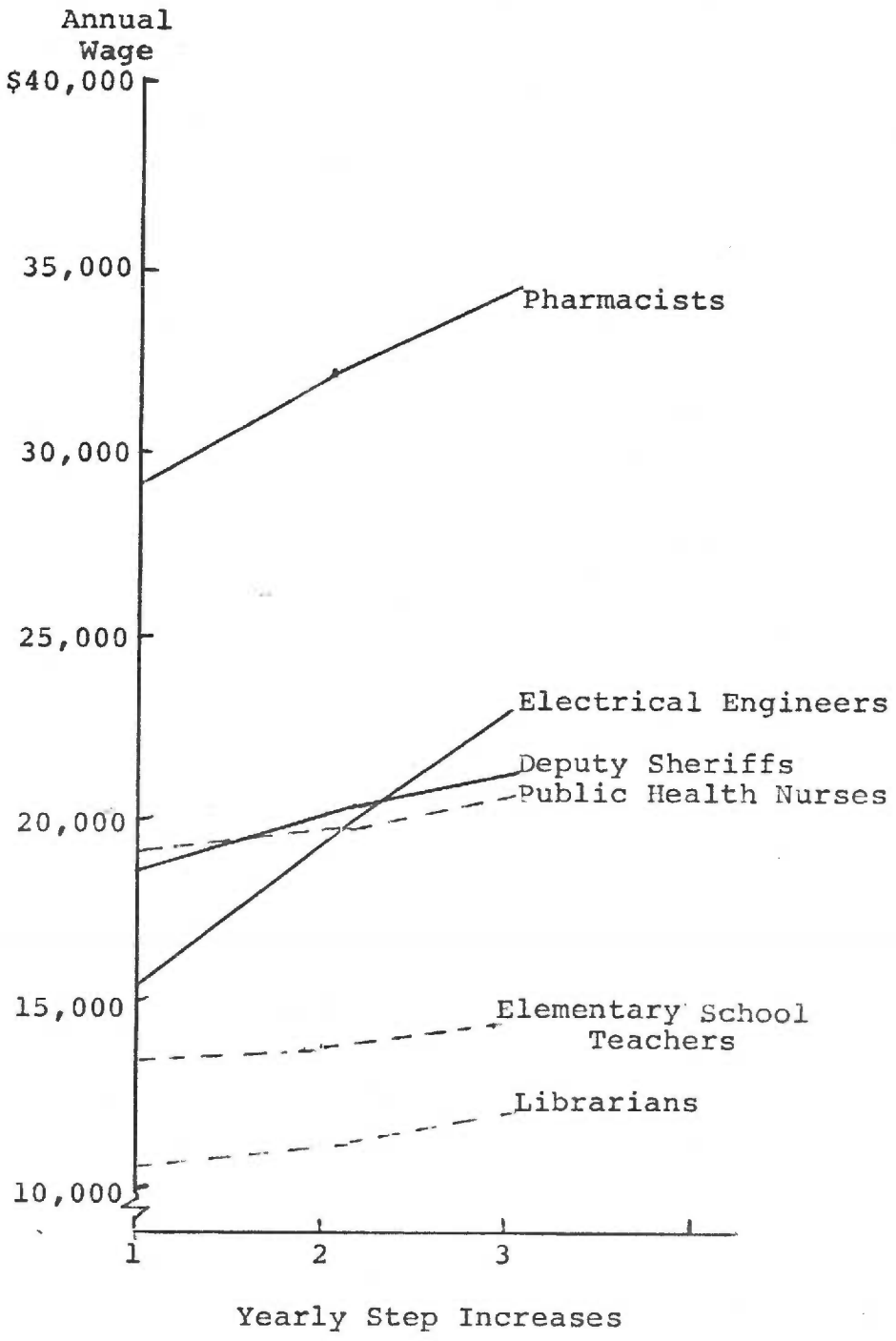


Figure 2. Annual Wages of Each Female Dominated Occupation and Male Dominated Occupation over Three Planned Yearly Wage Increases

