AN ABSTRACT OF THE THESIS OF

Diana Sue Graham for the degree of Doctor of Philosophy in Education presented on June 7, 1989.
Title: An Analysis of the Relationships Between Self-Perceived Occupational Stress, Reported Health Status, Sex-Role Socialization, Attitude Toward Feminism, Educational Attainment, and Perceived Pay Equity Among OPEU Clerical Specialists in the Oregon State Employment System.

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Margaret M. Smith

The purpose of this study was to examine the responses to a mail survey of a random sample of female subjects (Ss), who at the time of the study were members of the Oregon Public Employees Union employed as clerical specialists by the State of Oregon, in order to: 1. determine if significant relationships exist for Ss between: (a) self-perceived level of occupational stress (OS), (b) reported health status, (c) sex- role socialization, (d) attitude toward feminism, (e) Educational Attainment, (f) perceived pay equity, and (g) other reported socioeconomic and demographic factors; 2. utilize the research findings to develop recommendations for researchers and educators.

Completed surveys were returned by 280 women. The study instrument was composed of The Office Worker Health and Well-Being Survey (Stellman et al., 1985), Bem's Sex-Role Inventory-Short Form, Dempewolff's Feminism II Scale, and Caplan's Pay Equity Questions (Caplan, 1975). The research hypotheses were tested by use of chi-square, Pearson's R, and oneway anova. A multi-linear stepwise regression analysis was also performed. Confidence level was set at $p = .05$. Significant relationships were found to exist between identified components of OS and each of the following: reported health conditions, attitude toward feminism, educational attainment, perceived pay equity, spouse's employment type, and spouse's employment status. Independent predictors of OS were found to be: Irritation/frustration,

educational attainment, vision, nose/throat/chest, depression, perceived pay equity, sleep, musculoskeletal, gastrointestinal, personality type, current living situation, and total household income.

The findings of this study support the findings of earlier research that clericals are at risk of experiencing significant work-related negative health outcomes (Dainoff, 1979; National Commission on Working Women, 1979; 9 to 5, National Association of Working Women, 1984; Stellman et al., 1985 & Stellman et al., in press) However, in contrast to the Framingham study and in support of the findings of Kotler & Wingard (1989), no relationships were found between the Ss' number of children, number of children under 6, and the occupational stress reported by the Ss.

Recommendations for further research and recommendations for educators were made. It was also suggested that a fuller understanding of what constitutes a healthy work environment for clericals should be developed by researchers and educators.

AN ANALYSIS OF THE RELATIONSHIPS BETWEEN SELF-PERCEIVED OCCUPATIONAL STRESS, REPORTED HEALTH STATUS, SEX-ROLE SOCIALIZATION, ATTITUDE TOWARD FEMINISM, EDUCATIONAL ATTAINMENT, AND PERCEIVED PAY EQUITY AMONG OPEU CLERICAL SPECIALISTS IN THE OREGON STATE EMPLOYMENT SYSTEM

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Redacted for privacy

Chair of Department of Health

Redacted for privacy

Dean of School of Education

Redacted for privacy

Dean of Graduate School

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

AN ANALYSIS OF THE RELATIONSHIPS BETWEEN SELF-PERCEIVED OCCUPATIONAL STRESS, REPORTED HEALTH STATUS, SEX-ROLE SOCIALIZATION, ATTITUDE TOWARD FEMINISM, EDUCATIONAL ATTAINMENT, AND PERCEIVED PAY EQUITY AMONG OPEU CLERICAL SPECIALISTS IN THE OREGON STATE EMPLOYMENT SYSTEM

CHAPTER I

INTRODUCTION

Clericals represent a class of workers which has been the focus of scant research relating to occupational stress and health (Lewin & Oleson, 1985). This study examines occupational stress, reported health status, and related variables among a random sample of 400 members of the Oregon Public Employees' Union (OPEU) who are clerical specialists in Oregon's State Employment System.

The American labor force is largely sex-segregated. Although there has theoretically been equal access to education and employment opportunities since the enactment of several pieces of federal legislation in the mid-1960's (Angle & Wissman, 1980; Blaxall & Reagan, 1978; Fitzgerald, 1986), eighty percent of working women are still found concentrated in five major job categories -- clericals, bookkeepers, nurses, waiters, and elementary school teachers (U.S. Dept. of Labor, 1985). Women, more often than men, are found in jobs which are underpaid and in which their skills are underutilized (Foss & Slaney, 1986; Freedom & Bisesi, 1988; Remick, 1981). According to Lewin and Oleson (1985), clerical work is likely to produce occupational stress because it is low status, low wage work that underutilizes the decision-making skills and knowledge of the worker.

The Framingham study results indicated that the women workers who had the greatest risk of coronary heart disease were clericals (Haynes & Feinleib, 1980). There seemed to be a relationship between several stress-related variables and the increased risk of coronary heart disease. Among clericals, those found to be a greatest risk of coronary heart disease were those married to blue collar husbands, with children at home, and who

identified themselves as having an "unsympathetic boss." Unmarried clericals, clericals without children, and clericals with white collar husbands were found to be at no increased risk of coronary heart disease. Therefore, it would appear that a combination of occupational stress factors and certain stress factors from women's domestic lives contributed to this increased health risk (Haynes & Feinleib, 1980; Lewin & Oleson, 1985).

Researchers have found that clerical workers are at risk of developing various other work-related negative health outcomes (Dainoff, 1979; National Commission on Working Women, 1979; 9 to 5, National Association of Working Women, 1984; Stellman, 1977; Stellman et al., 1985; Stellman et al, 1987). Among the negative health outcomes that have been found to be related to the performance of clerical work are: psychological distress; visual problems; musculoskeletal problems; increased incidences of gastritis, high blood pressure, and heart disease. There has also been evidence found of a relationship between poor in-office air quality and respiratory symptoms among clericals (Stellman et al., 1985).

PURPOSE OF THE STUDY

The purpose of this study was to examine the responses to a mail survey of a random sample of subjects (Ss), who at the time of the study were employed as clerical specialists by the State of Oregon, in order to:

1. determine if significant relationships exist for Ss between: (a) self-perceived level of occupational stress (OS), (b) reported health status, (c) sex-role socialization (SRS), (d) attitude toward feminism (ATF), (e) Educational Attainment, (f) perceived pay equity, and (g) other reported socioeconomic and demographic factors;
2. utilize the research findings to develop recommendations for educators.

IMPORTANCE OF THE STUDY

This study is important for several reasons. There have been few studies focusing upon occupational stress among women office workers. The

majority of the research that has focused upon women, work, and health has shown work outside the home to be correlated with positive health status or improved health status for women (Blaxall & Reagan, 1978; Coleman & Antonucci, 1983; Haw, 1982; Kandel et al, 1985; Verbrugge, 1983; Wolfe & Haveman, 1983). However, research suggests that this positive health status or improved health status has been less true for women who are clerical workers (Dainoff, 1979; Haynes, & Feinleib, 1980; Lewin & Oleson, 1985; Stellman, 1977; Stellman et al., 1987). The sex-role socialization of the clericals, their attitudes toward women's role in society and their levels of Educational Attainment may be correlated with these findings. The possible existence of such a correlation has not previously been investigated.

Due to the sex-segregation of the American labor force, 52% of all employed women work in two major occupations: clerical workers and service workers (Reder & Withers, 1984). Among the clerical workers in the Oregon State Employment System, over 95% are women. Therefore because a large portion of women in the labor force are clericals and this group of women workers have previously been found to be at increased risk of negative health outcomes, it is important to develop a better understanding of the factors involved. It may be possible that with a clearer model of the contributing factors, effective educational interventions, as well as actual physical changes in the work environment, can be made.

LIMITATIONS OF THE STUDY

The degree to which findings from this study can be generalized may be limited by several factors. Among these factors were:

1. The population was limited to women currently employed as clerical specialists by the State of Oregon and who are members of the Oregon Public Employees Union (OPEU).
2. Data was available only from those women who voluntarily agreed to participate and return a completed survey.
3. Self report questionnaires were utilized to collect data.

DEFINITIONS OF TERMINOLOGY

To better clarify the exact meaning of statements made in this paper, the following definitions of key terms are used:

1. Occupational stress (OS) - Stress experienced in relation to work performed for wages outside the home (Goldberg & Breznitz, 1982). For the purpose of this study, only the OS survey components found to have a Cronbach's alpha of .70 and above will be utilized in the statistical analysis. Refer to Appendix C for examples of each of the occupational stress scales.
2. Clerical specialist - a specific job classification within the State of Oregon Employment System.
3. Reported health status - refers to known and self-reported health conditions of the subjects. Subjects rated their own health status on a 4 point scale (1 = excellent; 2 = good; 3 = fair; 4 = poor). In addition, twelve health scales were included from the Office Worker Health and Well-Being Survey (OWHWB). Refer to Appendix C for these scales.
4. Sex-typed attribute - a characteristic traditionally more strongly associated with one gender than it is with the other (Bem, 1974).
5. Attitude toward feminism (ATF) - the subject's attitude toward women's place in society, as measured by Dempewolff's Feminism II scale.
6. Educational Attainment (ED) - level of education subjects report having completed.
7. Perceived pay equity - the self-reported fairness of subjects' wages (Caplan et al., 1975).
8. Personality mediators - personality traits which may affect level of stress experienced or reported (Goldberg & Breznitz, 1982).

CHAPTER II

REVIEW OF LITERATURE

INTRODUCTION

This study involved the examination of the relationships between various factors relating to women clerical workers. In this review of the literature, an overview of relevant information about the major variables under study is presented. A summary of the findings from each of the overviews is provided at the end of this review.

DEMOGRAPHIC OVERVIEW

In order to better understand women clerical workers, it is useful to have an overall picture of the setting within which they live and work. Therefore, the following demographic information is presented in an effort to provide an accurate representation of the current setting:

Fifty-two percent of the U.S. population is female (U.S. Bureau of the Census, 1988).
Forty-nine point two percent of the civilian labor force is female (U.S. Bureau of the Census, 1988).
The majority of women work due to economic necessity (U.S. Dept. of Labor, 1984).
Sixty-one percent of all persons aged 16 and over who have incomes below the poverty level are women (U.S. Dept. of Labor, 1984).
Nearly two-thirds of the women in the labor force are either single (25.4%), divorced (10.5%), widowed (4.5%), separated (4%), or have husbands (19%) whose incomes are less than $15,000 annually (U.S. Bureau of the Census, 1988).
Eighty percent of working women are concentrated in 20% of the lowest paid jobs (U.S. Dept. of Labor, 1984).
Fifty-two percent of all employed women work in two major occupations: clerical work and service work (Reder & Withers, 1984).

EDUCATIONAL ATTAINMENT AND EARNINGS

It has been an American tradition to regard education as a ladder to success; a way to improve one's quality of life; a means by which one could earn more money. However, education has not been equally available nor equally beneficial to all. White men have had greater access to education and employment than have other members of the population.

According to Ballantine (1983), in the formative years of this country, white men were the only ones provided with or encouraged to seek an education. White women were discouraged from seeking an education except in the gentle arts such as needlepoint. A few women's parents went against custom and allowed their daughters access to tutors. Yet, as late as the 1960's, access to education for all was not fully protected by the law.

The legacy of this type of discrimination has had long lasting effects. This combined with the traditional view of sex-roles, has contributed to the current position of women in our society.

The question arises as to whether education does indeed help an individual earn higher wages. Research studies suggest that education does make a positive difference in earning power, but the compensation given to women is not equal to that given to men (Angle, 1980; Fitzgerald, 1986; Remick, 1983; U.S. Dept. of Labor, 1984). On the average, a woman with a high school education earns less than a man with only eight years or less of elementary school. A woman with five or more years of college earns slightly less than a man with only a high school education (see Table 1).

Table 1

COMPARISON OF 1985 MEDIAN ANNUAL INCOMES OF YEAR-ROUND FULL-TIME WORKERS BY EDUCATIONAL ATTAINMENT AND SEX:

	MEN	WOMEN
Elementary School		
Less than 8 years	15,039	9,681
8 years	18,061	11,187
High School		
1 to 3 years	19,241	12,317
4 years	22,852	14,903
College		
1 to 3 years	26,705	17,229
4 years	35,400	21,362
5 or more years	44,478	26,348

Note: From U.S. Bureau of the Census, Statistical Abstract of the United States: 1988 (108th edition.) Washington, D.C., 1987.

Since the mid-1960's, there has theoretically been equal access to education and employment for all members of this society. In more recent years, there have been continuing efforts to eliminate discrimination within the American education system and labor system. In spite of these changes and ongoing effort, the American labor force remains largely sex-segregated and there remains a large wage gap in earnings. Additionally, a wage gap persists between the earnings of women and the earnings of men even when they are in the same occupations. This is true whether the specific job category is within a female-dominated occupation or within a male-dominated occupation. For example: the average weekly wage for male clericals is $380 and the average weekly wage for female clericals is $257; the average weekly wage for a male manager is $553 and the average weekly wage for a female

manager is $378. (U.S. Dept. of Labor--Women's Bureau, 1985). These examples represent pay gaps of 32% and 31% respectively. Women in male-dominated occupations do, on the average, earn more than women in female-dominated occupations (U.S. Dept. of Labor--Women's Bureau, 1985). However, as Freedman and Bisesi (1988) reported, after 7 years of active labor force participation, among women and men who received MBAs from Stanford and and Columbia, a wage gap of 40% existed.

SEX-ROLE SOCIALIZATION AND ATTITUDE TOWARD FEMINISM

According to Block (1973, p. 525), the socialization process in this society has "differential effects on the personality development of males and females." In the classic study by Broverman et al (1970), the female sex-role stereotype was found to be more closely associated than the male sex-role stereotype with traits considered less mentally healthy (i.e. timid, passive, dependent, emotionally excitable, conceited, subjective, illogical, etc.) Other research has indicated that an androgynous sex-role identity may be more conducive to mental health for women (Bem, 1974, 1977; Block, 1973; Robison-Awana et al., 1986). As stated by Block (1973):

> At the integrated, or highest, level of ego functioning, according to Loevinger's analysis, the individual has evolved for himself-herself an identity consonant with history and aspiration. With respect to sex role identity, the definition given by the individual represents as integration of traits and values, both masculine and feminine. Such sex-role definitions, integrating both aspects conventionally considered feminine and those traditionally defined as masculine, I refer to here as 'androgynous' to emphasize their nonparochial nature. (p. 514).

Crombie (1983) found that whereas among the women in her study there was no significant difference in level of achievement between women typed as androgynous and those typed as more traditionally feminine, that the androgynous-typed women were more likely to attribute their success to ability rather than to luck or effort. The more traditionally sex-role stereotypical subjects responded to their own achievements by being overly modest, disguising their own ability and attributing the achievements to effort or luck.

The question arose as to the current prevalence of sex-role stereotyping and as to current attitudes toward women. Lewin and Tragos (1987) found that among the adolescent subjects in their study that sex-role stereotyping was no less common that it was in a similar study conducted twenty-five years earlier. Young men in both studies emphasized sex differences more than did the young women. According to Lewin and Tragos, this finding was indicative of and consistent with the higher status of males in this society. One significant difference between the two studies was that most young women in the 1987 study when asked which sex would they choose if they could choose a sex when born, responded that they would chose to be female. The majority of young women in the 1952 study responded that they would chose to be male. Lewin and Tragos postulated this was due to the young women of 1987 possessing higher self-concepts than did the young women of 1952.

Yanico and Hardin (1986) reported that women's mistaken perception that they knew more about traditional fields and less about nontraditional ones in addition to an accompanying lowered self-efficacy may have played a part in unduly restricting their career choices. Yanico and Hardin postulated that this may be a facet of sex-role socialization and may contribute to maintaining a largely sex-segregated labor force.

Foss and Slaney (1986) found in their study that an attribute that was relevant to the career choices of women was the set of attitudes women had toward the rights and roles of women in our society. The study assessed the career decidedness, attitude toward women, and self-efficacy of undergraduate women subjects. The women were shown a videotape that was designed to broaden the career aspirations of women by lessening sex-role stereotyping. Two weeks after viewing the videotape, the women listed their career choices and their career choices for hypothetical daughters. Results indicated that women with more liberal attitudes toward the rights and roles of women in society had significantly higher self-efficacy scores than did women with more conservative attitudes toward women. Both the liberal and the conservative women chose more nontraditional careers for their hypothetical daughters than they did for themselves.

PAY EQUITY

Studies of workers' perception of pay equity (Caplan et al., 1975; Gartrell, 1985; Major & Forcey, 1986; and Yukl, 1973) have indicated that workers judge the fairness of their pay in comparison to pay received by other workers. There has been a preference for comparing one's pay to others in a same-sex, same-job group.

In a study in which women and men were randomly assigned to jobs described as sex-neutral, masculine, and feminine, Major and Forcey (1986, p. 403) found that the women "felt that they deserved less pay for their work than did men, regardless of job assignment." The women in the study also rated their job performance less positively than did men in the same study. Major and Forcey postulate that the women's lower sense of entitlement with respect to pay may be in part due to their lower evaluations of their own performance. This is consistent with the traditional sex-role stereotype for women (Ballentine, 1983; Bem, 1974 & 1977; Block, 1973). In further attempting to explain the "paradox of the contented female worker," Major and Forcey (1986) postulated:

> A second explanation for the 'paradox of the contented female worker' is suggested by our intriguing finding that simply labeling the same job as feminine (female-dominated) or masculine (male-dominated) led people assigned to feminine jobs to expect somewhat less pay and consider their obtained pay as significantly more fair than those assigned to masculine jobs. (p. 403).

HISTORY OF CLERICAL WORK

The majority of clericals currently in the American labor force are women. This has not always been so. Until the post-Civil War era, clerical work was performed by male clerks. After the Civil War there was a sharp increase in the number of clericals needed and women began to fill the positions. Lewin and Oleson (1985) report that women entered the occupation in large numbers when office machines such as the typewriter came into use during the 1880's and that by the 1930's, women held 52.2% of all clerical positions. By 1980, according to U.S. Census data, 80.1% of all clerical positions (including typists, stenographers, secretaries, and

bookkeepers) were held by women. When the discussion was limited to more specific job categories, the percentage of women was higher. In the universal population of this study, the 2,796 clerical specialists in the Oregon State Employment System, over 95% are women.

PAY EQUITY AND CLERICALS IN OREGON

Following passage of Senate Bill 484 in the 1983 Legislative Session in Oregon, a comparable worth study was conducted of the State Employment System. This was the first time in over 40 years that the State job classification system had been systematically studied. There were found to be significant wage gaps between jobs held predominantly by men and those held predominantly by women. It was found that a wage gap of 20 to 30% exists between what clerical specialists are paid and what the study indicated others doing comparable work within the System are paid. (Task Force, 1985). This information was disseminated to the workers and to the public throughout Oregon. It has yet to be determined if the knowledge of this pay inequity has had any measurable effect upon the clerical specialists.

OCCUPATIONAL STRESS AND REPORTED HEALTH STATUS

Occupational stress is a complex concept. According to Goldberg and Breznitz, there is general agreement among researchers that the level of occupation stress an individual experiences is dependent upon the interaction of numerous factors. Among these interactive factors are: characteristics of the work environment; characteristics of the job; organizational structure; psychosocial factors at the worksite and at home; and individual personality mediators.