Table 3

Percentage rate of Increase of Each Occupation Between Step 1 and Step 3 and of Means of Gender Dominated Groups

Elementary School Teachers	6.1%
Librarians.	8.2%
Public Health Nurses	6.3%
Pharmacists	14.4%
Deputy Sheriffs	10.1%
Electrical Engineers	30.4%
Mean % of F.D. occupations	6.7%
Mean % of M.D. occupations	18.3%

Further comparisons of individual occupations

Since data were available for more than three years for some occupations, further comparisons by occupations were made. Table 4 and Figure 3 present extensions of the data from the previous tables and graphs. These give an indication of the patterns which developed in wage increases representing a longer period of time. The data for pharmacists only covered three years and the dotted line represents an estimate of what might have occurred had the wage scale continued at the same yearly rate increase of $1.20 for the next two steps as in the first three steps. As can be seen from the other occupations, the rate of increase was approximately the same over the longer period for most of the occupations except engineers' wages which appeared to be leveling off at Step 4.

The percentage rates of increase for each occupation over the number of years for which there are data, is shown in Table 5.

Table 4

Annual Wages of Each Female Dominated Occupation and Male Dominated Occupation over Seven Planned Yearly Increases

	Yearly Step Increases						
Occup.	1	2	3	4	5	6	7
E.S.T.	$13,467	13,862	14,343	14,824	15,306	15,789	16,268
Libr.	10,837	11,319	11,801	12,313	12,852		
P.H.N.	19,115	19,822	20,405	21,050	21,819	22,526	23,296
Pharm.	29,744	32,240	34,736	37,232	39,728		
Dep.S.	18,970	20,280	21,091	21,965	22,859	23,795	
E.E.	15,947	19,747	22,925	24,736			

Note: The dotted line represents an estimate of espected findings.

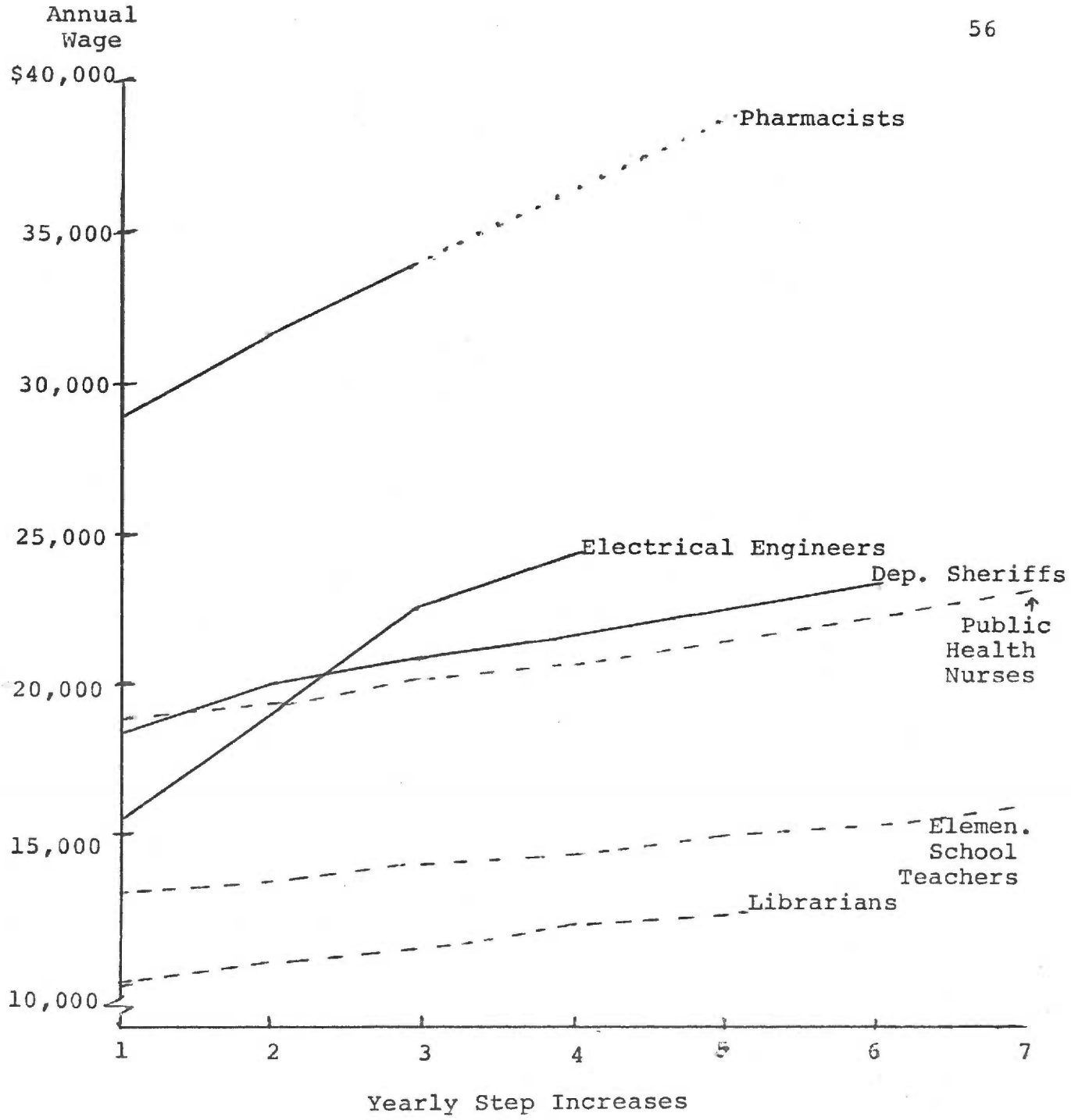


Figure 3. Annual Wages of Each Female Dominated Occupation and Male Dominated Occupation over Seven Planned Yearly Wage Increases

Table 5

Percentage Rages of Increase of Each Occupation over Differing Time Spans

	Yearly Step Increases				
	3	4	5	6	7
Elementary school teachers	6.1%	9.2%	12.0%	14.7%	17.2%
Librarians	8.2	12.0	15.7		
Public health nurses	6.3	9.2	12.4	15.1	18.0
Pharmacists	14.4				
Deputy Sheriffs	10.1	13.6	17.0	20.3	
Electrical engineers	30.4	35.5			

Note. Each percentage represents the formula $\frac{Y-X}{Y}$

where Y = the salary at each step and
X = the E.L. salary

Again, the percentage rates of increase for the M.D.O. were higher than those for the F.D.O. when comparing for step increases designated for longer periods of time (years of experience).

Mean wage differentials between the F.D.O.s and M.D.O.s

The wage differential between the F.D.O.s and M.D.O.s are shown in Table 6 and Figure 4. Comparison of the means for the two groups shows a wage differential between the groups. If there was no difference between the occupations the differential (D) would equal 1.00. A lower differential represents a wider span between the salaries at each step. For Step 1, in comparing the means, D = .67 and for Step 3, D = .59. The decrease in the value of the differential from Step 1 to Step 3 indicated that the gap between the salaries increased as number of years on the job (experience) increased. The difference between Step 1 and 3 was .08 (or 8 percentage points in difference).

Again, this is similar to Hypotheses I, II and III which stated that the mean of the F.D.O. wages would be lower at E.L. and the third year, and the rate of increase would be lower than the M.D.O. It especially illustrates how the wage span changes, and how the difference between wages becomes greater as the amount of occupational experience increases, up to three years.