Occupational stress has been linked with increased risk of psychological and physical disease (Goldberg & Breznitz, 1982). This correlation has been well-documented in numerous studies (Caplan et al., 1975; D'Arcy et al., 1984; Haynes & Feinleib, 1980; Kandel et al., 1985; Possner et al., 1984; Pendergrass & Ostrove, 1984; Verbrugge, 1983). In general, working women have been found to be in better health than are housewives (Coleman & Antonucci, 1983). However, there are indications that

this may be less true for clerical workers. As stated by Lewin and Oleson (1985, p. 59), "clerical work is low-paid, low-status work; it presents few opportunities for women to fully utilize their abilities or to make decisions, a situation identified as causing occupationally related stress."

Dainoff (1979) found that ergonomic factors were very significantly correlated with the musculoskeletal problems experienced by clericals. The types of musculoskeletal problems most often suffered by clericals were back pain, carpal tunnel syndrome, pain in wrists, arms, shoulders, and neck. Stellman (Stellman et al., 1985; Stellman et al., in press) found the main two factors which contributed to musculoskeletal problems among clericals were: 1. workers having to use chairs and desks that were in poor condition or nonadjustable and/or inappropriate for the specific task and 2. lack of mobility and lack of variety of task. Office automation was also factor. It was found that often workers who had been assigned to upgraded equipment (e.g. VDTs with adjustable chairs and desks) still suffered musculoskeletal problems due to the repetitious nature of their tasks and lack of mobility. A common complaint among the clericals working with VDTs was that the lighting in the office was too bright. Clericals in the same office setting, but not working on VDTs were less likely to describe the lighting as too bright (Stellman et al., in press). Eyestrain was found to be a significant problem among clericals who work with VDTs. For some clericals, working on VDTs contributes to negative changes in their psychosocial well-being. Researchers have postulated that this may be due to: repetitiousness of the tasks performed; computer pacing and monitoring; alienation and lack of understanding of overall meaning of the task performed; and lack of variety of task (Dainoff, 1979; National Commission on Working Women, 1979; 9 to 5, National Association of Working Women, 1984; Stellman et al., 1985; & Stellman et al., in press).

As reported by Stellman (1977, p. 104), among the worksite hazards to which clericals may be likely to be exposed are the following (Stellman notes that all hazards are not known): excessive sitting; fatigue, muscular and mental; noise; muscle strain; and air contaminants such as ozone, benzene and toluene, methanol and ammonia, organic solvents, and spores, dusts, and, in some cases, asbestos. In a recent study, which involved 2,074 clericals employed at four different public employment establishments in six separate buildings in the United States and Canada, Stellman and her co-researchers (1985) found that worksite air contaminants were indeed present

and were significantly correlated with respiratory symptoms for many of the clericals.

In the Framingham study (Haynes & Feinleib, 1980), the subjects were 350 housewives, 580 employed men, and 387 employed women. It was found that women who were clericals were twice as likely to have coronary heart disease (CHD) than were either white collar or blue collar workers. Only among clerical workers was the rate of CHD greater in women than in men. The increased risk of CHD to women clericals occurred only to those with significant family responsibilities. For women clericals with children and married to blue collar husbands, there was three times more risk of CHD than there was for working mothers who were not clericals. There was no increased risk of CHD for women clericals married to white collar husbands. Clericals who suppressed hostility and who had nonsupportive bosses were at more risk of CHD. Single working women exhibited the lowest rate (4.2%) of CHD when compared to married working women (8.1%) and working women (8.5%) who were either divorced, widowed, or separated. Among working mothers, the incidence of CHD increased as the number of children increased. For both women and men in the study, suppressed hostility and Type A behavior were independent predictors of CHD.

In contrast to the findings of the Framingham study, Sorensen et al. (1985, p. 390) in analyzing data from the Minnesota Heart Survey, report that there were "few effects of job experiences on risk factors for coronary heart disease." The Minnesota study did demonstrate that work pressures tend to intensify women and men's stress symptoms. The women in the study reported more stress symptoms than did the men. However, there was an increase in systolic blood pressure among men as a result of upward job mobility and no increase in systolic blood pressure for women as a result of upward job mobility. Kotler and Wingard (1989) report in their study of the effect of occupational, marital and parental roles on mortality that in contrast to the Framingham study, no differences in risk of mortality were found between married women clericals and other married women regardless of the number of children at home. They did report finding an increased mortality risk for formerly married working women who had a child in the home as compared to formerly married working women who had no children in the home. Housewives with four or more children or having a child in the home were found to be at increased risk of mortality. Women who had the greatest

number of roles, e.g. employed, married women with a child present in the home, were found to have the lowest risk of mortality; women with the fewest number of roles, e.g. unmarried, unemployed women with no children at home, were at the highest risk of mortality. As pointed out by Kotler and Wingard (1989, p. 611), "mortality is an extreme outcome and multiple roles may have a negative impact on morbidity."

Wolfe and Haveman (1983), in studying time allocations and the health of women at midlife, concluded that:

> market work does not, in itself, cause health problems, and may in fact contribute to improvements in health. However, both child care and housework demands on women and the dual role of working and having young children appears to be associated with health deterioration. (p. 138-9).

Kandel, Davies, and Raveis (1985) reported that among the women in their study, work seemed to have a buffering effect on marital stress, while parenting has an exacerbating effect on work stress. Multiple roles were not associated with increased psychological distress. It was found that marital conflicts were more important sources of psychological distress for the women than was occupational stress. Both men and women placed a higher value on the family domain than upon the work domain, but the men ranked the work domain closer in importance to the family domain than did women. The findings of Coleman and Antonucci (1983) indicated that working women had higher levels of self-esteem and lower levels of psychological anxiety than did homemakers. Wolfe and Haveman (1983) found that work was the only significant predictor of self-esteem in midlife women. Coleman and Antonucci (1983) postulated that work may have a stabilizing effect for women during critical periods throughout the life cycle.

After an extensive review for National Institute for Occupational Safety and Health (NIOSH) of the available research on occupational stress and secretarial/clerical worker, Dainoff (1979) concluded that:

1. There is unanimous agreement among researchers that continuous work with VDT or CRT displays produces a pronounced impairment of the well-being of some workers.
2. Computer pacing or monitoring can produce distress.

3. Operating a keyboard is in itself stressful and that additional stress and fatigue may be present due to poor ergonomics of the workplace and equipment.
4. Noise levels in the work environment may be harmful.
5. Excessive work schedules with too few scheduled breaks in the work day exacerbate the effects of other occupational stressors.
6. Salary schedule and type of task may prove to be differentially stressful, but they are not adequately addressed in the research reviewed.

In the National Survey of Working Women (NSWW), conducted by the National Commission on Working Women (1979), fully one-third of the 82,638 respondents were clericals. The clericals expressed a high level of concern about their jobs not paying enough and about their jobs not fully utilizing their skills. Forty-one percent of the clerical respondents noted that their jobs were boring; 47% indicated that they had no chance to train for a better job. A lack of adequate job counseling was reported by 33% of the clericals.

The results of the 9 to 5 National Survey on Women and Stress (NSWS), (1984), indicated that clerical workers were less likely than women in management positions to report their jobs as stressful. Paradoxically, the clericals were much more likely to experience higher rates of negative health effects such as high blood pressure, heart disease, and gastritis when compared to women managers.

SUMMARY

Historically, women have not had access equal to that of white men to education. There are ongoing efforts to rectify this past discrimination. Although educational attainment does present financial benefits for women, women are less well rewarded for educational attainment than are white men.

The American labor force is largely sex-segregated. Eighty percent of working women are concentrated into 20% of the lowest paying jobs. Fifty-two percent of working women are found in two job categories: clericals and service workers. Research indicates that this sex-segregation of the labor force is in part due to traditional sex-role socialization and an accompanying lower self-esteem and lower self-efficacy among women. Due to the wage

gap existing between men and women, the issue of perceived pay equity and its possible effect need to receive more research.

Occupational stress is a significant factor for working women. Women tend to report higher levels of psychological distress related to work than do men. Working women in general are healthier than women who do not work outside the home. However, this is less true for clericals married to blue collar husbands, clericals with nonsupportive bosses, and clericals with children at home. Clerical workers tend to experience greater incidences of negative health effects from occupational stress than do women in other occupations. This may prove to be very important since a large portion of women in the labor force are clericals.

CHAPTER III

METHODS AND PROCEDURES

SELECTION OF SUBJECTS

A random sample of 400 subjects was drawn from the population of 1,400 Oregon Public Employees Union (OPEU) members who are currently employed as clerical specialists by the State of Oregon. Of the overall population of 2,796 clerical specialists employed by the State of Oregon, 1,972 (70.5%) are represented by OPEU and 1,400 (71%) are OPEU members.

INSTRUMENTS

The measurement instruments used were a compilation of three self-report surveys. The three self-report survey instruments were: Bem's Sex-Role Inventory - Short Form (BSRI), Dempewolffe's Feminism II Scale, and the Office Worker Health and Well-Being Survey (OWHWS). In addition, four items relating to perceived pay equity were used. The pay equity items were taken from a NIOSH study of occupational stress (Caplan et al., 1975).

The Bem Sex-Role Inventory - Short Form

The BSRI Short Form was developed from the original BSRI (Bieger, 1985). Its purpose is to categorize individuals according to sex-role and degree of psychological androgyny as a function of the degree to which they identify with the array of 30 sex-typed attributes. As on the original BSRI (Bem, 1974), the user indicates on a 7 point Likert-type scale how true each attribute is of him or herself. The instrument has construct validity (Bieger, 1985). The coefficients of reliability for the BSRI range from 0.76 (male scores on the Masculinity Scale for both forms of the instrument) to 0.94 (female scores on the original BSRI). Internal consistency coefficients have been computed separately for males and females on both the original and the short form of the test. The coefficients of reliability for internal consistency ranged from 0.75 (females on the Femininity Scale of the original form) to 0.90 (males on the

Difference score of the short form). Coefficients of correlation between the two forms of the BSRI range from 0.85 to 0.94, thus supporting the claim that they are equivalent (Bieger, 1985).

The Feminism II Scale

The Feminism II Scale was developed by Dempewolff (1974) to measure attitudes toward the sex-role of females in our society. Form A of the Feminism II Scale consists of 28 items. Items are scored on a scale of 1 to 4; 1 indicating strong disagreement and 4 indicating strong agreement. Scores shall be refered to as Attitude toward Feminism scores (ATF).

Using factor analysis, it has been determined that the Feminism II Scale has content validity. Dempewolff (1974) used a two-way analysis of variance to determine if the instrument discriminated between members of organizations with opposite and extreme views of woman's proper role in society. The result, according to Dempewolff (1974), was a significant effect ($p < .0001$) for known organizational membership and thus validation for the instrument .

Office Worker Health and Well-Being Survey

This instrument was developed by researchers at Columbia University (Stellman, Gordon, & Klitzman, 1987). It has been used in a national survey of office workers. The instrument consists of questions divided into seventeen categories relating to occupational stress, health status, and demographic factors. The coefficients of reliability for internal consistency range from 0.72 to 0.87. The coefficients of alpha for the questions within each category are given in Apendix B. The majority of questions require utilization of a response scale of 1 to 4. The types of items within the response scales are presented in Appendix B. The remainder of questions require either a yes/no or a fill-in response. Questions inquiring as to whether or not the subjects were currently employed, fulltime or part-time, and as to their specific classification of occupation were dropped from the instrument since this information was known and the same for all subjects.

Pay Equity Questions

Caplan et al (1975) in a National Institute for Occupational Safety and Health (NIOSH) study of job demands and worker health employed four questions to rate the workers' perception of pay equity or inequity. Three of the questions ask the worker to rate the pay received compared to the pay received by: 1. other people in the same place of employment who do a similar job; 2. other people in the same place of employment who do a different job; and 3. other people who not work at the same place but who have similar jobs. These three questions are scored on a five point scale. The intercorrelation matrix for the three questions is:

Item	1	2
2	.67	
3	.55	.50

The fourth question asks the worker to state what she or he feels should be the amount of pay received in the previous year. In order to derive a figure for equity, this stated sum is then divided by the actual income received (taken from the demographic questions in a different section of the survey) and is expressed as a percentage (Caplan et al., 1975). As reported by Caplan (1975), these measures have been shown to have construct validity and reliability.

COLLECTION OF DATA

The survey for this study, consisting of three self-report instruments and four pay equity questions, was mailed to the subjects with a explanatory cover letter and a pre-addressed, stamped envelop for its return. Subjects were guaranteed confidentially and anonymity.

A follow-up postcard was mailed to all subjects one week after the initial mailing. This served as a thank you note for those who had replied and as a reminder for nonrespondents. The third week after the initial mailing, a new

cover letter and the survey was sent to nonrespondents. On the sixth week after the initial mailing, a reminder letter and the survey was sent to those subjects from whom there had been no response. Eight weeks after the initial mailing, the collection of data was terminated. Appendix A contains the survey instrument and examples of each piece of correspondance sent to the subjects.

HYPOTHESES

In order to meet the objectives of this study, the following null hypotheses were proposed:

Hypothesis #1 There will be no significant correlation between identified components of Occupational Stress (OS) and reported health status (RHS).

Hypothesis #2 There will be no significant correlation between identified components of Occupational Stress (OS) and Sex-role Socialization (SRS).

Hypothesis #3 There will be no significant correlation between identified components of Occupational Stress (OS) and Attitude Toward Feminism (AFT) score.

Hypothesis #4 There will be no significant correlation between identified components of Occupational Stress (OS) and Educational Attainment.

Hypothesis #5 There will be no significant correlation between identified components of Occupational Stress (OS) and perceived pay equity (PQ).

Hypothesis #6 There will be no significant correlation between identified components of Occupational Stress (OS) and reported demographic or socioeconomic or psychosocial factors.

TREATMENT OF THE DATA

Data collected from the survey instruments was transferred to computer disk for computer assisted analysis. The Statistical Package for the Social Sciences was utilized to analyze the data.

Frequency distributions for all variables were computed. Graphs of the frequency distributions of the factors under study are presented in Appendix D.

Data from the Bem Sex-Role Inventory - Short Form (BSRI), Dempewolff's Feminism II Scale, and Caplan's Pay Equity questions and discrete scales within the OWHWB survey were each scored and recorded for the subjects preparatory to the testing of the six hypotheses of this study. The level of significance was set at $p < .05$ as the criterion for retaining or rejecting each of the six hypotheses. If a significant difference was found, the null hypothesis was rejected. If no significant difference was found, the null hypothesis was retained.

For Hypotheses #1, 4 and 6, oneway analysis of variance was used to test for any significant differences between factors. Oneway analysis of variance was the appropriate statistical tool because this set of hypotheses involve observed factors recorded in discrete scales.

Pearson's R was used to help determine if a linear relationship exists among the variables measured. It is a test of simple coefficient of correlation and provides data points which can be plotted to determine if a linear relationship exists among the factors measured (Hoel, 1962).

A test for stepwise multiple linear regression was used in an attempt to build a model to explain any relationships found among factors measured. It is an automatic search method which develops a sequence of regression models, at each step adding or deleting an X variable in order to arrive a reasonably good subset of independent variables (Neter, Wasserman, & Kutner, 1983). Among the results yielded by a stepwise multiple linear regression analysis are beta weights and standardized regression coeffients. A beta weight is comparable to a standardized regression coefficient. The purpose of beta weights and standardized regression coefficients is to correct for differences in measures.

CHAPTER IV

ANALYSIS OF DATA

INTRODUCTION

The main purpose of this study was to determine if significant relationships exist for subjects between: (a) self-perceived occupational stress (OS), (b) reported health status (RHS), (c) sex-role socialization (SRS), (d) attitude toward feminism (ATF), (e) educational attainment (ED), (f) perceived pay equity (PQ), and (g) other reported socioeconomic, demographic, and psychosocial factors. A further purpose of the study was to utilize the research findings to develop recommendations for educators. (These recommendations, as well as other general recommendations, can be found in Chapter V.)

Within the survey instrument, ten occupational stress scales were found to have Cronbach's alpha coefficients of .70 or higher. They were: Job demand (JD), Job satisfaction (JS), Job future (JF), Office satisfaction (OFSAT), Supervisor support (SUSP), Coworker support (COWSP), Ergonomic stressors (ERGS), Decision latitude (DL), Chair control (CHCON), and Air stressors (AIR). These OS components were used as the factor OS in the statistical analysis of the existence of relationships between OS and the factors under study in the hypotheses (i.e. sex-role socialization (SRS), attitude toward feminism (ATF), educational attainment (ED), reported health status (RHS), and demographic, socioeconomic, and psychosocial factors).

Data from the Bem Sex Role Inventory - Short Form (BSRI), Dempewolff's Feminism II Scale, and Caplan's Pay Equity questions and discrete scales within the OWHWB survey were each scored and recorded for the subjects preparatory to the testing of the six hypotheses of this study. The level of significance was set at $p < .05$ as the criterion for retaining or rejecting each of the six hypotheses. If a significant difference was found, the null hypothesis was rejected. If no significant difference was found, the null hypothesis was retained.

Description of the Survey Sample

The random sample of 400 subjects for this study was drawn from a list

of members of the Oregon Public Employees Union employed by the State of Oregon as clerical specialists. Two hundred and eighty-three of these clerical specialists returned completed surveys. Therefore, overall response rate was 71%. Three of the surveys were completed by male clericals and thus were not included in the data analysis. The total sample then consisted of 280 female subjects.

The subjects ranged in age from 20 years old to 65 years old. The mean age of the subjects was 38.9 years. Twenty-one (7%) of the subjects identified themselves as belonging to an ethnic minority. The educational attainment of the subjects ranged from some high school to graduate or professional education beyond a university degree. The mean level of educational attainment was some university or college without a degree. Fifty (17.9%) of the subjects described themselves as never married; 147 (52.5%) described themselves as married; 76 (27%) of the subjects described themselves as separated or divorced; and 7 (.025%) of the subjects described themselves as widowed. Seventy-three (26%) of the subjects reported that they had had no children. The number of children borne by the remaining 207 (74%) subjects ranged in number from 1 to 8 children. Frequency distributions of the detailed demograhpic composition of the population of this study are presented in Appendix C.

PRESENTATION OF RESULTS

Hypothesis #1 There will be no significant correlation between identified components of Occupational Stress (OS) and reported health status.

Reported health status (RHS) was comprised of an overall self-rating of Ss' health and twelve discrete health scales within which Ss' reported upon specific health items. The health scales were: General Health (GH); Nose/Throat/Chest (NTC); Stomach (STOM); Musculoskeletal (MUS); Skin; Eyes; Ears; Sleep; Fatigue (FTG); Anxiety (ANX); Irritatinon/frustration (IRR); and Depression (DEPR). Subjects' responses as to how they would describe their own health on a scale of one to four on which one represented poor and four represented excellent, were coded and frequency distributions were determined. The subjects were classified into four groups by use of these frequency distributions. Refer to Table 2 and Figure 1 below.

Table 2
Subjects' Ratings of Own Health Status

Subjects' Rating	Number of Ss	Percentage
EXCELLENT	73	26
GOOD	143	51
FAIR	54	19
POOR	6	2
N =	276 (4 cases missing)	Total = 98%

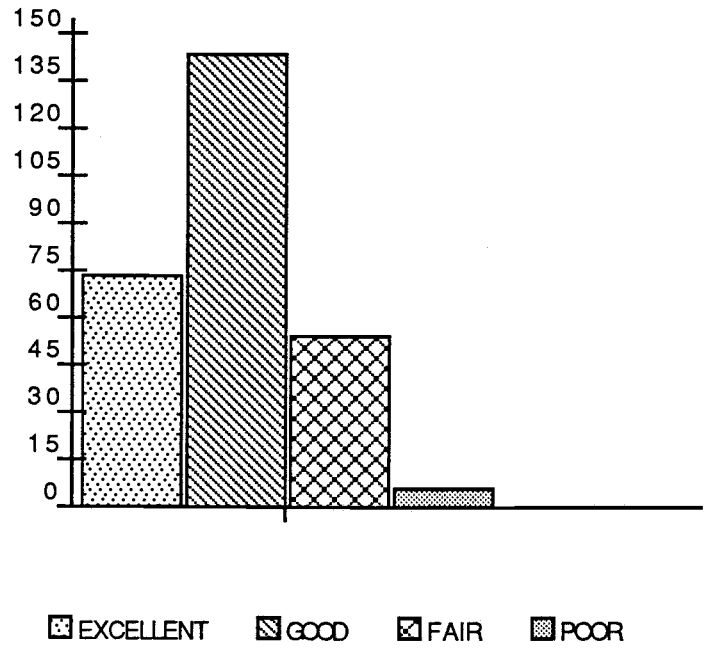

Figure 1. Subjects' Rating of Own Health Status.

These four groups and their mean scores were analsyzed using Oneway anova to determine if there was a significant relationship between described health status and any of the ten occupational stress score means. It was found that no statistically significant relationships existed between

described health status and any of the ten occupational stress scales measured.

Chi-square analysis and Pearson's R were used to determine if any significant relationships existed between the Ss' scores on the discrete health scales and OS. It was found that statistically significant relationships existed between OS and RHS. In the following sections, the significant relationships that were found are described.

Job Demand

The health scales that were found via use of Chi-square and Pearson's R to have significant direct relationships to Job Demand were IRR, NTC, STOM, FTG, GH, and ANX. (Refer to Appendix E for the findings.) Job Demand was considered higher by those subjects who were experiencing higher levels of negative health outcomes. Subjects who reported higher levels of Job Demand were more likely to report more nose/throat/chest problems, more gastrointestinal problems, more fatigue, poorer general health, more anxiety, and more irritation and frustration than were subjects who perceived their job demand to be low.

Job Satisfaction

There were found via use of Chi-square and Pearson's R to be statistically significant inverse correlations between Job Satisfaction and each of the twelve health scales except GH ($p = .06$) and IRR. The Chi-square p values for the remaining 10 health scales were all significant at $p < .01$. Therefore it appears that one's level of JS is strongly related to one's health status. The relationship is inverse. The more satisfied one is with one's job, the more likely that one will suffer fewer negative health outcomes. The healthier person is more likely to report being satisfied with her job. (Refer to Appendix E for the findings.)

Job Future

IRR, STOM, MUS, EAR, and DEPR were found via use of Chi-square analysis to be related to Job Future. Pearson's R revealed inverse

relationships between each of these variables and Job Future. Subjects with higher levels of ill health measured as by the health scales Irritation/Frustration, MUS, EAR, and DEPR were less likely to project remaining in their current job. This trend was most strongly correlated with Irritation/Frustration as measured by Pearson's R.

Decision Latitude

Decision Latitude (DL) was found by Chi-square analysis to be statistically significantly related to IRR, SKIN and ANX. There was a statistically significant slight correlation of -.17482 with p = .0020 between ANX and DL and a correlation of -.17871 with p = .00161 between IRR and DL. Subjects who reported less lattitude in decision-making were more likely to report high levels of anxiety, irritation and frustration, and more skin problems.

Office Satisfaction

OFSAT was found via use of Chi-square analysis to be significantly related to IRR, STOM, EYE, ANX, MUS and DEPR. Pearson's R revealed inverse correlations to exist between each of these variables and OS. As the S's severity of symptoms reported on these health scales increased, her satisfaction with her office decreased.

Supervisor Support

Supervisor Support and RHS were found to have Chi-square p values of < .05 for each health scale except Skin (p = .09) and GH (p = .065). The Pearson's R values for the health scale scores in relation to Supervisor Support were found to be statistically significant for all health scale scores . The correlations found were inverse and ranged from slight (-.15129 with p = 0.0058 for STOM) to moderate (- .31857 with p = .00000 for IRR). Subjects who reported their supervisors to be nonsupportive were more likely to report experiencing negative health outcomes in each of the above mentioned areas than were subjects who reported having supportive supervisors.

Co-worker Support

IRR, NTC, STOM, MUS, SKIN, EYE, and DEPR were found by Chi-square analysis to be statistically significantly related to Coworker Support (COWSP). Pearson's R revealed inverse correlations to be present between these factors and co-worker support. Subjects who reported experiencing lower levels of support from their co-workers were also more likely to report experiencing negative health outcomes in the areas of IRR, NTC, STOM, MUS, SKIN, EYE, and DEPR

Chair Control

Chair Control (CHCON)was found by Chi-square analysis to be statistically significantly related to Ss scores on the health scales EYE and Anxiety (ANX). Pearson's R revealed a very slight inverse correlations of -.10868 between EYE and CHCON. No significant correlation existed between ANX and CHCON.

Air Stressors

It was found by Chi-square analysis that Ss' scores on STOM, MUS, EYE, FTG, IRR, and ANX were statistically significantly related to Air Stressors (AIR) with $p < .05$. A correlation of .30378 with a p value of .0000 was found by Pearson's R to exist between MUS and AIR and a correlation of .21285 with $p = 0.0002$ between AIR and IRR. STOM. EYE, FTG, and ANX were also found to be significantly correlated to AIR, but the correlations were slight. The greater stress the subjects experienced as measured by the scale Air Stressors, the more likely they were to report higher levels of anxiety, irritation/frustration, vision problems, gastrointestinal problems, musculoskeletal problems and fatigue.

Ergonomic Stressors

Ergonomic Stressors (ERGS) and RHS were found by Chi-square analysis to be significantly related specifically on EYE, EAR, FTG, and ANX.

The relationships were statistically significant with $p < .05$. Pearson's R revealed inverse correlations to exist between the above mentioned health scales and ERGS. The correlations ranged from -.25315 for EYE to -.07521 for ANX. Therefore, higher levels Ergonomic stress appeared to be related to greater reported levels of problems in vision, hearing, fatique, and anxiety.

Hypothesis #2 There will be no significant correlation between identified components of Occupational Stress (OS) and sex-role socialization (SRS).

Bem's Sex Role Inventory - Short Form was used to assess the clericals' sex-role socialization. Masculinity scores and feminimity scores were assessed for each subject. A subject's sex-type was classified as Feminine if her score on the masculine scale was below the median and her score on the feminine scale was above the median. If the masculine scale score was above the median and the feminine scale score was below the median, the S's sex-type was classified as Masculine. Subjects with low masculine and low feminine scale score were sex-typed as Undifferiented. Subjects with both the masculine and the feminine scale scores above the median were sex-typed as Androgynous. The frequency distributions of the subjects in each sex-type are presented in Table 3.

Table 3
Bem Sex Role Inventory - Short Form Sex Types

Sex Type	Number of Ss	Percentage
1 Feminine	99	35.4
2 Masculine	40	14.3
3 Undifferentiated	80	28.6
4 Androgynous	61	21.8
N =	280	Total = 100.0

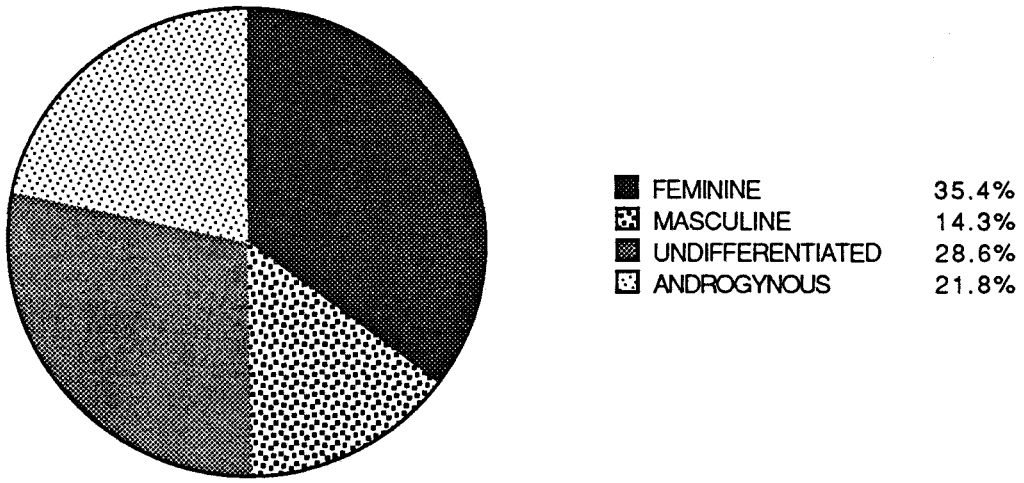

Figure 2. Bem Sex Role Inventory - Short Form Sex Types by Percentages.

Chi-square analysis and Pearson's R were utilitized to determine if any significant relationships existed between SRS and OS. Chi-square results showed the relationship between subjects sex-types and the degree to which they reported air stressors to have a statistically significant relationship with $p = .0074$. However, Pearson's R did not reveal any significant correlation to exist between SRS and air stressors. Supervisor support and SRS were found, by use of Chi-square analysis, to have a relationship with $p = .0873$. This was not statistically significant. . No significant correlations were revealed by Pearson's R to exist between OS and SRS, therefore Hypothesis #2 was retained. Refer to Table 4 for Chi-square and Pearson's R findings for OS and SRS.

Table 4

Summary of Chi-Square and Pearson's R Findings for Occupation Stress and Sex-Role Socialization

OS Scale	df	Chi sqr	P	Pearson's R	P
Job demand	9	9.99050	.3513	.00331	.4783
Job satisfaction	9	7.49196	.5860	.01535	.4009
Job future	9	13.26188	.1511	-.00857	.4442
Office sat.	9	11.61077	.2362	.00345	.4775
Super. support	9	15.13290	.0873	-.00009	.4994
Coworker support	9	8.22765	.5114	.00470	.4692
Decision latitude	9	14.30216	.1120	-.00296	.4807
Chair control	6	0.66666	.9952	.00043	.4972
Air stressors	9	22.50337	.0074*	.03490	.2833
Ergonomic stressors	9	8.65492	.4697	-.08845	.0732

* Statistically significant at the .05 level.

Hypothesis #3 There will be no significant correlation between identified components of Occupational Stress (OS) and attitude toward feminism (AFT) score.

By use of frequency distributions of the mean scores on Dempewolff's Feminism II Scale and use of standard deviations of variance, the subjects were grouped into 3 groups (i.e. Low Feminist, Medium Feminist, and High Feminist). This grouping corresponded to groupings from previous studies which had utilitized Dempewolff's Feminism II Scale (Clayton, 1983). Refer to Table 5 and Figure 3 below for the make-up of each group.

A summary of the results of the findings from the Chi-square and Pearson's R analyses of Attitude Toward Feminism (ATF) and occupational stress (OS) components are presented in Table 6. ATF was found to be

related at the significance level of p = .0195 to Job Future (JF). There was found to be an inverse relationship of JF to ATF. Subjects with high scores on ATF tended to have low scores on JF. The correlation as measured by Pearson's R was very slight (i.e. r = -.12483), but statistically significant with p = .0102. Hypothesis #3 was therefore rejected.

Table 5
Attitude Toward Feminism Groups by Subjects' Scores on Dempewolff's Feminism II Scale

Group	Range of Mean Item Scores	N	Percentage
Low Feminist	1.00 thru 3.32	143	51.1
Medium Feminist	3.32 thru 3.67	87	31.1
High Feminist	3.67 thru 4.00	49	17.5
(missing)		1	.4
N =		280	100.0%

Note: due to rounding, percentages do not equal 100.

Figure 3. Attitude Toward Feminism Groups By Percentages.

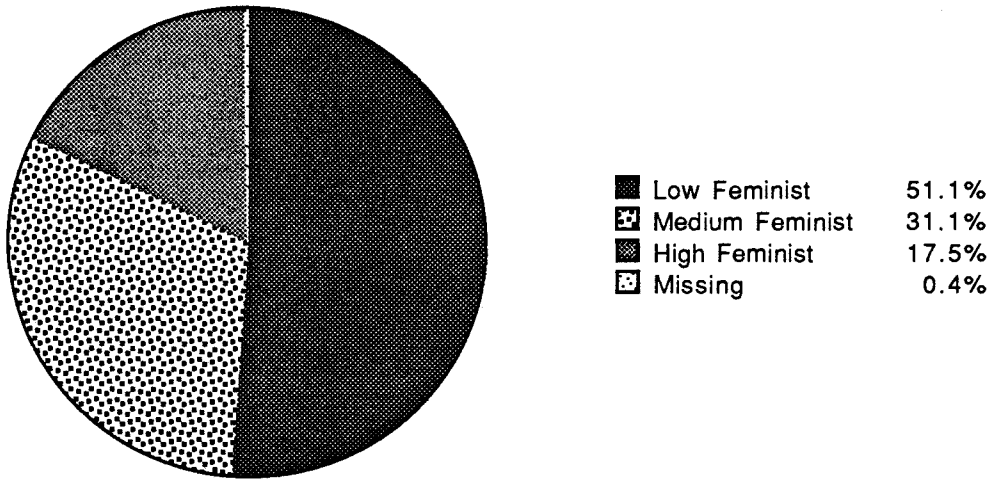

Table 6

Summary of Chi-Square and Pearson's R Findings for Occupational Stress and Attitude Toward Feminism

OS Scale	df	Chi sqr	P	Pearson's R	P
Job demand	9	4.35285	.6290	-.03534	.3564
Job satisfaction	9	4.80027	.5697	-.09484	.0565
Job future	9	15.09382	.0195*	-.12483	.0102 *
Office sat	9	6.13694	.4080	.13606	.0116 *
Super. support	9	5.02647	.5404	.05046	.2010
Coworker support	9	4.86755	.5609	-.47700	.2137
Decision latitude	9	3.54304	.7382	.05119	.1980
Chair control	6	2.82598	.5874	.00982	.4357
Air stressors	9	7.16697	.3057	.07662	.0712
Ergonomic stressors	9	5.15409	.5242	.05950	.1617

*Statistically significant at the .05 level.

Hypothesis #4 There will be no significant correlation between identified components of Occupational Stress (OS) and educational attainment.

Frequency distributions and statistics were computed for the reported educational attainment of the clericals. The frequencies are presented in Table 7. Refer to Figure 4 for a graph of this information.

Table 7

Subject's Level of Educational Attainment

Level Attained	Number of Ss	Percentage
Grades 9 - 11	2	.7
Grades 12 - 13	104	37.1
Some university or college without degree	115	41.1
Some university or college with degree	17	6.1
University degree	33	11.8
Graduate or professional beyond degree	9	3.2
Total =	280	100.0%

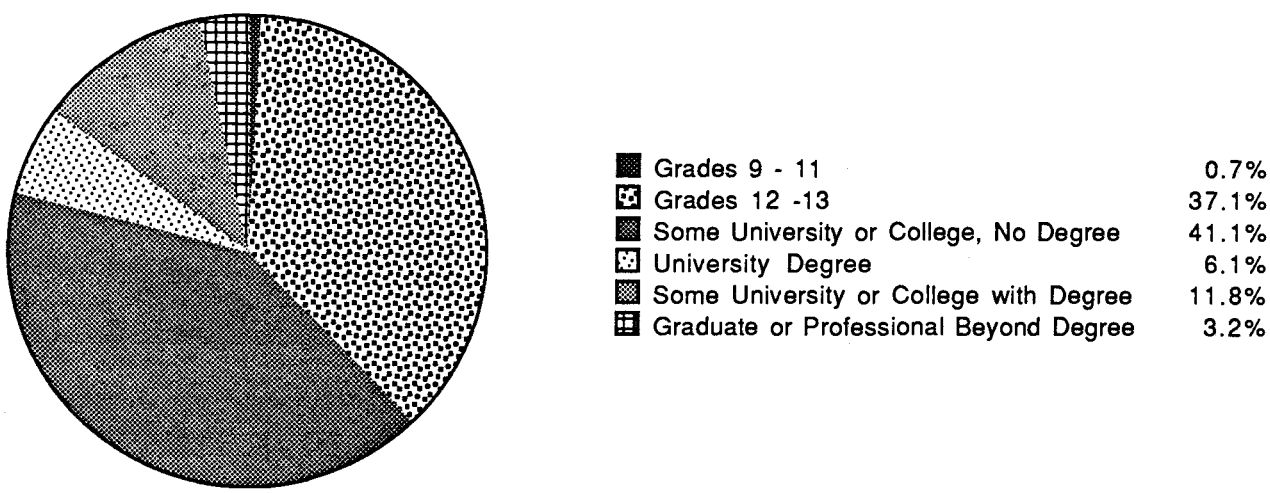

Figure 4. Subjects' Level of Educational Attainment.

Oneway anova was utilized in order to determine if any significant differences were present between the means of the ten occupational stress components and educational attainment. It was found that there was a significant difference between means of job satisfaction and educational attainment. It was found to be significant with $p = 0.0010$. Cochran's C was used to test for homogenity of variance and the p value was found to equal 0.086. Therefore, the significant difference found was supported. On the basis of these results, Hypothesis #4 was rejected. (Refer to Appendix D for ANOVA summary tables for Hypothesis #4.)

Hypothesis #5 There will be no significant correlation between identified components of Occupational Stress (OS) and perceived pay equity.

Subjects' scores on Caplan's Pay Equity questions were tabulated and frequency distributions and statistics were computed. There were four questions that dealt with the perceived fairness of wages. Three of the questions required a response on a 5-point scale. The fourth question dealt specifically with the amount of pay the subjects felt they should have received. The response rate on this fill-in the blank question (ie "what pay should you have received last year for this job") was unacceptable (15% of the subjects did not respond). Therefore, the question was discarded from further statistical analysis. Below in Table #7 are the frequency distributions and percentages for each of the three questions that were utilized. The three questions asked the S to rate the fairness of her pay relative to: 1. persons in similar jobs and same place (Same/Same); 2. persons in different jobs and same place (Diff/Same); and 3. persons with similar skills to hers, but who do not work in the same place (Same/Diff). The rating scale ranged from 1 = "I get very much less than I ought to get" to 5 = "I get more than I ought to get." Refer to Figure #5 for a bar graph of the Ss responses on each item. Refer to Table #8 for subjects responses on pay equity questions.