Table 6

Wage Differentials for Mean of Female Dominated Occupations/ Male Dominated Occupations over Three Planned Yearly Wage Increases

	Yearly Step Increases			
	1	2	3	Diff. betwe. Step 1 & 3
Mean of F.D.O. / Mean of M.D.O.	.67	.62	.59	.08

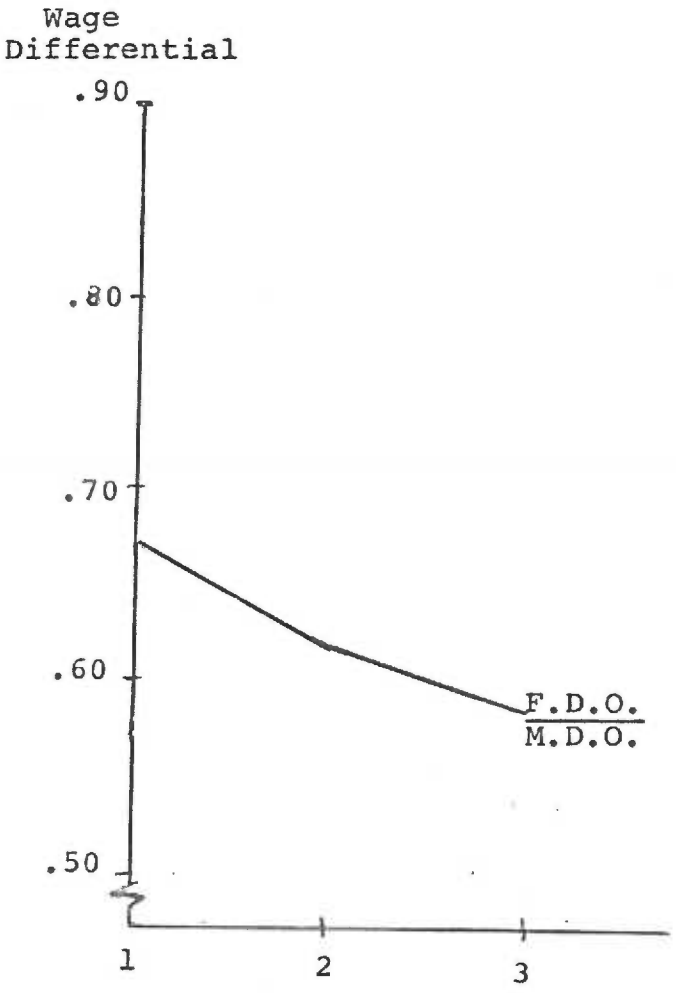


Figure 4. Wage Differentials for Mean of Female Dominated Occupations/ Male Dominated Occupations over Three Planned Yearly Wage Increases

Wage differentials between the P.H.N.s and the M.D.O.s

The wage differentials between the wages of the P.H.N.s and each M.D.O. as well as between the P.H.N.s and the mean of the M.D.O. are shown in Table 7 and Figure 5. The following observations can be made from this data.

A. For Step 1:

1) the largest difference occurred between P.H.N.s and pharmacists (Differential (D) = .64).

2) P.H.N.s and deputy sheriffs were about the same and the P.H.N.s started with a substantially higher salary than the engineers (D = 1.20).

3) there was a broad range between the differentials (1.20 - .64 = .56), but between P.H.N.s and the M.D.O. mean, the D (.87) was substantially closer to 1.00 than between the means of the F.D.O. and M.D.O. groups (.67).

B. For Step 3:

1) the value of D went down in all cases and fell below 1.00, which meant that over the same period of time, the M.D.O.s received a higher wage than the P.H.N.s, even though they started at the same level or below.

2) the most dramatic change was between P.H.N.s and engineers (P.H.N./E.E). The D changed from 1.20 (Step 1) to .89 (Step 3), a difference of .31 points.

3) the least change occurred between P.H.N.s and deputy sheriffs where the drop was only .4 points.

4) the salaries of the M.D.O increased at a faster

percentage rate than P.H.N.s.

5) the range in the differentials (.97 - .59 = .38) was less than for Step 1 (.56) which indicated that the gap between the wages was lessening.

Again, these data are consistent with expected findings.