Table 8

Subjects' Responses to Perceived Pay Equity Questions

	Response Scale				
Question	1	2	3	4	5 .
Same Job/Same Place N = 277	44	80	63	88	2
Different Job/Same Place N = 278	70	82	61	65	0
Same Skills/Different Place N = 272	112	91	64	5	0

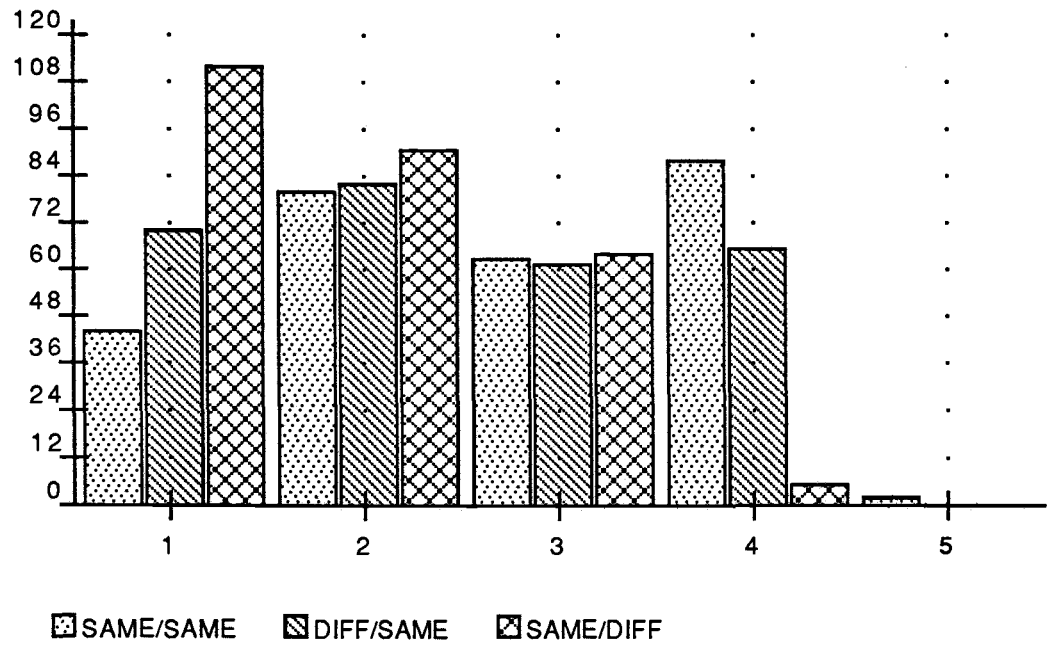

Figure 5. Subjects' Responses to Pay Equity Questions.

Chi-square analysis and Pearson's R were used to determined if any significant relationships existed between perceived pay equity and OS. The

Chi-square and Pearson's R values that were found to be significant or close to significant are reported in Table #9. Job demand and perceived pay equity were found to be significantly related and to have a slight inverse correlation which was significant at p = .0005. Therefore, subjects who perceived themselves as underpaid were also likely to have perceived the job demand to be high. No other Chi-square values were found to be statistically significant at the .05 level. Hypothesis #5 was thus rejected.

Table 9
Summary of Chi-Square and Pearson's R Findings for Occupational Stress and Perceived Pay Equity

OS Scale	df	Chi sqr	P	Pearson's R	P
Job demand	9	18.97984	.0254*	-.19738	.0005 **
Job satisfaction	9	16.37091	.0595	.10236	.0463 *
Air stressors	9	16.14444	.0639	-.18671	.0010 **

* Statistically significant at the .05 level.

** Statistically significant at the .01 level.

Hypothesis #6 There will be no significant correlation between indentified components of Occupational Stress (OS) and reported demographic or socioeconomic or psychosocial factors.

The demographic and socioeconomic information that was reported on the survey by the subjects included: age, marital status, current living situation, spouse (if any) and spouse's employment, children (if any), number of children living in the home, number of children under age 6, income from S's clerical position, total household income, and other job for income. (Refer to Appendix C for frequency distributions of each of the demographic , socioeconomic and psychosocial variables; refer to Appendix D for the summary tables of the Oneway anova results.)

In addition, subjects completed the Framingham Type A Personality Scale (Type) (Haynes & Feinleib, 1980). The median score was 13.000; the mean was 13.355; and the standard deviation of error (SD) was 2.996. Using a median-split and SD, subjects were assigned to 5 groups. Frequency distributions of the subjects within the 5 groups are presented in Table 10.

Refer to Figure 6 for a graph of this information.

Table 10

Subjects Assigned to Groups by Scores on Type A Scale

Group	Range of Mean Item Scores	Number	Percentage
Group 1	7.00 - 10.00	48	17.1
Group 2	10.00 - 13.00	107	38.2
Group 3	13.00 - 16.00	77	27.5
Group 4	16.00 - 19.00	38	13.6
Group 5	19.00 - 24.00	6	2.1
Missing		4	1.4
N =		280	100.0

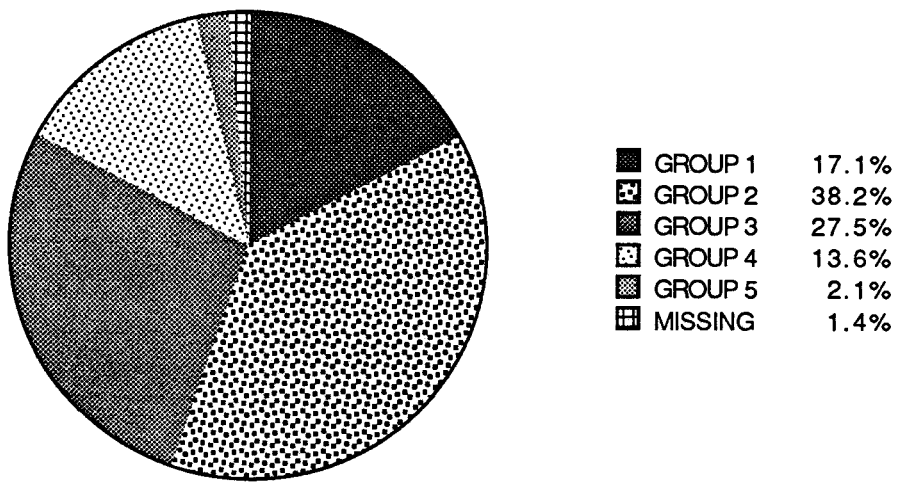

Figure 6. Type A Scale Score Groups and Their Percentages.

Chi-square analysis and Pearson's R were used to compare OS and

Type. There was a relationship discerned by Chi-square analysis between Type and Job demand with $p = .0726$ and Pearson's R with an r value of -.08125 and a significance level of $p = .0892$. However, this level of significance did not meet the criterion of $p < .05$. Therefore, the results of the statistical analysis indicated no statistically significant relationships to exist between Type and OS as measured by any of the occupational stress scales.

Chi-square analysis and Pearson's R were used to determine if OS and age were significantly related. It was found that age did have a statistically significant relationship to Decision Latitude with a Chi-square value of 16.79107; df = 9; p value of .0521. Pearson's R did not reveal any statistically significant results.

Oneway anova was utilitized to compare the means of other reported demographic data to the subjects' mean scores on the OS scales. Spouse's employment status was found to be significantly related to ergonomic stressors (ERGS) with $p = .0366$. Spouse's type of employment was found to be significantly related to supervisor support (Susp) with $p = .0273$.

Cochran's C test for homogenetity of variance demonstrated no significant difference in variance. No other significant relationships between demographic factors and OS were found. Refer to Appendix D for the Oneway anova summary tables for demographic, socioeconomic, and psychosocial factors. On the basis of the significant relationships reported above, Hypothesis #6 was rejected.

MULTI-LINEAR STEPWISE REGRESSION RESULTS

Multi-linear stepwise regression analyses were performed in order to determine if any of the measured variables were significant predictors of the ten dependent variables of occupational stress. The results from the multi-linear stepwise regressions, relative to each of the ten measured components of occupational stress, are presented in the following sections of this chapter. With the use of computer-assisted analysis, only those independent variables whose contribution to the variance in the dependent variable was statistically significant at $p < .05$ were entered in the multi-linear stepwise regression analysis.

Job Satisfaction

The variables which were found to be significant predictors for Job Satisfaction were: 1. Irritation/Frustration, 2. Educational Attainment, 3. Total Household Income, and 4. Depression. These variables were found to account for 52.8% of the total variance in Job Satisfaction for the subjects of this study. Irritation/Frustration had a correlation value and Beta weight of -.4286. Educational Attainment had a correlation value of -.2214 and a Beta weight of -.2193. Total Household Income had a correlation value of -.1415 and a Beta weight of -.1598. Depression has a Beta weight of -.1744 and a correlation value of -.3680. No other measured variables were found to be statistically significant in the stepwise regression analysis ($p < .05$).

Job Demand

Two variables were entered in the stepwise regression analysis of Job Demand. They were Nose/Throat/Chest and Pay Equity. Only 26% of the total variance in Job Demand was accounted for by the regression analysis. Nose/Throat/Chest had a correlation value and Beta weight of .2096. Pay Equity had a correlation value of -.1681 an a Beta weight of -.1576. The higher the JD, the more health problems in NTC and the more underpaid Ss perceived of themselves as being. No other measured variables were found to be statistically significant in the stepwise regression analysis.

Job Future

Subjects' mean scores on the health scales Irritation/Frustration, Pay Equity, and Current Living Situation emerged from the regression analysis as the three variables to be statistically significant in their effect upon the variance in subjects' mean scores on Job Future. Only 32% of the total variance was accounted for by these variables. Irritation/Frustration had a Beta weight of -.2584 and a correlation value of -.2584. Pay Equity had a Beta weight of .1328 and a correlation value of .1536. Current Living Situation had a Beta weight of .1337 and a correlation value of .1519. Those Ss who experienced less irritation and frustration were more likely to predict remaining in their current jobs longer. Those who perceived of themselves as very much underpaid were less likely to predict staying in the job more than 5 years.

Those who lived alone were more likely to predict remaining in the job than were those who were married or living with a partner or in some other cohabitation arrangement. No other measured variables were found to be statistically significant in the stepwise regression analysis.

Decision Latitude

Irritation/Frustration was the only variable found to be significant in its contribution to the variance in Decision Latitude score means among the subjects in this study. It accounted for 20% of the variance. The remaining 80% of the variance was unaccounted for by the measured independent variables. Irritation/Frustration had a correlation value and Beta weight of -.2000.

Office Satisfaction

Stepwise regression analysis revealed that only two independent variables, Eye and Depression, made statistically significant contributions to the variance in Office Satisfaction. They accounted for 31% of the variance present in Office Satisfaction. Eyes had a correlation value and Beta weight of -.2697. Depression had a correlation value of -.2171 and a Beta weight of -.1530. Therefore, subjects who were experiencing depression and/or vision problems were less likely to report high levels of Office Satisfaction.

Supervisor Support

Four of the independent variables under study were found to contributed significantly to the variance present in subjects' assessment of Supervisor Support. Irritation/Frustration, Eyes, Sleep, and Educational Attainment were found to account for 40% of the variance present. The Beta weight and correlation value of Irritation/Frustration were -.3651. The correlation value of Eyes was found to be -.2719; Eyes had a Beta weight of -.1733. Sleep had a correlation value of -.2152 and a Beta weight of -.1484. Educational Attainment had a correlation value of -.1091 and a Beta weight of -.1280.

Co-worker Support

There were only two independent variables found to be statistically significant in accounting for the variance in Co-worker Support score means. They were Stomach and Type. They accounted for only 22% of the measured variance in OS among subjects. Stomach was found to have a correlation value and Beta weight of -.1765. Type's correlation value was -.1386. Type's Beta weight was -.1352.

Ergonomic Stressors

The only independent variable that was statistically significant in its contribution to the variance present in subjects' assessment of Ergonomic Stressors was Eye. The amount\ of variance accounted for by Eyes was 18%. The correlation value and Beta weight were both -.1839.

Air Stressors

There was only one variable entered by the stepwise regression analysis that was statistically significant. The health variable of MUS was found to account for 27% of the variance in Air Stressors as reported by the subjects in this study. MUS was found to have a correlation of .2737 and a Beta weight of .2737.

Chair Control

It was found that Nose/Throat/Chest and Educational Attainment were the independent variables which emerged as having significantly contributed to the variance in Chair Control. They accounted for 22% of the variance. Both were found to be inversely correlated to Chair Control. Nose/Throat/Chest had a correlation of -.1753 and a Beta weight of -.1753. Educational Attainment had a correlation of -.1528 and a Beta weight of -.1508.

SUMMARY

Five hypotheses under study (e.g. HO #1, #3. #4, #5 and #6) were rejected due to statistically significant correlations having been found to exist between OS and each of the following: Health, Educational Attainment, Attitude Toward Feminism, Self-perceived Pay Equity, and Demographic and Psychosocial factors. Although a significant relationship was found by Chi-square analysis to exist between Sex-Role Socialization and the Occupational Stress scale of Air Stressors, Pearson's R did not reveal any significant correlations to exist. Therefore, Hypothesis #2 was retained.

Multi-linear stepwise regression analyses were performed to determine what factors contributed significantly to the variance in the OS experienced by the subjects. It was found that the following factors did contribute significantly to this variance in OS among subjects: Irritation/Frustration, Educational Attainment, Eye (vision), Nose/Throat/Chest, Depression, Pay Equity, Sleep, Musculoskeletal, Stomach, Personality Type, Current Living Situation, and Total Household Income. No other measured factors were found to be significant at $p < .05$.

CHAPTER V

INTRODUCTION

The results of this study have provided information regarding the relationships between self-perceived occupation stress, reported health status, sex-role socialization, attitude toward feminism, educational attainment, perceived pay equity and other reported demographic and psychosocial factors among clerical workers in the State of Oregon Employment System who voluntarily participated in a mail survey. A summary of the research, a discussion of the research findings, a comparisons to earlier research, and recommendations for future research and for educators are presented in this chapter.

SUMMARY OF THE RESEARCH

PURPOSE

The two major purposes of this study were to: (1) ascertain if any significant relationships existed for subjects between self-perceived occupational stress, reported health status, sex-role socialization, attitude toward feminism, educational attainment, perceived pay equity and other reported socioeconomic, demographic and psychosocial factors and (2) utilize the research findings to develop recommendations for educators.

RESEARCH DESIGN

From a randomly drawn sample of 400 subjects who were OPEU members employed as clerical workers by the State of Oregon, 280 female subjects completed and returned a mail survey consisting of the Office Worker Health and Well-Being Survey, Bems Sex-Role Inventory-Short Form, Dempewolffe's Feminism II Scale, and four pay equity questions from Caplan's NIOSH study. The completed surveys were scored and recorded. The compiled data were then subjected to statistical analysis to test the stated six hypotheses. On the basis of the

research findings, five of the six hypotheses under study were rejected (e.g. HO #1, #3, #4, #5, and #6). The data were also subjected to a multi-linear stepwise regression analysis to determine if any clusters of factors emerged as predictors of occupational stress. A detailed account of these research findings was presented in Chapter 4.

DISCUSSION OF RESEARCH FINDINGS

As stated above, on the basis of the research findings, five of the six research hypotheses were rejected. Hypothesis #2 was retained. In order to make the discussion of these results more comprehensible and meaningful, these results are presented in three sections: factors that emerged as significantly related to the OS reported by the subjects and clusters of factors which emerged from the multi-linear stepwise regression analysis as predictors of OS; a comparison of these findings to earlier research; and a section in which recommendations for educators and researchers are discussed.

Factors Found To Be Significantly Related To Occupational Stress

The subjects' rating of their overall health status was not found to have any statistically significant relationship to any OS scale, but twelve more specific health scales were found to be significantly related to occupational stress. It would therefore appear that an individual's overall rating of her health status is not a reliable indicator for use in assessing the actual status of health or the relationship of health to occupational stress. Significant inverse relationships were found to exist between the measured health scales and the following occupational stress scales: Decision Latitude, Ergonomic Stress, Chair Control, Co-Worker Support, Supervisor Support, Office Satisfaction, Job Satisfaction, and Job Future. A direct relationship was found to exist between occupational stress scales of Air Stressors and Job Demand and the health scales. Other factors which emerged as significantly related to various occupational stress scales were Educational Attainment, Spouse's employment type, Spouse's

employment status, Perceived pay equity, Sex-role socialization (found by Chi-square to be related to Air Stressors; however, no significant correlations emerged between SRS and OS) , and Attitude toward feminism.

Factors That Emerged From Multi-Linear Regression Analysis As Significant

Multi-linear stepwise regression analysis was used to find statistically significant predictors of occupational stress. The predictors of occupational stress were found to be: Irritation/Frustration, Educational Attainment, Eye (vision), Nose/Throat/Chest, Depression, Perceived Pay Equity, Sleep, Musculoskeletal, Stomach, Personality Type, Current Living Situation, and Total Household Income. Refer to Chapter 4 for a more detailed presentation of these findings.

COMPARISON TO EARLIER RESEARCH

Occupational Stress and Health

The findings of this study support earlier research findings (Dainoff, 1979; National Commission on Working Women, 1979; 9 to 5, National Association of Working Women, 1984; Stellman et al., 1985 & Stellman et al., in press) that among clericals there are very significant levels of work-related anxiety, depression, undue fatigue, irritation and frustration, sleep disturbance, vision problems, gastrointestinal illness, musculoskeletal problems, and respiratory problems. In addition, it was found that skin problems and hearing loss were also negative health outcomes related to occupational stress for the Ss in this study. The emergence of these two additional factors as significant may be due to the uniqueness of this study population and/or recent changes in the work environment of clericals.

Sex-role Socialization and Attitude Toward Women

Sex-role socialization appeared to have very little effect on the subjects' level of occupation stress. The only statistically significant relationship found was a very slight relationship of SRS and Air stressors. Perhaps the most enlightening finding relative to the sex-types classified by use of Bem's Sex-Role Inventory-Short Form was that none of the sex types emerged as strongly related to nor as a predictor of occupation stress. Subjects classified as feminine, masculine, undifferentiated, or androgynous did not differ from one another markedly in any aspect of occupation stress measured in this study. Given earlier researchers findings that the androgynous sex-type might be more conducive to mental health for women, it was somewhat surprising to find no major differences in the occupational stress experienced by the four sex-types.

Subjects who scored higher on feminism as measured by Dempewolff's Feminism II Scale were slightly more likely not to project remaining in their current job for five years than were those with lower feminism scores and were slightly less satisfied with the office environment. Whether this was due to their being more likely to see themselves as advancing in their careers or leaving the occupation for another was not identified. The subjects' levels of feminism were not found to be significantly related to occupational stress in any other way examined.

Perceived Pay Equity and Educational Attainment

The subjects in this study had a wage gap of 20 to 30% between their actual wage and the wage that, according to a State job reclassification study (Task Force, 1985), they should have been receiving. This gap was comparable to wage gaps reported to exist between the wages of women and men in both similar and dissimilar occupations (Freedman & Bisesi, 1988; U.S. Bureau of Labor--Women's Bureau, 1985). The subjects' perceived pay equity had a very significant inverse relationship to perceived job demand. This contrasts somewhat with the findings of Major and Forcey (1986) and

their characterization of the 'paradox of the contented female worker' in which they describe a woman in a job labelled as feminine as less likely to view her wages as unfair and more likely to be content with her pay. The majority of subjects in the current study did rate their pay as unfair although as clericals they are in a heavily female-dominated occupation. The subjects were most likely to report their pay as unfair when compared to people in different jobs in the same place of employment and to people with similar skills but working in a different place of employment. As may have been due to the private sector wages differing from State of Oregon wage rates.

Although the level of educational attainment for many of the subjects was high, there was no corresponding gain in wages paid. There were no monetary rewards for higher levels educational attainment as measured in this study. The fact that educational attainment emerged as a predictor of the Occupational Stress factor of Supervisor Support was a very interesting finding. The results indicated that subjects who had more education described their supervisors as less supportive than did subjects with a lower level of education. There was also an inverse relationship between educational attainment and Job Satisfaction. The less educated subjects were more satisfied with their current jobs. Whether these findings relative to educational attainment and Job Satisfaction and Supervisor Support had to do with some unidentified factors characteristic of clerical work or to some factor related to social caste was not determined.