Table 7

Wage Differentials of Nurses with Male Dominated Occupations over Three Planned Yearly Wage Increases

	Yearly Step Increases			
Occupations	1	2	3	Diff. betw. Step 1 & 3
P.H.N./Pharm	.64	.61	.59	.05
P.H.N./Dep. S.	1.01	.98	.97	.04
P.H.N./E.E.	1.20	1.00	.89	.31
P.H.N./Mean M.D.O.	.87	.82	.78	.09

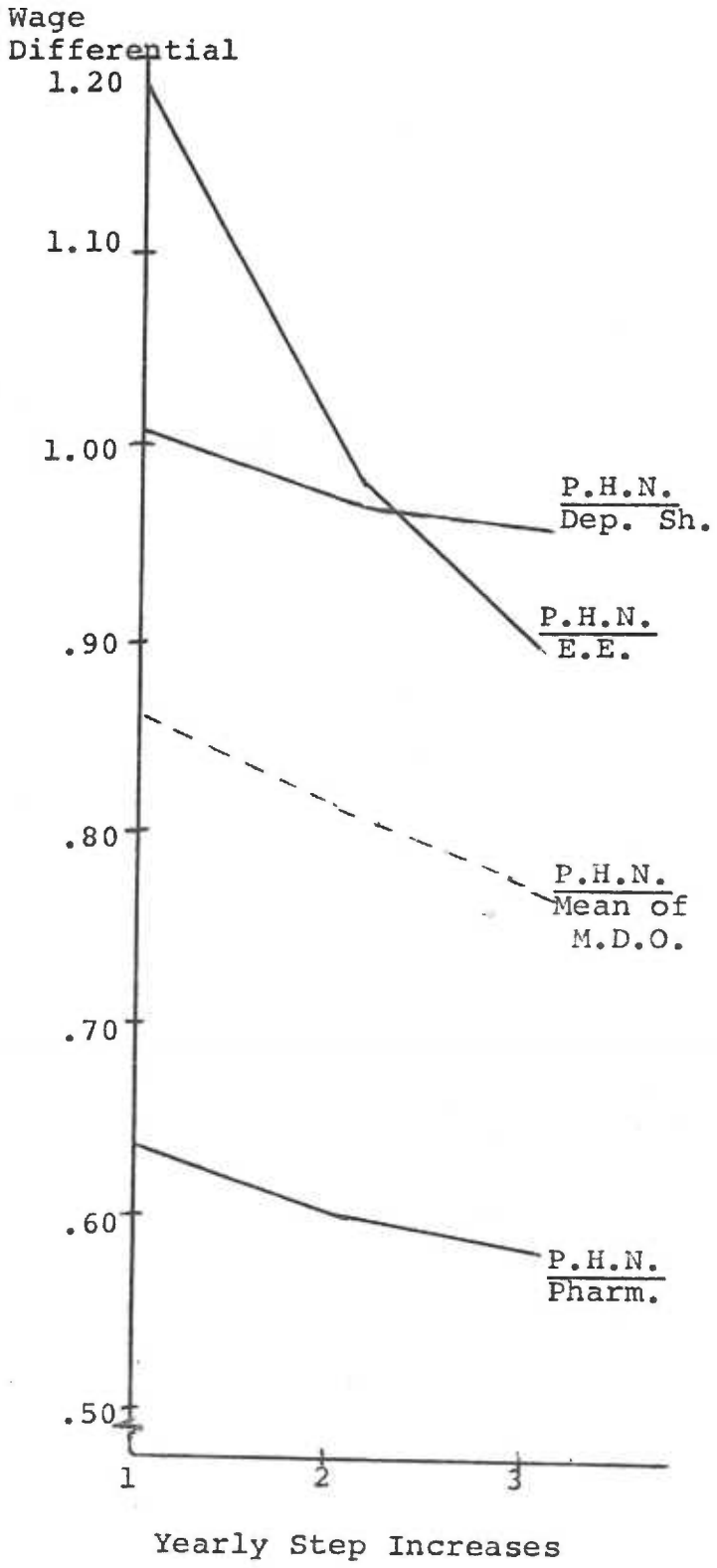


Figure 5. Wage Differentials of Nurses with Male Dominated Occupations over Three Planned Yearly Wage Increases

Summary of Results and Discussion

Findings were consistent with the expectations of Hypotheses I and II which stated that the mean of the base entry level (E.L.) salaries of the F.D.O.s would be lower than the M.D.O. at both Step 1 and Step 3. It was shown that the means of E.L. and third year level of the salaries of the F.D.O. ($14,473 and $15,576, respectively) were lower than the three M.D.O. ($21,554 and $26,251, resp.). It was also shown that the rate of increase in the mean of the base salaries of the F.D.O.s was lower than that of the M.D.O. over the three year salary steps (6.7% and 18.3%, resp.). This was similar to the expectations of Hypothesis III, which stated that the rate of increase of the F.D.O.s would be lower than the M.D.O. for the salaries from Step 1 to Step 3.