Psychosocial and Demographic Factors

Given that in the Framingham study, one of the independent predictors of coronary heart disease was Type A Personality; the emergence, in the current study, of Personality Type as an independent predictor of OS was interesting. It was also reported in the Framingham study that clericals who were married to blue collar husbands, had children at home, and had nonsupportive bosses experienced increased risk of coronary heart disease. In the current study, no such links were found. This difference may have been due to the inclusion of

biomedical assessments in the Framingham study in contrast to the current study's reliance upon Ss' self-report s of health status and existing health conditions. Neither the number of children at home nor the age of the children emerged as having any significant relationship to any factor under study. This result was in contrast to the findings of Wolfe and Haveman (1983) and of Kandel et.al., (1985) and in support of the findings of Kotler and Wingard (1989). For the women in this study there was no relationship found between marital status, the presence of children, dual or multiple roles and increased occupational stress. It appeared that the subject's current living situation was a more salient factor in predicting the likelihood of a subject remaining in the job than was marital status or the presence or absence of children. Those subjects who lived alone were less likely to project remaining in the job than were those living with other people. For married subjects, the only significant results relative to the spouse's employment status or type of employment were: 1. clericals whose spouses were unemployed reported more ergonomic stress than those whose spouses were employed; 2. clericals with white collar husbands were more likely to report that their supervisors were supportive than were clericals with blue collar, retired or disabled spouses.

FUTURE RESEARCH

The results from this study provide a basis for further research. Recommendations are:

1. In-depth personal interviews should be used in a research study with a random sample of all clericals to determine if the results of this study can be replicated.
2. A research study incorporating on-site inspections and assessments of the physical work environment should be conducted to determine the presence or absence of factors which contribute to occupational stress and negative health outcomes. Special attention should be given to assessing the air quality within the buildings. The presence of a significant correlation between ATF and Air Stressors should be closely examined. The possibility that there may have been a larger number of high AFT scoring Ss assigned to one "sick" building

should be explored. (Note: during the time period of this study, one State office building in the State Capitol was temporarily closed due to problems with bad air in the building. This could have affected the results of the study.)

3. A research study should be conducted to determine if clericals who work primarily on VDTs have different occupation stress outcomes than do clericals who do not work on VDTs.
4. The finding that high job demand is significantly related to negative health outcomes should be researched further. There may be a "healthy worker effect;" e.g. healthy workers more likely to perceive job demand as low; unhealthy workers more likely to perceive job demand as high. It is equally feasible that high job demand contributes to producing poor health. Similar questions need to be explored in relation to each significant health-related outcome revealed in this study.
5. Research should be conducted to more fully explore the relationship between Personality Type, health, and occupational stress.
6. Experimental research should be conducted to determine if modifications in the work environment could produce lower levels of OS and the corresponding lower levels of negative health outcomes for clericals.
7. Based upon the finding that supervisors were more likely to be described as supportive by clericals married to white collar spouses, the possible existence of gender differences and class-associated differences in the supportiveness of the supervisors should be researched.
8. The relationship of total household income and current living situation to occupational stress needs to be studied further.
9. The relationship between educational attainment and occupational stress needs to be researched further.
10. Research more fully exploring the relationship of pay equity to occupational stress and health should be conducted.
11. An informational monograph summarizing the findings of this study should be written and provided to the study's participants and to the Oregon Public Employees' Union.

RECOMMENDATIONS FOR EDUCATORS

The recommendations for educators that have been drawn from the results of this study apply to the future education of three distinct populations: individuals who have not yet entered the labor force or chosen an occupation; individuals who are currently working as clericals; and employers of clericals. The presentation of recommendations are therefore presented in these three categories.

In educating individuals who are preparing to make career choices, educators should help them become more fully aware of the nature of clerical work. Individuals who aspire to have jobs that are well-paid, that fully utilize their decision-making capabilities, and that provide career ladders need to be aware that clerical jobs in general do not have these characteristics. Individuals who do aspire to be clericals should be encouraged to seek training that will enhance their opportunities for positive outcomes. Educators in general and Health educators specifically should attempt to provide to individuals knowledge and specific skills which have the potential to ameliorate the potential negative outcomes associated with occupational stress. Among these offerings should be: decision-making, effective communication, stress awareness and management, a basic understanding of biomechanics and its relationship to ergonomic factors inherent to the workplace, and health enhancing behaviors.

Given that higher levels of educational attainment in general were associated with decreased job satisfaction and a perception of lack of supervisor support for the clericals in this study, educators should carefully re-examine and improve their offerings for clericals. In-service training should be provided for clericals to strengthen and re-enforce previously learned knowledge, skills and health enhancing behaviors. Using the results of this study and earlier studies which it supports, educators should provide opportunities for clerical workers to become more fully knowledgeable about work-related factors that have been found to contribute significantly to occupational stress. Knowledge of the factors which make the most significant contributions,

positively and negatively, to occupational stress could increase the clericals' potential for affecting positive modifications both in the workplace and in their personal strategies for reducing stress. Clericals should be encouraged to fully utilize existing Employee Assistance Programs. Given that many clericals must share office space and equipment, it is important that they are provided opportunities to develop and strengthen support networks among their co-workers. There should be structured experiences for clericals in group process and problem-solving. In addition, clericals should receive in-service training to familiarize them with methods to reduce their risk of occupational illness and injuries.

In working to educate the employers of clericals, the results of this study could prove to be very useful. Employers should be encouraged to provide health promotion activities and programs for their employees. Employers should be given exposure to knowledge of the physical and psychological environment factors which currently contribute to producing a less than healthy workplace for clericals. There exists the potential for reducing work days lost due to occupationally induced illness; reducing the cost of worker's compensation claims via eliminating many of the causative physical factors (i.e. poor ventilation, improper lighting, ergonomically incorrect desk/chair/VDT, etc.); and increasing productivity and loyalty via improving the psychosocial dynamics in the workplace. Supervisors should be made aware of how important their support is to the well-being of their workers. Given that the demand for a well-educated labor force is increasing, employers who are interested in attracting and keeping such individuals in their labor force would be wise to closely examine the current labor and office practices which are contributing to clericals with higher levels of educational attainment being among the least likely to project remain in their jobs. Clericals should be given greater decision-making latitude and opportunities to more fully utilize their skills and knowledge. The issue of pay equity should be addressed by educators in order to help employers become more aware of the both the actual value of clericals' work and the negative impact, as indicated by the results of this study, that pay inequity has upon clericals.

As found by this study and earlier studies, there exist significant relationships between occupational stress and many negative health outcomes for clericals. This study also documented the existence of significant relationships between the factors of educational attainment, perceived pay equity, total household income and occupational stress for clericals. If these relationships are given adequate examination and attention, it may be possible to affect positive improvements in the workplace and in the health of clericals. The importance of undertaking these efforts is underscored by the fact that: a large portion of women in the labor force are clericals; this segment of the labor force is increasing steadily; and ongoing technological advances are contributing to change in the work environment of clericals. It is vital that educators and Health educators, specifically, contribute to the development of a clear understanding of what constitutes a truly healthy work environment and that ongoing efforts be made to establish and maintain health promoting work environments for the many women who work as clericals.

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APPENDICES

APPENDIX A

CORRESPONDENCE AND THE SURVEY INSTRUMENT

OPEU OREGON PUBLIC EMPLOYEES UNION
SERVICE EMPLOYEES INTERNATIONAL UNION LOCAL 503, AFL-CIO, CLC

Dear OPEU Member:

OPEU is cooperating in a research project on the health of office workers by supplying names of state clerical specialists to a researcher from Oregon State University. Your name was drawn at random from our membership files. Your response will be completely confidential; your name will be used only to mail you the questionnaire.

I urge you to complete and return the enclosed research questionnaire. Research of this type helps us understand the relationship between the nature of work, VDT use and health and well-being.

If you have any questions about our role or OPEU's role in this research, feel free to contact our staff economist Margaret Hallock in Salem at 581-1505 or 1-800-452-2146.

Sincerely,

Kei Quitevis-Smith
OPEU President

ljd
DOCD055

PORTLAND
Field Office
123 NE Third Avenue, #225
Portland, OR 97232
230-9231; 1-800-527-9374

SALEM
Headquarters/Field
1127 Twenty-fifth Street SE
P.O. Box 12159
Salem, OR 97309
581-1505; 1-800-452-2146

EUGENE
Field Office
99 W Tenth, #339
Eugene, OR 97401
342-1055; 1-800-521-3446

MEDFORD
Field Office
1133 S. Riverside, #7
Medford, OR 97501
779-4324; 1-800-452-7965

PENDLETON
Field Office
John Murray Building
721 SE Third Street
Pendleton, OR 97801
276-4983; 1-800-452-8146

May 1, 1987

Last week a survey seeking your responses to questions about the office environment and conditions in which you work, your health and well-being, and your opinions and feelings about your job was mailed to you. Your name was drawn in a random sample of OPEU members who are clerical specialists in the State of Oregon Employment System.

If you have already completed and returned the questionnaire to us, please accept our sincere thanks. If not, please do so today. Because it has been sent to only a small, but representative, sample of clerical specialists it is extremely important that yours also be included in the study if the results are to accurately represent the feelings of clerical specialists in the State of Oregon Employment System.

If by some chance you did not receive the questionnaire, or it has been misplaced, please call the Department of Health at Oregon State University (754-2686) and I will send another one in the mail to you.

Sincerely,

Diana Sue Graham, M.S.
Researcher

Department of Health Oregon State University Corvallis, Oregon 97331-6406 (503) 754-2686

May 17, 1987

Dear OPEU Member:

About 3 weeks ago, I wrote to you seeking your help in our efforts to learn more about the work and health of office workers. As of today, we have not received your completed questionnaire.

We have undertaken this research project because of our belief that office workers like you can best provide information that can be of use in efforts to improve work conditions.

I am writing to you again because of the importance each completed questionnaire has to the usefulness of this study. With OPEU's cooperation, your name was drawn at random in a scientific sampling method in which each OPEU Member who is a clerical specialist had an equal chance being in the study. In order for the results of the study to be truly representative of the opinions and feelings of all clerical specialists, it is important each person in the study return the completed questionnaire.

In case your questionnaire and return envelope have been lost or misplaced, replacements are enclosed.

Thank you for your cooperation. It is greatly appreciated.

Sincerely,

Diana Sue Graham
Researcher

Code Number:

OFFICE WORKERS health and well-being

Dear Office Worker:

This survey is a research project on the health of office workers in different types of office settings within the State of Oregon Employment System. Questions are asked about your health and well-being, the office environment in which you work, and your opinions and feelings about your job. The aim of the study is to obtain information that can help to improve the working conditions of people like yourself.

There are no right or wrong answers to these questions, since people and jobs differ. Your answers are totally confidential and will be seen only by the Oregon State University research staff. Your name will never be associated with this study.

Most questions can be answered either by cirlcing a number 1 (2) 3 4 or by placing a mark in a box ☒. If you do not find the exact answer, choose the closest one. Don't spend too long on any question. For some questions, you will fill in the blank _____.

Your assistance is very much appreciated.

Sincerely,

Diana Sue Graham
Researcher

Department of Health Oregon State University Corvallis, Oregon 97331 6406 (503) 754-2686

CONSENT FORM

PLEASE READ THIS SHEET AND SIGN IT BELOW.

THIS SHEET WITH YOUR SIGNATURE WILL BE SEPARATED FROM

THE SURVEY BOOKLET AND WILL BE STORED AT OREGON STATE UNIVERSITY.

This is a survey of the health and well-being of office workers in different types of office settings within the State of Oregon Employment System.

Please answer all the items in the Survey Booklet. The responses to all questions are voluntary and completely confidential. Your name will never be associated with this study.

I am at least 17 years old and voluntarily consent to participate in this study.

Signature _____ Date _____

Name (Please print) _____

THANK YOU

for your cooperation.

OFFICE WORKERS: HEALTH AND WELL-BEING

The questions on these pages are specific to your work site. Please answer th questions and then go on to complete the rest of the Survey Booklet.
(Mark the box of the closest answer)

1. On what floor of the building do you work?

☐ Main ☐ 2nd ☐ 3rd ☐ 4th ☐ 5th ☐ 6th ☐ 7th

2. How many people besides yourself usually work in the section or area of the office where you are located?

☐ 1 to 4 ☐ 5 to 9 ☐ 10 to 19 ☐ 20 or more

3. When you are seated at work, on how many sides are you open to view?

☐ Open on all 4 sides
☐ Open on 3 sides
☐ Open on 2 sides
☐ Open on one side
☐ Open only at doorway

4. When you are seated at work, how many people can you see if you look around in all directions?

☐ None ☐ 1 to 4 ☐ 5 to 9 ☐ 10 to 19 ☐ 20 or more

5. When you are seated at work, how many people do you regularly overnear?

☐ None ☐ 1 ☐ 2 to 4 ☐ 5 to 9 ☐ 10 or more

6. When you stand in your work space, on how many sides are you open to view?

☐ Open on all sides
☐ Open on 3 sides
☐ Open on 2 sides
☐ Open on one side
☐ Open only at doorway

7. Which of these desk arrangements is most like yours?

☐ A single desk
☐ Two desks grouped together
☐ Three desks grouped together
☐ Four desks grouped together

8. What is your current classification? (Note: This is not your job title, but the classification that relates to your salary level.)

_____

9. Within your current classification, what "step" or salary increment are you now at?

☐ Step 1 ☐ Step 2 ☐ Step 3 ☐ Step 4 ☐ Step 5

DESCRIPTION OF JOB AND OFFICE

JOB TITLE AND TASKS

1. What is your employment status?

☐ Full time, permanent employee ☐ Part time, permanent employee

☐ Full time, temporary employee ☐ Part time, temporary employee

2. What type of work do you do? _____

3. What is your present job title?

_____

4. How long have you been employed in your present job title? _____years _____months

5. How long have you worked for your current employer (company or agency)? _____years _____months

6. How long have you been employed as an office worker? _____years _____months

7. Briefly list your main duties or tasks on your present job.

_____

_____

8. How many people give you work to do?

☐ One ☐ Two ☐ 3-5 ☐ Over 5

9. Do you supervise anyone?

☐ No (Go to question 10) ☐ Yes

a. How many people do you supervise?

☐ 1-2 ☐ 3-5 ☐ 6-10 ☐ Over 10

10. How long have you worked in this building? _____years

11. Did you work for this employer at a different facility before moving to this building? ☐ No ☐ Yes

12. What is your normal working schedule?

☐ Standard hours (7 hours daily)
☐ 5/5/4 (7 hours 30 minutes daily)
☐ 5/4 (7 hours 47 minutes daily)
☐ Other (fill in): _____

13. Were you at work yesterday? ☐ No ☐ Yes

14. To what extent do you face the following conditions in doing your own work? (Circle the closest answer)

	NOT AT ALL	A SLIGHT AMOUNT	A MODERATE AMOUNT	A LOT
a. Backlog of work	1	2	3	4
b. Work deadlines	1	2	3	4
c. Understaffing	1	2	3	4
d. Production quotas or expected rates of performance	1	2	3	4
e. Monitoring by supervisor	1	2	3	4
f. Computer breakdown	1	2	3	4
g. Correct information is not available in computer	1	2	3	4
h. Lack of notification about new policies or procedures	1	2	3	4
i. Telephone contact with people who are upset or emotional	1	2	3	4

10. On an average day, about how much time do you spend using the following equipment? (Circle the closest answer)

	NONE (OR ALMOST NONE) OF THE TIME	LESS THAN HALF OF THE TIME	MORE THAN HALF OF THE TIME	ALL (OR ALMOST ALL) OF THE TIME
a. Typewriter	1	2	3	4
b. Transcriber (Dictaphone, etc.)	1	2	3	4
c. Adding machine or calculator	1	2	3	4
d. Copying machine (Xerox, etc.)	1	2	3	4
e. Keyboard machine with a video display screen (VDT, CRT, data or word processor)	1	2	3	4
f. Data or word processor without a video display screen	1	2	3	4
g. Telephone	1	2	3	4
Other (fill in):				
h. _____	1	2	3	4
i. _____	1	2	3	4

11. Do you have contact with the public, customers or clients on your job?

___ No (Go to question 12)

___ Yes (Answer question 11a)

11a. ___ What type of contact is this?

___ Telephone ___ In person ___ Both telephone and in person

12. What level of formal education do you feel is needed by a person to do your job?

- ☐ None
- ☐ Grades 1-7 (some grade school)
- ☐ Grade 8 (completion of grade school)
- ☐ Grades 9-11 (some high school)
- ☐ Grade 12-13 (high school diploma, GED, or any high school equivalent)
- ☐ Some university or college without degree
- ☐ Some university or college with degree (graduate of community college)
- ☐ University degree (3 or 4 years)
- ☐ Graduate or professional education beyond university degree

13. In addition, how much vocational, secretarial or technical training do you feel is needed by a person to do your job?

☐ None ☐ One year or less ☐ Over one year

JOB CHARACTERISTICS

	NOT AT ALL	A SLIGHT AMOUNT	A MODERATE AMOUNT	A LOT
14. Does your job require you to work very fast?	1	2	3	4
15. Does your job require you to work very hard?	1	2	3	4
16. Can you determine the speed at which you work?	1	2	3	4
17. Does your job allow you to make a lot of decisions on your own?	1	2	3	4
18. How much freedom does your job allow you as to how you do your work?	1	2	3	4

		NOT AT ALL	A SLIGHT AMOUNT	A MODERATE AMOUNT	A LOT
19.	How much influence do you have over company or agency policies that affect your job?	1	2	3	4
20.	Does your job require you to keep learning new things?	1	2	3	4
21.	Does your job require you to do things that are very repetitious (do things over and over)?	1	2	3	4
22.	How much understanding are you given of the overall work process that you take part in?	1	2	3	4
23.	Does the specific material that you deal with "make sense"?	1	2	3	4
24.	Does your work require you to pay extremely close attention?	1	2	3	4
25.	If you stop concentrating for a moment, how likely are you to make an error?	1	2	3	4
26.	Does your job require you to exert a lot of physical effort?	1	2	3	4
27.	Does your job require you to leave your work station and move around the office?	1	2	3	4
28.	Does your job require you to work in uncomfortable positions or use awkward work motions?	1	2	3	4

ORGANIZATIONAL CHARACTERISTICS

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALWAYS
29. Does a machine or computer record (monitor) your speed of work and/or number of errors?	1	2	3	4
30. Does a machine or computer control the pace of your work?	1	2	3	4
31. How often are you in view of your supervisor while you are working?	1	2	3	4
32. Do you know when a supervisor is checking on your work?	1	2	3	4
33. How often do you and your supervisor have different opinions on how your job should be done?	1	2	3	4
34. How often are you given conflicting work assignments?	1	2	3	4
35. Are you treated with respect and dignity by your immediate supervisor?	1	2	3	4
36. Are you generally treated like an adult in this organization?	1	2	3	4
37. Do superiors recognize it when you do a good job?	1	2	3	4
38. Are you discriminated against at work because of sex, race, age or other reason?	1	2	3	4
39. How often do you face hostility or abuse from customers, clients, supervisors, or other people you work with?	1	2	3	4
40. How often do you face unpleasant sexual remarks or demands?	1	2	3	4

41. Do you ever work overtime?

___ No

___ Yes

41a. In the past month, about how many hours of overtime did you work? _____ HOURS.

41b. How much choice do you have about doing overtime work?

___ None ___ Some ___ A lot

How correct or true are the following statements about other work conditions?

	NOT AT ALL TRUE	SLIGHTLY TRUE	MODERATELY TRUE	VERY TRUE
42. I can decide to take a short break when I need to.	1	2	3	4
43. Talking on the job with co-workers is permitted.	1	2	3	4
44. There are enough people in my department to accomplish the tasks.	1	2	3	4
15. My job security is good.	1	2	3	4
46. The chances for promotion are good in my job.	1	2	3	4
47. My employer (company/agency) is concerned about giving everyone a chance to get ahead.	1	2	3	4

48. During the past year, how often were you in a situation where you faced job loss or layoff?

☐ Never

☐ Faced possibility once

☐ Faced possibility more than once or constantly

☐ Actually laid off (once or more)

How correct or true are the following statements about your supervisor or boss (your immediate superior)?

	NOT AT ALL TRUE	SLIGHTLY TRUE	MODERATELY TRUE	VERY TRUE
49. My supervisor is helpful to me in getting my job done.	1	2	3	4
50. My supervisor appreciates me.	1	2	3	4
51. My supervisor generally lets me know what is expected of me and lets me know where I stand.	1	2	3	4
52. My supervisor interferes with me or makes it difficult for me to get my work done.	1	2	3	4

How correct or true are the following statements about the people you work with (your co-workers)?

	NOT AT ALL TRUE	SLIGHTLY TRUE	MODERATELY TRUE	VERY TRUE
53. The people I work with (co-workers) are helpful to me in getting my job done.	1	2	3	4
54. I have friends at work whom I can confide in about problems on the job.	1	2	3	4
55. The people I work with are friendly.	1	2	3	4
56. The people I work with take a personal interest in me.	1	2	3	4

PHYSICAL ENVIRONMENT

57. To what extent does your work station have the following conditions?

	NOT AT ALL	A SLIGHT AMOUNT	A MODERATE AMOUNT	A LOT
a. Privacy in speaking (not being overheard)	1	2	3	4
b. Visual privacy (not being in view)	1	2	3	4
c. Enough surface to lay out your work	1	2	3	4
d. Convenient arrangement of furniture and equipment	1	2	3	4
e. Comfortable chair	1	2	3	4
f. Comfortable height of desk or table	1	2	3	4
g. Pleasant appearance/decor	1	2	3	4
h. Outside view through window(s)	1	2	3	4
i. Distraction from hearing voices or sounds	1	2	3	4
j. People passing by your work station (traffic)	1	2	3	4
k. Many people located near you (crowding)	1	2	3	4
l. People entering or using your work station without permission	1	2	3	4
m. Difficulty communicating with co-workers	1	2	3	4

58. How often does your job expose you to the following conditions?

	VERY RARELY OR NEVER	OCCASIONALLY	ALMOST CONSTANTLY
a. Too little air movement	1	2	3
b. Uncomfortable temperature	1	2	3
c. Uncomfortable humidity	1	2	3
d. Stuffy air	1	2	3
e. Unpleasant odor in air	1	2	3
f. Excessive noise	1	2	3
g. Lighting too bright	1	2	3
h. Lighting too dark	1	2	3
i. Insects, rodents or mice	1	2	3
j. Pesticide spray	1	2	3
k. Hazardous materials such as toxic chemicals, dusts, smoke, fumes, etc.	1	2	3
l. Dangerous situations or risk of accidents from tools or equipment, work methods, the way things are stored, etc.	1	2	3
Other hazards (fill in):			
m. _____	1	2	3
n. _____	1	2	3

59. To what extent can you make the following adjustments or changes in your work area?

	NOT AT ALL	A SLIGHT AMOUNT	A MODERATE AMOUNT	A LOT
a. Adjust the ventilation	1	2	3	4
b. Open or close a window	1	2	3	4
c. Adjust the temperature	1	2	3	4
d. Change the amount of noise reaching you	1	2	3	4
e. Change how much others can overhear you	1	2	3	4
f. Change how much others can see you	1	2	3	4
g. Adjust the lighting that falls on your work	1	2	3	4
h. Control the number of people passing by your work station	1	2	3	4
i. Control the number of people entering or using your work station	1	2	3	4
j. Decorate or personalize your work station	1	2	3	4
k. Rearrange your furniture or equipment	1	2	3	4
l. Adjust the height of your chair	1	2	3	4
m. Adjust the back support of your chair	1	2	3	4

VIDEO DISPLAY TERMINAL (VDT) OPERATORS. If you use a keyboard machine with a video display screen (VDT, CRT, data or word processor), answer the questions on this page. If not, go to the next page.

60. How long have you used a keyboard machine with a display screen? _____ YEARS _____ MONTHS

61. How do you use the machine?	NO	YES
a. Input numbers or words into the machine	1	2
b. Answer telephone inquiries	1	2
c. Check information in the computer against written records	1	2
d. Program or edit computer files or data	1	2
e. Other (fill in):_____	1	2

62. Does your VDT have these conditions?

	NOT AT ALL	A SLIGHT AMOUNT	A MODERATE AMOUNT	A LOT
a. Glare from the display screen, keyboard or table surface	1	2	3	4
b. Flickering or unclear characters	1	2	3	4
c. Uncomfortable placement of screen or keyboard	1	2	3	4
d. Noise	1	2	3	4

63. Can you adjust these conditions?

	NO	YES
a. Screen brightness	1	2
b. Sharpness or flicker of characters	1	2
c. Position of the screen	1	2
d. Position of the keyboard	1	2
e. Amount of light falling on the display screen	1	2

OPINIONS AND FEELINGS ABOUT JOB

1. How satisfied are you with these aspects of your job and office?

	NOT AT ALL SATISFIED	SLIGHTLY SATISFIED	MODERATELY SATISFIED	VERY SATISFIED
a. Your work station	1	2	3	4
b. Amount of privacy you have	1	2	3	4
c. Amount of noise in your area	1	2	3	4
d. Office air quality	1	2	3	4
e. Office policy on smoking	1	2	3	4
f. Fire exits or procedures	1	2	3	4
g. Your use of a Video Display Terminal (if applicable)	1	2	3	4

2. How often during the <u>past six months</u> have you felt this way at work?

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALWAYS
a. Challenged	1	2	3	4
b. Bored	1	2	3	4
c. Isolated	1	2	3	4
d. Burned out	1	2	3	4
e. Confused	1	2	3	4
f. Trouble concentrating	1	2	3	4
g. Very pressed for time	1	2	3	4
h. Stretched to the very limits of your energy and capacity	1	2	3	4
i. Uncertain or dissatisfied with how well you were doing in your work	1	2	3	4

3. All in all, how satisfied would you say you are with your job?

☐ Not at all satisfied ☐ Slightly satisfied ☐ Moderately satisfied ☐ Very satisfied

4. All in all, how satisfied would you say you are with your occupation?

☐ Not at all satisfied ☐ Slightly satisfied ☐ Moderately satisfied ☐ Very satisfied

5. If a good friend of yours told you she/he was interested in working in a job like yours (for your employer), what would you tell her/him?

☐ Advise her/him against it ☐ Have doubts about recommending it ☐ Strongly recommend it

6. Knowing what you now know, if you had to decide all over again whether to take the job you now have, what would you decide?

☐ Decide definitely not to take the job ☐ Have some second thoughts ☐ Decide without hesitation to take the same job

7. In general, how well would you say that your job measures up to the sort of job you wanted when you took it?

☐ Not very much like ☐ Somewhat like ☐ Very much like

8. About how easy would it be for you to find a job (with another employer) with approximately the same income and fringe benefits you now have?

☐ Not easy at all ☐ Somewhat easy ☐ Very easy

9. How much longer do you intend to continue working for your present employer?

☐ Less than 1 year ☐ 1 - 5 years ☐ More than 5 years

10. Briefly, what do you like most about your job?

11. Briefly, what do you like least about your job?

HEALTH AND WELL-BEING

These questions ask about your general state of health and well-being.

Many of the questions ask you to think about the past six months - that is from approximately the beginning of last NOVEMBER to the present.

HEALTH INFORMATION

1. In general, how would you describe your health?

   ☐ Excellent ☐ Good ☐ Fair ☐ Poor

2. What is your height (stocking feet)? _____feet _____inches

3. What is your current weight (indoor clothes and no shoes)? _____pounds

4. During the past six months, did you either lose or gain more than 10 pounds?

   ☐ No ☐ Yes

5. Do you wear either eye glasses or contacts at work?

   ☐ No (Go to question 7) ☐ Yes

6. What type of eye glasses or contacts do you usually wear at work?

   ☐ Glasses (not bifocals) ☐ Bifocal or trifocal glasses

   ☐ Contacts (not bifocals) ☐ Bifocal contacts

7. During the past six months, has your vision changed, as far as you know?

   ☐ No change ☐ Vision is worse ☐ Vision is better

8. During the past six months, were you hospitalized for any reason?

   ☐ No (Go to question 9) ☐ Yes

   a. How often? _____times

   b. What was the total number of days? _____days

   c. Why were you hospitalized?

9. During the past six months, did you take any sick days?

☐ No (Go to question 10) ☐ Yes

a. What was the total number of days? _____ days

b. How many different times? _____ times

10. During the past six months how many days did you come to work when you were sick? _____ days

11. Has a doctor ever told you that you have any of the following conditions?

		No	Yes
a.	High blood pressure	1	2
b.	Heart disease	1	2
c.	Stomach or duodenal ulcer	1	2
d.	Arthritis or rheumatism	1	2
e.	Asthma	1	2
f.	Ulcerative colitis or Crohn's disease	1	2
g.	Varicose veins	1	2
	Other (fill in):		
h.	_____	1	2
i.	_____	1	2

12. During the past two weeks, did you have any illness that was severe enough so that you had to change your normal activities (for example, bed rest) or consult a doctor or health care facility?

☐ No (Go to the next page) ☐ Yes

a. What was the illness? (Fill in the diagnosis, if possible)

b. In what way, if any, was this illness related to your job?

SYMPTOMS

During the past six months, how often did you experience each of the following symptoms?

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALL THE TIME
13. NOSE/THROAT/CHEST				
a. Nose or throat irritation	1	2	3	4
b. Colds or sore throats	1	2	3	4
c. Persistent cough	1	2	3	4
d. Allergy or sinus trouble	1	2	3	4
e. Shortness of breath or trouble breathing	1	2	3	4
f. Chest tightness or pressure	1	2	3	4
g. Pain or discomfort in the chest	1	2	3	4
h. "Racing" or pounding heart	1	2	3	4
14. STOMACH				
a. Indigestion or heartburn	1	2	3	4
b. Gas or gas pain	1	2	3	4
c. Nervous or upset stomach	1	2	3	4
d. Nausea or vomiting	1	2	3	4
e. Constipation	1	2	3	4
f. Diarrhea	1	2	3	4
g. Hemorrhoids or piles	1	2	3	4

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALL THE TIME
15. MUSCLES/JOINTS				
a. Numbness or tingling in part of body	1	2	3	4
b. Tremor or shaking in part of body	1	2	3	4
c. Cramps in hands, fingers or wrists	1	2	3	4
d. Painful or stiff arms or wrists	1	2	3	4
e. Painful or stiff neck or shoulders	1	2	3	4
f. Back pain	1	2	3	4
g. Cramps in feet or legs	1	2	3	4
h. Pain or stiffness in feet or legs	1	2	3	4
16. SKIN				
a. Skin irritation or rash	1	2	3	4
b. Dry or itchy skin	1	2	3	4
c. Damp or sweaty hands	1	2	3	4
17 EYES/EARS				
a. Eye strain or sore eyes	1	2	3	4
b. Changes in ability to see colors	1	2	3	4
c. Blurred vision	1	2	3	4
d. Eye irritation	1	2	3	4
e. Tearing or itching of eyes	1	2	3	4
f. Ringing or buzzing in ears	1	2	3	4
g. Difficulty hearing	1	2	3	4
h. Ear irritation	1	2	3	4

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALL THE TIME
18. SLEEP				
a. Trouble getting to sleep	1	2	3	4
b. Trouble staying asleep	1	2	3	4
19. FATIGUE				
a. Extreme fatigue or exhaustion	1	2	3	4
b. Becoming very tired in a short time	1	2	3	4
20. GENERAL HEALTH				
a. Headache	1	2	3	4
b. Fainting	1	2	3	4
c. Dizzy	1	2	3	4
d. Light headed	1	2	3	4
e. Sleepy or drowsy	1	2	3	4
f. Fever, chills or aching all over	1	2	3	4
g. Poor appetite	1	2	3	4
h. Frequent urination	1	2	3	4
i. Menstrual problems (if applicable)	1	2	3	4

20j. Do you feel any health conditions you may have are related to your job and, if so, which one(s)?

20k. Do you feel your job makes you healthier or not?

FEELINGS

21. During the past six months, how often did you feel this way?

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALL THE TIME
a. Sad or depressed	1	2	3	4
b. Worried	1	2	3	4
c. Angry	1	2	3	4
d. Completely helpless	1	2	3	4
e. In very low spirits	1	2	3	4
f. Aggravated	1	2	3	4
g. Nervous, fidgety or tense	1	2	3	4
h. Lonely	1	2	3	4
i. Calm	1	2	3	4
j. Frustrated	1	2	3	4
k. Completely hopeless about everything	1	2	3	4
l. Like crying	1	2	3	4
m. Irritated or annoyed	1	2	3	4
n. Anxious	1	2	3	4
o. Like nothing turns out the way I want it to	1	2	3	4
p. Like nothing is worthwhile any more	1	2	3	4

BEVERAGES, TOBACCO & MEDICATION

22. How many cups/glasses of coffee or tea (with caffein) do you drink on an average work day, both on and off the job?

☐ None ☐ 1 to 3 ☐ 4 to 6 ☐ 7 or more

23. Do you smoke?

☐ No, I have never smoked (Go to question 24)
☐ Yes, I smoke cigars or a pipe (Go to question 24)
☐ No, I used to smoke but stopped (Go to question 24)
☐ Yes, I smoke cigarettes

a. How many packs of cigarettes do you smoke on an average work day?

☐ Less than half a pack
☐ From 1 to under 2 packs
☐ Half a pack to under 1 pack
☐ 2 packs or more

24. How often do you usually drink alcoholic beverages?

☐ Rarely or not at all ☐ 1 to 2 times at week ☐ 3 to 4 times a week ☐ 5 or more times a week

a. On days when you drink, how many drinks do you consume on the average? (One drink = 1 can of beer, 1 glass of wine or 1 shot of liquor)

☐ 1 to 2 ☐ 3 to 6 ☐ 7 to 10 ☐ 11 or more

25. How often do you use the following medications?

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALL THE TIME
a. Non-prescription medication for headache or pain relief	1	2	3	4
b. Sleeping pills or tranquilizers	1	2	3	4
c. Other prescription drugs	1	2	3	4

BACKGROUND INFORMATION

These questions ask for information about yourself and your household that can help us describe the group of people in this study. Your answers are totally confidential

1. Date of birth: _____ _____ _____
   (Month) (Day) (Year)

2. Age (at last birthday): _____

3. Sex: ☐ Female ☐ Male

4. Are you identified with a minority ethnic or cultural background?

   ☐ No ☐ Yes (fill in): _____

5. What is the highest grade of school or level of education you completed?

   ☐ None
   ☐ Grades 1-7 (some grade school)
   ☐ Grade 8 (completion of grade school)
   ☐ Grades 9-11 (some high school)
   ☐ Grade 12-13 (high school diploma, GED, or any high school equivalent)
   ☐ Some university or college without degree
   ☐ Some university or college with degree (graduate of community college)
   ☐ University degree (3 or 4 years)
   ☐ Graduate or professional education beyond university degree

6. In addition, how much vocational, secretarial, or technical training have you taken?

   ☐ None ☐ One year or less ☐ Over one year

7. What was your income last year from this job (before taxes)?

   ☐ Under 6,000
   ☐ 6,000 - 7,999
   ☐ 8,000 - 9,999
   ☐ 10,000 - 11,999
   ☐ 12,000 - 13,999
   ☐ 14,000 - 15,999
   ☐ 16,000 - 19,999
   ☐ 20,000 - 24,999
   ☐ 25,000 - 29,999
   ☐ 30,000 or over

8. What was your total household income last year (before taxes)?

- ☐ Under 6,000
- ☐ 6,000 - 7,999
- ☐ 8,000 - 9,999
- ☐ 10,000 - 11,999
- ☐ 12,000 - 13,999
- ☐ 14,000 - 15,999
- ☐ 16,000 - 19,999
- ☐ 20,000 - 24,999
- ☐ 25,000 - 29,999
- ☐ 30,000 or over

9. Do you presently do any other work for pay, outside of your main job?

☐ No ☐ Yes, part time ☐ Yes, full time

10. How many people (including yourself) live in your household?

☐ One ☐ Two ☐ Three or more

11. What is your marital status?

- ☐ Never married
- ☐ Married
- ☐ Separated or divorced
- ☐ Widowed

11a. Which of the following best describes your current situation?

☐ Living alone ☐ Living with husband/wife ☐ Living with common-law partner ☐ Other

12. (If married) Is your husband/wife employed at present?

☐ No ☐ Yes

a. What type of work does he/she do? _____

b. (If now unemployed) What type of work does he/she usually do? _____

13. How many children have you had? (If you have not had children, go to question 17) _____children

14. How many children now live at home with you? (If none, go to question 17) _____children

a. How many of these children are below school age (under 6 years)? _____children

15. How satisfied are you with your child care arrangements while you are at work?

☐ Not at all satisfied ☐ Slightly satisfied ☐ Moderately satisfied ☐ Very satisfied

16. When you are at home, how much of the child care and supervision do you yourself perform?

☐ Almost none ☐ Less than half ☐ More than half ☐ All or almost all

17. How much of the household work (cleaning, cooking, laundry, etc.) do you yourself perform?

☐ Almost none ☐ Less than half ☐ More than half ☐ All or almost all

18. Does your work stay with you so that you think about it after working hours?

☐ Almost never ☐ Sometimes ☐ Often ☐ Almost always

19. Do you talk with family members or friends about job problems?

☐ Not at all ☐ A slight amount ☐ A moderate amount ☐ A lot

20. Do you belong to a union, employee's association, or office worker's organization?

☐ No ☐ Yes

a. During the <u>past six months</u>, how often did you attend meetings related to this organization?

☐ Not at all ☐ Less than 6 times ☐ 6 times or more

b. Do you hold a position in the union or organization (officer, steward, committee member, delegate, etc.)?

☐ No ☐ Yes

21. During the <u>past six months</u> how often did you take part in meetings or activities related to public affairs or community service (not counting meetings of a union or other work-related organization)?

☐ Not at all ☐ Less than 6 times ☐ 6 times or more

22. Did you vote in a government election (national, state or local) during <u>the past year</u>?

☐ No ☐ Yes

23. Here is a list of traits or ways people may feel and act.
How well does each trait describe you?

	NOT AT ALL	SOMEWHAT WELL	FAIRLY WELL	VERY WELL
a. Having a strong need to excel (be the best) in most things	1	2	3	4
b. Usually feeling pressed for time	1	2	3	4
c. Being hard-driving and competitive	1	2	3	4
d. Being bossy or dominating	1	2	3	4
e. Eating too quickly	1	2	3	4
f. Getting quite upset when you have to wait for anything	1	2	3	4

24. Taking all things together, how happy are you these days?

☐ Not at all happy ☐ Slightly happy ☐ Moderately happy ☐ Very happy

25. In general, how satisfying is your life?

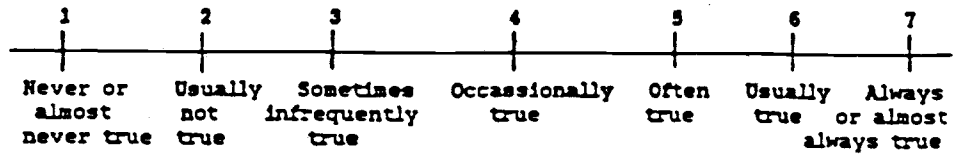
☐ Not at all satisfying ☐ Slightly satisfying ☐ Moderately satisfying ☐ Very satisfying

Draw a circle around the response which most closely indicates your feeling about each statement.