The other data presented elaborated on these findings. The wage differentials of F.D.O salaries/M.D.O. salaries illustrated how much gap occurred between the two groups. The mean differentials changed from .67 to .59 which indicated that the difference or gap in salaries increased over the three year period of time. In comparing just nursing salaries to the individual M.D.O.s and the mean for the M.D.O.s, the expected findings were also found. Of the F.D.O. nursing had the highest base E.L. salary and remained the highest salary over the three years. The P.H.N. E.L. salary was close to but not the same as the mean of the

M.D.O.s (D = .87), and the third year salary was lower than that the salary of each M.D.O. and of the mean of the M.D.O. In sum, there was less gap between the P.H.N.s and the means of the M.D.O. than between the means for the F.D.O.s and M.D.O.s.

The occupations studied were of comparable worth; that is, they required, at entry level, very similar years of educational training (baccalaureate degree) and on-the-job experience, were employed by not-for-profit organizations, were non-adminstrative and were from the same metropolitan geographical area. Therefore, it could be suggested that the difference in their wage scales was related to the sex domination of the occupations, since this was the main variable that differed between the two groups (F.D.O. and M.D.O.). The consistency in the rate of increase over the same planned step increases for the F.D.O.s (mean of 6.7%) also gave an indication that this rate may have been related to the sex domination of these occupations. It is difficult to determine what may have caused the wider variation in the rates of increase in the M.D.O.s. Their salaries may have been more sensitive to other labor market conditions. As a whole, however, their rate of increase was substantially higher than the F.D.O.s (18.3% vs. 6.7%), which in itself showed consistency in the data and suggested that sex domination may be a significant variable in the determination of existing salary scales.

It was shown that the wage differential for the nurse population and the M.D.O.s dropped in every case below 1.00 from Step 1 to Step 3 (Step 1, mean = .87; to Step 3, mean = .78), even though the P.H.N.s salary started at a higher salary than two of the M.D.O.s. Again, this demonstrated a consistency with the data showing that even the highest paying female occupation did not maintain the same level of salary increase as the M.D.O.s.

Although there was consistency in the data and it was supportive of the hypotheses, several restrictions may be noted in analyzing the results.

1. The study was restrictive in scope because the sample size was small and a small geographical region was covered.

2. The study was descriptive, and statistical tools could not be performed because of the small sample size. A causal relationship could not be assumed based on this data, and no conclusions should be drawn.

3. Differing amounts of on-the-job training between occupations may have been reflected in the rates of increase (i.e. engineers and pharmacists had steeper curves than the other four occupations).

4. The wage scales used were relatively superficial; that is, they did not take into account fringe benefits. (However, when a salary is first set up by administration it is generally based on internal and external market

conditions, so the salaries studied could be reflective of labor market conditions.)

5. Other conditions besides gender may have affected individual occupational wage scales such as demand conditions, government policy on discrimination and unionization. For example:

a.) The budget allocated for the County library system was probably relatively small; whereas, budgeting for the health and law enforcement agencies was probably larger. This could affect salaries.

b.) P.H.N. salaries were allocated through the County. This sample was not necessarily representative of hospital nurse wages. However, because the County was a government agency with Affirmative Action (A.A.) there was less discrimination in wages. This also applied the the deputy sheriffs.

c.) Since the pharmacists' wages were dictated by union negotiations, and because it was based more on the wage scales of the private sector unionized pharmacists, the wage scale probably tended to be relatively high. It was also a profession which worked in an area that brought in revenue in private enterprises and hospitals so this may have increased their wage structure.

d.) The engineer sample group came from a federal agency so the wages were influenced by economic conditions across the country as well as the Portland area. A.A. may

have also affected their salary scales.