	I GET VERY MUCH LESS THAN I OUGHT TO GET	I GET SOMEWHAT LESS THAN I OUGHT TO GET	I GET A LITTLE LESS THAN I OUGHT TO GET	I GET ABOUT THE SAME AS I OUGHT TO GET	I GET MORE THAN I OUGHT TO GET
1. Compared to other people where you work who do a job similar to yours, how fair is your pay?	1	2	3	4	5
2. Compared to other people where you work who do a job different from yours, how fair is your pay?	1	2	3	4	5
3. Compared to other people who do not work where you work but who have similar skills to yours, how fair is your pay?	1	2	3	4	5

4. Considering your education, knowledge, experience, your overtime work, and how hard your work is, how much do you think you should have been paid in 1986?

$_____ in 1986.



In the box provided beside each characteristic, please record the number from the scale above which best indicates how well that characteristic describes yourself.

Defend my own beliefs		Have leadership abilities	
Affectionate		Eager to soothe hurt feelings	
Conscientious		Secretive	
Independent		Willing to take risks	
Sympathetic		Warm	
Moody		Adaptable	
Assertive		Dominant	
Sensitive to needs of others		Tender	
Reliable		Conceited	
Strong personality		Willing to take a stand	
Understanding		Love children	
Jealous		Tactful	
Forceful		Aggressive	
Compassionate		Gentle	
Truthful		Conventional	

Draw a circle around the response which most closely indicates your feeling about each statement.

	AGREE VERY MUCH	AGREE A LITTLE	DISAGREE A LITTLE	DISAGREE VERY MUCH
1. Women should feel free to compete with men in every sphere of economic activity.	1	2	3	4
2. It is better to have a man as a boss or supervisor than a woman.	1	2	3	4
3. Managment of property and income, acquired by either husband or wife, should rest with both husband and wife.	1	2	3	4
4. If a woman with an infant continues to work outside the home, she is neglecting her maternal duty.	1	2	3	4
5. A woman could be just as competent as a man in a high political office.	1	2	3	4
6. A woman should take her husband's last name at marriage.	1	2	3	4
7. Both husband and wife should be equally responsible for the care of young children.	1	2	3	4
8. Women should not compete in football, even against other women..	1	2	3	4
9. Sex is no indication of fitness or lack of fitness to enter any type of occupation.	1	2	3	4
10. The intellectual leadership of community should be mostly in the hands of men.	1	2	3	4
11. Society should be prepared to provide day care centers so that any woman who wants to hold a job can do so.	1	2	3	4
12. It is only fair for a school which offers professional training to limit the number of female students in favor of males.	1	2	3	4
13. Objections which one might have to the use of obscene language should bear no relation to the sex of the speaker.	1	2	3	4
14. Men should usually help a woman with her coat and open the door for her.	1	2	3	4

	AGREE VERY MUCH	AGREE A LITTLE	DISAGREE A LITTLE	DISAGREE VERY MUCH
15. Men should have an equal chance for custody of children in a divorce.	1	2	3	4
16. It should usually be the duty of the husband to support his wife and family.	1	2	3	4
17. Women workers have abilities equal to those of men workers for most jobs.	1	2	3	4
18. Women should be happier in the long run if they could adjust to their role as housewives.	1	2	3	4
19. Women can control their emotions enough to be successful in any occupation.	1	2	3	4
20. Police duty is a job that should usually be done by men.	1	2	3	4
21. A woman should have the same freedom and the same restrictions as a man.	1	2	3	4
22. The husband should usually initiate sexual relations with his wife.	1	2	3	4
23. It is natural if a woman's career is as important to her as husband and children.	1	2	3	4
24. For her own safety, parents should keep a daughter under closer supervision than a son.	1	2	3	4
25. Women should feel free to enter occupations requiring aggressiveness rather than remaining in jobs calling for compliance.	1	2	3	4
26. A woman should almost always let her date pay for whatever they do together.	1	2	3	4
27. Women should ask men out for dates if they feel like it.	1	2	3	4
28. Women should accept the intellectual limitations of their sex.	1	2	3	4

SPACE FOR COMMENTS

Is there anything else you would like to say about the health and well-being of office workers, the stress of office work, or this questionnaire?

PLEASE PLACE THE COMPLETED SURVEY BOOKLET IN THE PROVIDED SELF-ADDRESSED, STAMPED ENVELOPE AND MAIL AS SOON AS POSSIBLE

THANK YOU

FOR TAKING PART IN THIS STUDY

APPENDIX B

INTERNAL CONSISTENCY RELIABILITY AND RESPONSE SCALES FOR OWHW MEASURES

MEASURE	ITEMS	COEFFICIENT ALPHA	RESPONSE SCALE
Job Demand	Does your job require you to work very fast? Does your job require you to work very hard?	.74	C
Job Future	The chances for promotion are good in my job. My employer is concerned about giving everyone a chance to get ahead.	.72	D
Office Satisfaction	How satisfied are you with these aspects of your job and office? - Your work station. - Amount of privacy you have. - Office policy on smoking. - Fire exists or procedures.	.72	E
Supervisor Support	Are you treated with respect and dignity by your immediate supervisor? Do superiors recognize it when you do a good job? How correct or true are the following statements about your supervisor or boss (your immediate superior)? - My supervisor is helpful to me in getting my job done. - My supervisor appreciates me. - My supervisor generally lets me know what is expected of me and lets me know where I stand. - My supervisor interferes with me or makes it difficult for me to get my work done.	.73	A

MEASURE	ITEMS	COEFFICIENT ALPHA	RESPONSE SCALE
Coworker Support	How correct or true are the following statements about the people you work with (your coworkers)? - The people I work with (coworkers) are helpful to me in getting my job done. - I have friends at work whom I can confide in about problems on the job. - The people I work with are friendly. - The people I work with take a personal interest in me.	.74	D
Decision Lattitude	Does your job allow you to make alot of decisions on your own? How much freedom does you job allow you as to how you do your work?	.72	C
Ergonomic Stressors	Does your job require you to work in uncomfortable positions or use awkward work motions? To what extent does your work-station have the following conditions? - Enough surface to lay out your work. - Convenient arrangement of furniture and equipment. - Comfortable chair. - Comfortable height of desk or table.	.78	C
Chair Control	To what extent can you make the following adjustments or changes in your work area? - Adjust the height of your chair. - Adjust the back support of your chair.	.80	C

MEASURE	ITEMS	COEFFICIENT ALPHA	RESPONSE SCALE
Air Stressors	How often does your job expose you to the following conditions? - Too little air movement. - Uncomfortable temperatures. - Stuffy air. - Unpleasant odor in air. - Hazardous materials such as toxic chemicals, dusts, smoke, fumes, etc.	.83	B
Job Satisfaction	Knowing what you now know, if you had to decide all over again whether to take the job you now have, what would you decide? In general, how well would you say that your job measures up to the sort of job you wanted when you took it?	.87	E
Depression	During the past six months, how often did you feel this way? - Sad or depressed. - In very low spirits. - Lonely. - Like crying.	.81	A
Anxiety	During the past six months, how often did you feel this way? - Worried. - Nervous, fidgety or tense. - Anxious.	.75	A
Irritation	During the past six months, how often did you feel this way? - Angry. - Aggravated. - Irritated or annoyed. - Frustrated.	.83	A

MEASURE	ITEMS	COEFFICIENT ALPHA	RESPONSE SCALE
Difficulty Sleeping	During the past six months, how often did you experience each of the following symptoms? - Trouble getting to sleep. - Trouble staying asleep.	.75	A
Fatigue	During the past six months, how often did you experience each of the following symptoms? - Extreme fatigue or exhaustion. - Becoming very tired in a short time. - Sleepy or drowsy.	.83	A
General Health	Headache Fainting Dizzy Light headed Sleepy or drowsy Fever, chills, or aching all over Poor appetite Frequent urination Menstrual problems (if applicable)	.72	A
Nose/Throat/Chest	Nose or throat irritation Colds or sore throats Persistent cough Allergy or sinus trouble Shortness of breath or trouble breathing Chest tightness or pressure Pain or discomfort in the chest "Racing" or pounding heart	.74	A
Stomach	Indigestion or heartburn Gas or gas pain Nervous or upset stomach Nausea or vomiting Constipation Diarrhea Hemorrhoids or piles	.70	A

MEASURE	ITEMS	COEFFICIENT ALPHA	RESPONSE SCALE
Muscloskeletal	Numbness of tingling in part or the body Tremor or shaking in part of the body Cramps in hands, fingers, or wrists Painful or stiff neck or shoulders Back pain Cramps in feet or legs Pain or stiffness in feet or legs	.71	A
Skin	Skin irritation or rash Dry or itchy skin damp or sweaty hands	.76	A
Eyes	Eye strain or sore eyes Change in ability to see colors Blurred vision Eye irritation Tearing or itching of eyes	.74	A
Ears	Ringing or buzzing in ears Difficulty hearing Ear irritation	.74	A

RESPONSE SCALES FOR OWHWS

FORMAT

	1	2	3	4
A	Almost never	Sometimes	Often	Almost/ always/all the time

	1	2	3
B	Very Rarely or Never	Occasionally	Almost Constantly

	1	2	3	4
C	Not at All	A Slight Amount	A Moderate Amount	A Lot
D	Not at All True	Slightly True	Moderately True	Very True
E	Not at All Satisfied	Slightly Satisfied	Moderately Satisfied	Very Satisfied
F	Not at All Well	Somewhat Well	Fairly Well	Very Well
G	None (or almost none of time)	Less than half of the time	More than half of the time	All (or almost all of the time)

APPENDIX C

FREQUENCY DISTRIBUTIONS OF DEMOGRAPHICS

SUBJECT'S AGE

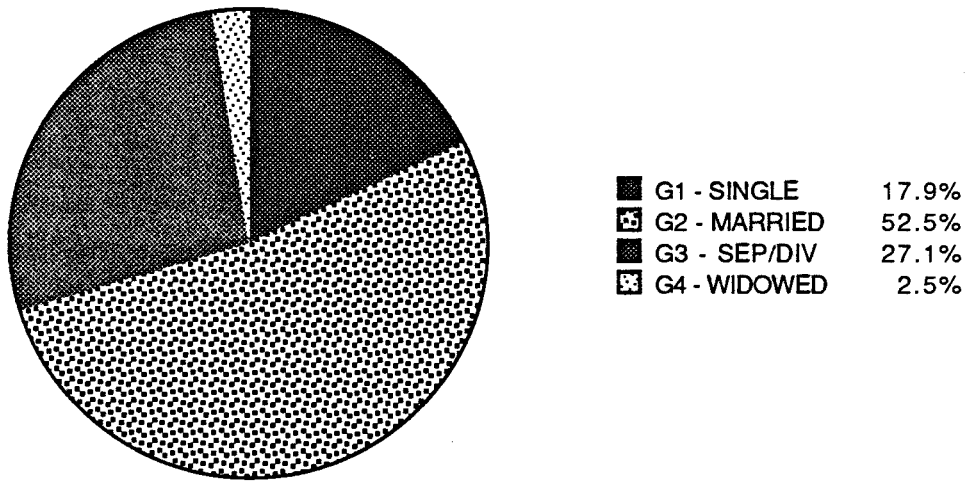
AGE	FREQ	PCT	AGE	FREQ	PCT	AGE	FREQ	PCT
20	1	0	36	8	3	51	5	2
21	1	0	37	6	2	52	5	2
22	2	1	38	11	4	53	7	3
23	7	3	39	9	3	54	3	1
25	10	4	40	6	2	55	1	0
26	8	3	41	6	2	56	3	1
27	7	3	42	4	1	57	3	1
28	4	1	43	8	3	58	4	1
29	15	5	44	4	1	59	4	1
30	18	6	45	13	5	60	3	1
31	9	3	46	3	1	61	1	0
32	13	5	47	6	2	62	5	2
33	17	6	48	2	1	63	3	1
34	14	5	49	6	2	64	2	1
35	7	3	50	4	1	65	2	1

MEAN	38.975	MEDIAN	36.000
MODE	30.000	MAXIMUM	65.000

MARITAL STATUS

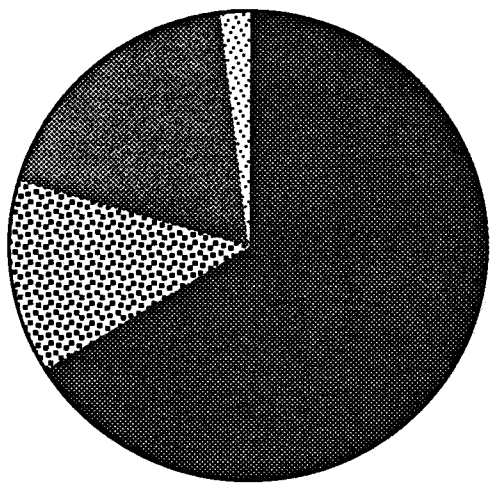
Status	Number of Ss
SINGLE	50
MARRIED	147
SEPARATED OR DIVORCED	76
WIDOWED	7

MARITAL STATUS



CURRENT LIVING SITUATION

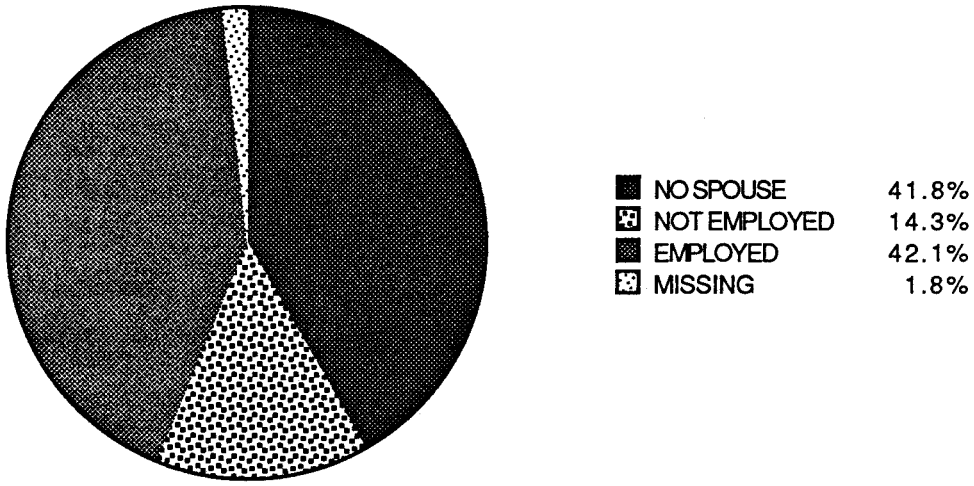
Status	Number of Ss
ALONE	65
WITH SPOUSE	142
W/PARTNER	29
OTHER	40
NO RESPONSE	4



WITH SPOUSE	66.0%
WITH COMMON-LAW PARTNER	13.5%
OTHER	18.6%
NO RESPONSE	1.9%

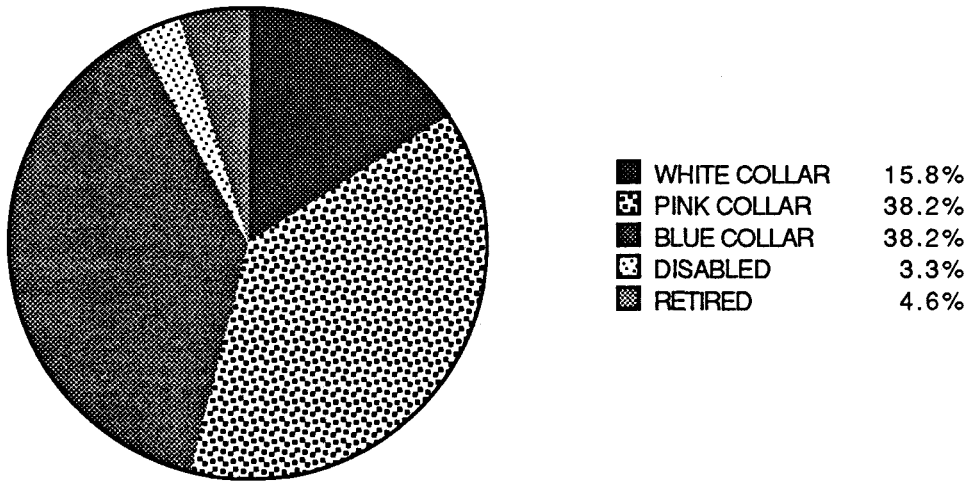
SPOUSE EMPLOYED?