In summary, no broad conclusions can be made from the data gathered for this study due to its limited scope and lack of statistical evidence. However, the data were consistent with the expectations of the hypotheses. This suggested (but did not prove) that if different occupations were of comparable worth and were gender dominated, it was likely that the female dominated occupations would have base entry level salaries approximately the same or lower than the male dominated occupations, and the rate of increase over a three year period would be lower for the female occupations.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

Summary. The registered nurse shortage has been related to many factors, and answers to this problem are constantly being sought. Research has shown that wages rank among the top considerations for dissatisfaction among nurses, and it has been surmised that pay is a higher motivating force in nurses than it has traditionally been believed.

This present study examined the current wage scales of six occupational groups to compare differences in entry level (E.L.) salaries and currently planned third year salaries. The groups were dominated by over 70% of their work force by one sex and were divided into the two groups: female dominated occupations (F.D.O.) and male dominated occupations (M.D.O.). The purpose was to demonstrate an economic trend of gender-based wage discrimination which might partially explain nurses' wage situation. By comparing the third year salary, the purpose was to compare differences in the rate of increase of the wage scales based on the same level of experience to determine whether the difference between the two groups remained the same or became greater. The independent variables were the dominate gender base of the occupations and the number of years of experience on the job. The dependent variables were the

E.L. wage and the rate of increase in planned wages.

Three hypotheses were studied. They were: 1) the mean of the base E.L. salaries of three F.D.O.s (nursing, elementary school teachers & librarians) would be lower than the mean of the base E.L. salaries of three M.D.O.s (engineering, pharmacy, & deputy sheriffs); 2) the mean of the third year salary of these F.D.O.s would be lower than the mean of the third year salary of the M.D.O.s; 3) the rate of increase in the mean of the base salaries of these F.D.O. over the same three year period would be lower than the rate of increase in the mean of the base salaries of these M.D.O. over the same period. Expected findings focussing on comparisons of nurses' wages with the M.D.O. were also listed. They were: 1) nursing would have the highest base E.L. salary of the F.D.O. and would remain so over the three step increases; and 2) the base E.L. salary of nursing would be approximately the same as the base E.L. salary of the mean of the M.D.O., but the rate of increase in wages over a planned three year period would be lower for nursing than that of the M.D.O.s.

The occupational groups studied were considered of comparable worth to nursing in that they had the following characteristics: baccalaureate degree requirement or the equivalent, from not-for-profit organizations, nonadministrative and from the same standard metropolitan statistical area. The following F.D.O. samples from the

Portland area were used: public health nurses working for Multnomah County, elementary school teachers from the Portland Public School District, and librarians from Multnomah County Library system. The M.D.O. samples were: electrical engineers from Bonneville Power Administration (federal agency), hospital pharmacists from Retail Employees Union Local 1092, and deputy sheriffs from Multnomah County.

The data on the current wage scales were collected from the agencies described above. The study was considered descriptive rather than statistically significant because of the small number of occupational groups studied and the small limited geographical area they represented. A t-test could not be performed with any validity.

The data presented were in the direction predicted by Hypotheses I, II and III when it was found that: 1) the mean of the F.D.O. was lower for E.L. salaries than the mean of the M.D.O. ($14,473 and $21,554 ,respectively) with a wage differential of .67; 2) the mean of the F.D.O. was lower for the third year planned salary step increase than that of the M.D.O. ($15,516 and $26,251, resp.) with a wage differential of .59; and 3) the percentage rate of increase for the means of the F.D.O. from E.L. to the third year was 6.7% and, for the mean of the M.D.O., was 18.3%. The data also conformed to the expected findings for the most part. The nursing population did have the highest base E.L. salary of the F.D.O. and remained so over the three step increases. The base E.L. salary of the nursing population was close to that

of the mean of the M.D.O. but not the same. This was shown in the differential of .87. (Nursing/M.D.O.). The third year salary of the nurses was lower than the third year salary of each M.D.O. and of the mean wage of the M.D.O.s ($20,405 and $26,251, resp.) with a differential of .78. Other statistical findings showed that the slope of the lines of the two groups were the following: 521/1 for the mean of the F.D.O.s and 2,349/1 for the mean of the M.D.O.s. These indicated how much the wages increased in dollars for each year or step increase. Although none of these figures represented significant statistical findings in that the findings could not be generalized to other populations, they were descriptive of the wage conditions of these occupations of comparable worth in the Portland Metropolitan area in the summer of 1981.

Because the data conformed to the direction predicted by the hypotheses, it could be suggested that the gender domination of occupations might be related to the level of salary at the E.L.; that is, with M.D.O.s generally receiving higher salaries. It may also show a trend of a higher percentage rate of increase in M.D.O.s than F.D.O.s in the ensuing step increases which were initially planned in wage scales. However, it was pointed out that there are several other factors which influence salary scales and that no broad assumptions or generalizations could be drawn from this data.

Recommendations. It is recommended for further research that:

1. a replication of this study be done in comparing other wages of occupations of comparable worth to nursing but increase the sample size using national statistics and compare only the entry level wage.

2. a replication of this study be done with historical data (if available) to determine whether and/or how the trend in wage scales has changed and compare it to this study and/or the current data.

3. a replication of this study be done, but instead of using planned administrative wage scales, gather data on the amount of the actual current entry level wage and of the actual wage that those who have increasing years of experience are receiving at the same point in time and compare the E.L. with higher levels to determine differences in F.D.O. and M.D.O. wages.

4. a replication of this study adding the monetary value of fringe benefit packages to determine more closely what the actual income is or planned to be.

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ABSTRACT

AN ABSTRACT OF THE THESIS OF

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For the MASTER OF NURSING

Date of Receiving this Degree: June 11, 1982

Title: AN ECONOMIC PERSPECTIVE OF NURSES' WAGES: COMPARISON OF THE ADMINISTRATIVE WAGE SCALES OF MALE AND FEMALE DOMINATED OCCUPATIONS IN THE PORTLAND METROPOLITAN AREA

Approved: _____
Marie C. Berger, Ph.D., Thesis Advisor

The planned administrative wage scale of public health nurses was compared to two other female dominated occupations (F.D.O.) (elementary school teachers and librarians) and three male dominated occupations (M.D.O.) (electrical engineers, hospital pharmacists and deputy sheriffs). All occupational groups were considered of comparable worth and were from the Portland Standard Metropolitan Statistical Area. The purpose was to not only compare the means of the planned wages of the two groups (F.D.O. & M.D.O.) at entry level (E.L.), but also to determine whether a difference existed in the percentage rate of increase from E.L. to the highest available planned salary step (3rd year). Given the comparable worth of the occupations, that is, approximately the same educational

baccalaureate degree requirement, level of entry and on-the-job training, and controlling for factors of employment: from not-for-profit organizations, nonadministrative, and same geographical area; any difference in wages was hypothesized to be attributed to gender based wage discrimination. The Neoclassical economic approach used as a theoretical base for this study was Human Capital theory. The independent variables were the gender of the occupations and number of years of on the job experience, and the dependent variables were the E.L. salary and the rate of increase in planned wages over three years. The hypotheses stated that the F.D.O.s would have lower E.L. salaries than the M.D.O.s and would have a lower rate of increase over three planned yearly step increases. The study was descriptive retrospective with no statistical tests done to test significance in differences, due to the small sample size. The results showed that the mean of the E.L. salaries of the F.D.O.s was lower than the M.D.O.s ($14,473 and $21,554, resp.). The rate of increase over the three years was lower for the F.D.O.s than the M.D.O.s (6.7% and 18.3%, resp.). Other findings showed comparisons of nursing to each individual occupation. All findings conformed to the hypotheses and expected findings. They suggested that the differences in salaries might be related to the gender domination of the occupations. However, they were not compared statistically so no conclusions could be drawn. Recommomendations for further study were included.