Status	Number of Ss
NO SPOUSE	117
NOT EMPLOYED	40
EMPLOYED	118
NO RESPONSE	5



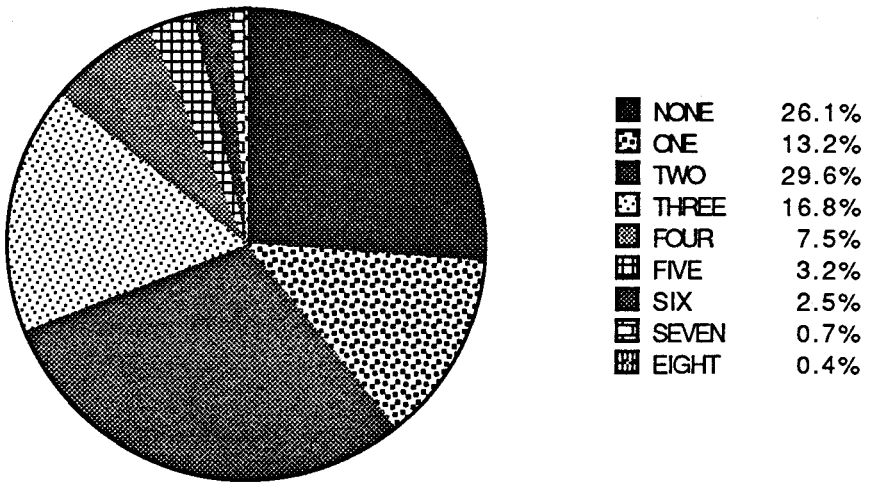
SPOUSE'S EMPLOYMENT TYPE

Status	Number of Ss
WHITE COLLAR	24
PINK COLLAR	58
BLUE COLLAR	58
DISABLED	5
RETIRED	7



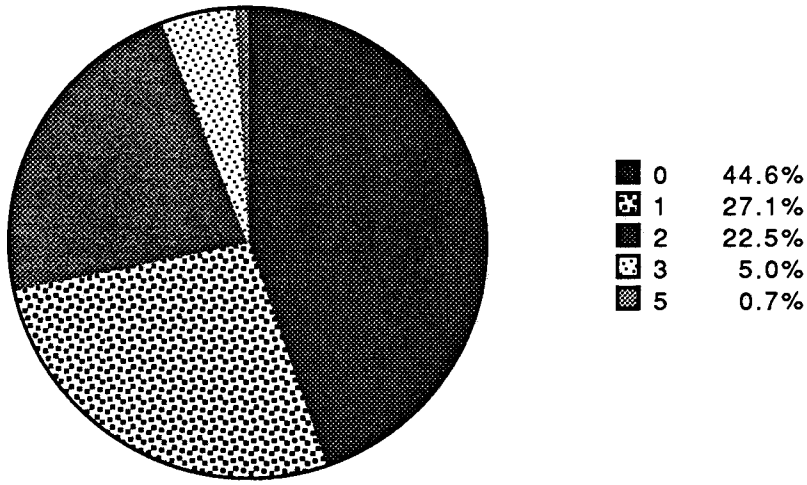
NUMBER OF CHILDREN

Children	Ss
NONE	73
ONE	37
TWO	83
THREE	47
FOUR	21
FIVE	9
SIX	7
SEVEN	2
EIGHT	1



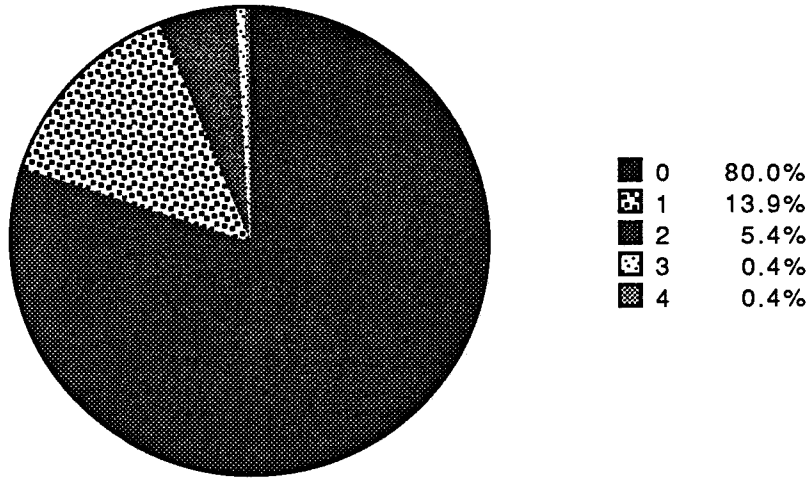
NUMBER OF CHILDREN AT HOME

Children at Home	Ss
NONE	125
ONE	76
TWO	63
THREE	14
FOUR	O
FIVE	2



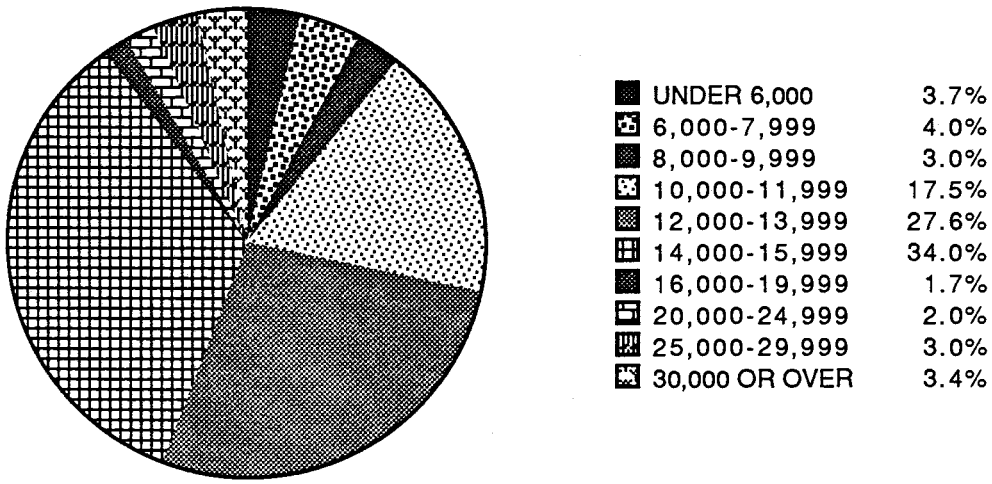
NUMBER OF CHILDREN UNDER AGE SIX

Children Under Age 6	Ss
NONE	224
ONE	39
TWO	15
THREE	1
FOUR	1



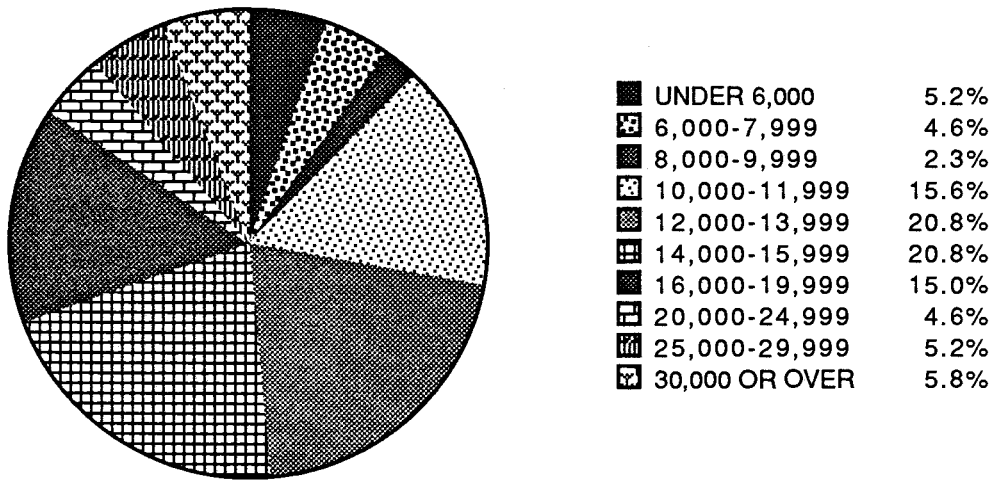
INCOME LAST YEAR FROM THIS JOB

AMOUNT	NUMBER OF Ss
UNDER 6,000	11
6,000-7,999	12
8,000-9,999	9
10,000-11,999	52
12,000-13,999	82
14,000-15,999	101
16,000-19,999	5
20,000-24,999	6
25,000-29,999	9
30,000 OR OVER	10



TOTAL HOUSEHOLD INCOME

AMOUNT	NUMBER OF Ss
UNDER 6,000	9
6,000-7,999	8
8,000-9,999	4
10,000-11,999	27
12,000-13,999	36
14,000-15,999	36
16,000-19,999	26
20,000-24,999	8
25,000-29,999	9
30,000 OR OVER	10



APPENDIX D

ONEWAY ANOVA SUMMARY TABLES

Variable JD JOB DEMAND
By Variable V11 MARITAL STATUS

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	.5522	.1841	.3118	.8169
WITHIN GROUPS	276	162.9335	.5903		
TOTAL	279	163.4857			

Test for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2785, P = .863
(Approx.)

Variable JF JOB FUTURE
By Variable V11 MARITAL STATUS

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	7.6524	2.5508	2.4583	.0632
WITHIN GROUPS	275	285.3440	1.0376		
TOTAL	278	292.9964			

Test for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3614, P = .009
(Approx.)

Variable OFSAT OFFICE SAT
By Variable V11 MARITAL STATUS

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	1.4619	.4873	.5854	.6250
WITHIN GROUPS	275	228.9252	.8325		
TOTAL	278	230.3871			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2961, P = .432
(Approx.)

Variable SUSP SUPERV SUPP
By Variable V11 MARITAL STATUS

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	4.4121	1.4707	1.6538	.1773
WITHIN GROUPS	275	244.5556	.8893		
TOTAL	278	248.9677			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3859, P = .001
(Approx.)

Variable COWSP COWORKER SUPP
By Variable V11 MARITAL STATUS

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	.5119	.1706	.2117	.8883
WITHIN GROUPS	276	222.4845	.8061		
TOTAL	279	222.9964			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance Sum(Variances) = .3859, P = .001
(Approx.)

Variable CHCON CHAIR CON
By Variable V11 MARITAL STATUS

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	3.5212	1.1737	1.6719	.1733
WITHIN GROUPS	271	190.2461	.7020		
TOTAL	274	193.7673			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3050, P = .295
(Approx.)

Variable AIR AIR STRESSORS
By Variable V11 MARITAL STATUS

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	1.1065	.3688	.3906	.7598
WITHIN GROUPS	276	260.5935	.9442		
TOTAL	279	261.7000			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2983, P = .393
(Approx.)

Variable ERGS ERGONOMIC
By Variable V11 MARITAL STATUS

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	2.1734	.7245	.8604	.4621
WITHIN GROUPS	275	231.5541	.8420		
TOTAL	278	233.7276			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2908, P = .541
(Approx.)

Variable DL DECISION LAT
By Variable V11 MARITAL STATUS

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	1.7516	.5839	.6897	.5590
WITHIN GROUPS	274	231.9642	.8466		
TOTAL	277	233.7158			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3075, P = .256
(Approx.)

Variable JD JOB DEMAND
By Variable V12 CURRENT LIV SITUATION

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	1.1233	.2808	.4756	.7536
WITHIN GROUPS	275	162.3625	.5904		
TOTAL	279	163.4857			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2991, P = .019
(Approx.)

Variable JS JOB SAT
By Variable V12 CURRENT LIV SITUATION

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPs	4	4.2155	1.0539	1.3194	.2629
WITHIN GROUPS	273	218.0579	.7987		
TOTAL	277	222.2734			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2549, P = .299
(Approx.)

Variable JF JOB FUTURE
By Variable V12 CURRENT LIV SITUATION

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	8.4362	2.1091	2.0308	.0903
WITHIN GROUPS	274	284.5602	1.0385		
TOTAL	278	292.9964			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2620, P = .204
(Approx.)

Variable OFSAT OFFICE SAT
By Variable V12 CURRENT LIV SITUATION

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	5.1983	1.2996	1.5813	.1795
WITHIN GROUPS	274	225.1888	.8219		
TOTAL	278	230.3871			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2316, P = .877
(Approx.)

Variable SUSP SUPERV SUPP
By Variable V12 CURRENT LIV SITUATION

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	2.8926	.7231	.8052	.5227
WITHIN GROUPS	274	246.0751	.8981		
TOTAL	278	248.9677			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2581, P = .253
(Approx.)

Variable COWSP COWORKER SUPP
By Variable V12 CURRENT LIV SITUATION

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	2.6842	.6711	.8376	.5023
WITHIN GROUPS	275	220.3122	.8011		
TOTAL	279	222.9964			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2596, P = .233
(Approx.)

Variable CHCON CHAIR CON
By Variable V12 CURRENT LIV SITUATION

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	1.3417	.3354	.4706	.7573
WITHIN GROUPS	270	192.4256	.7127		
TOTAL	274	193.7673			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2441, P = .518
(Approx.)

Variable AIR AIR STRESSORS
By Variable V12 CURRENT LIV SITUATION

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	4.0453	1.0113	1.0794	.3670
WITHIN GROUPS	275	257.6547	.9369		
TOTAL	279	261.7000			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3101, P = .008
(Approx.)

Variable ERGS ERGONOMIC
By Variable V12 CURRENT LIV SITUATION

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	2.7243	.6811	.8079	.5210
WITHIN GROUPS	274	231.0033	.8431		
TOTAL	278	233.7276			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2209, P = 1.000
(Approx.)

Variable DL DECISION LAT
By Variable V12 CURRENT LIV SITUATION

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	.9772	.2443	.2866	.8866
WITHIN GROUPS	273	232.7386	.8525		
TOTAL	277	233.7158			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2499, P = .385
(Approx.)

Variable JD JOB DEMAND
By Variable V13 SPOUSE EMPLOYED

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	.5397	.1349	.2277	.9227
WITHIN GROUPS	275	162.9460	.5925		
TOTAL	279	163.4857			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3115, P = .007
(Approx.)

Variable JS JOB SAT
By Variable V13 SPOUSE EMPLOYED

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	4.7955	1.1989	1.5049	.2009
WITHIN GROUPS	273	217.4779	.7966		
TOTAL	277	222.2734			

Tests for Homogeneity of Variances

Cochrans C = Max. Variance/Sum(Variances) = .3485, P = .000
(Approx.)

Variable JF JOB FUTURE
By Variable V13 SPOUSE EMPLOYED

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	4.6249	1.1562	1.0986	.3576
WITHIN GROUPS	274	288.3715	1.0525		
TOTAL	278	292.9964			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2692, P = .135
(Approx.)

Variable OFSAT OFFICE SAT
By Variable V13 SPOUSE EMPLOYED

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	3.0123	.7531	.9075	.4600
WITHIN GROUPS	274	227.3748	.8298		
TOTAL	278	230.3871			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3116, P = .007
(Approx.)

Variable SUSP SUPERV SUPP
By Variable V13 SPOUSE EMPLOYED

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	1.5464	.3866	.4281	.7883
WITHIN GROUPS	274	247.4214	.9030		
TOTAL	278	248.9677			

Tests for Homogeneity of Variances

Cochrans C = Max. Variance/Sum(Variances) = .3118, P = .007
(Approx.)

Variable COWSP COWORKER SUPP
By Variable V13 SPOUSE EMPLOYED

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	4.0497	1.0124	1.2716	.2814
WITHIN GROUPS	275	218.9467	.7962		
TOTAL	279	222.9964			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .4333, P = .000
(Approx.)

Variable CHCON CHAIR CON
By Variable V13 SPOUSE EMPLOYED

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	1.3313	.3328	.4670	.7600
WITHIN GROUPS	270	192.4360	.7127		
TOTAL	274	193.7673			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3617, P = .000
(Approx.)

Variable AIR AIR STRESSORS
By Variable V13 SPOUSE EMPLOYED

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	3.2466	.8117	.8636	.4862
WITHIN GROUPS	275	258.4534	.9398		
TOTAL	279	261.7000			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3337, P = .001
(Approx.)

Variable ERGS ERGONOMIC
By Variable V13 SPOUSE EMPLOYED

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	4.6001	1.1500	1.3752	.2427
WITHIN GROUPS	274	229.1275	.8362		
TOTAL	278	233.7276			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3171, P = .005
(Approx.)

Variable DL DECISION LAT
By Variable V13 SPOUSE EMPLOYED

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	4	3.7139	.9285	1.1020	.3559
WITHIN GROUPS	273	230.0020	.8425		
TOTAL	277	233.7158			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .3190, P = .004
(Approx.)

Variable JD JOB DEMAND
By Variable V15 NUMBER OF CHILDREN

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	8	5.6756	.7095	1.2183	.2882
WITHIN GROUPS	271	157.8101	.5823		
TOTAL	279	163.4857			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .1610, P = .856
(Approx.)

Variable JS JOB SAT
By Variable V15 NUMBER OF CHILDREN

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	8	6.5898	.8237	1.0273	.4156
WITHIN GROUPS	269	215.6836	.8018		
TOTAL	277	222.2734			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .1991, P = .076
(Approx.)

Variable JF JOB FUTURE
By Variable V15 NUMBER OF CHILDREN

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	8	4.4314	.5539	.5183	.8424
WITHIN GROUPS	270	288.5650	1.0688		
TOTAL	278	292.9964			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2132, P = .025
(Approx.)

Variable OFSAT OFFICE SAT
By Variable V15 NUMBER OF CHILDREN

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	8	2.8976	.3622	.4299	.9026
WITHIN GROUPS	270	227.4895	.8426		
TOTAL	278	230.3871			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2338, P = .004
(Approx.)

Variable SUSP SUPERV SUPP
By Variable V15 NUMBER OF CHILDREN

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	8	.6589	.0824	.0896	.9995
WITHIN GROUPS	270	248.3089	.9197		
TOTAL 278248.9677					

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2412, P = .002
(Approx.)

Variable COWSP COWORKER SUPP
By Variable V15 NUMBER OF CHILDREN

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	8	1.0409	.1301	.1589	.9958
WITHIN GROUPS	271	221.9556	.8190		
TOTAL	279	222.9964			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .1653, P = .680
(Approx.)

Variable CHCON CHAIR CON
By Variable V15 NUMBER OF CHILDREN

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	8	3.4327	.4291	.5997	.7779
WITHIN GROUPS	266	190.3346	.7155		
TOTAL	274	193.7673			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2820, P = .000
(Approx.)

Variable AIR AIR STRESSORS
By Variable V15 NUMBER OF CHILDREN

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.

BETWEEN GROUPS	8	2.0202	.2525	.2635	.9770
WITHIN GROUPS	271	259.6798	.9582		
TOTAL	279	261.7000			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .1555, P = 1.000
(Approx.)

Variable ERGS ERGONOMIC
By Variable V15 NUMBER OF CHILDREN

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	8	4.5999	.5750	.6775	.7112
WITHIN GROUPS	270	229.1277	.8486		
TOTAL	278	233.7276			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2420, P = .002
(Approx.)

Variable DL DECISION LAT
By Variable V15 NUMBER OF CHILDREN

SOURCE	D.F	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	8	6.9056	.8632	1.0238	.4183
WITHIN GROUPS	269	226.8103	.8432		
TOTAL	277	233.7158			

Tests for Homogeneity of Variances
Cochrans C = Max. Variance/Sum(Variances) = .2250, P = .009
(Approx.)

APPENDIX E

CHI SQUARE AND PEASRONS'S R FOR HEALTH SCALES

CATEGORY BY SCALE	CHI-SQUARE	D.F.	SIGN	PEARSON'S R	SIGN
JOB DEMAND X ATF	15.03686	8	0.0584	0.04621	0.2222
JOB DEMAND X NTC	27.76312	12	0.0060	0.19164	0.0010
JOB DEMAND X STOM	17.49771	9	0.0415	0.17891	0.0014
JOB DEMAND X MUS	19.38156	12	0.0797	0.19202	0.0006
JOB DEMAND X FTG	23.97279	6	0.0005	0.18530	0.0009
JOB DEMAND X GH	18.69391	9	0.0279	0.18784	0.0011
JOB DEMAND X ANX	18.72264	6	0.0047	0.10714	0.0394
JOB DEMAND X IRR	30.07779	9	0.0004	0.16740	0.0025

CATEGORY BY SCALE	CHI-SQUARE	D.F.	SIGN	PEARSON'S R	SIGN
JOB SAT X NTC	26.25826	12	0.0099	-0.16470	0.0041
JOB SAT X STOM	23.83662	9	0.0046	-0.11367	0.0296
JOB SAT X MUS	28.04126	12	0.0055	-0.22063	0.0001
JOB SAT X SKIN	25.03635	9	0.0029	-0.21362	0.0002
JOB SAT X EYE	30.65033	9	0.0003	-0.26823	0.0000
JOB SAT X EAR	30.31618	6	0.0000	-0.19510	0.0005
JOB SAT X SLEEP	18.24052	6	0.0057	-0.10893	0.0349
JOB SAT X FTG	17.33934	6	0.0081	-0.20153	0.0004
JOB SAT X GH	16.26220	9	0.0616	-0.18593	0.0013
JOB SAT X ANX	26.30946	6	0.0002	-0.26659	0.0000
JOB SAT X DEPR	54.21537	12	0.0000	-0.38237	0.0000
JOB SAT X IRR	11.65290	9	0.2336	-0.20731	0.0131

CATEGORY BY SCALE	CHI-SQUARE	D.F.	SIGN	PEARSON'S R	SIGN
JOB FUTURE X STOM	20.95614	9	0.0128	-0.11267	0.0306
JOB FUTURE X MUS	22.08805	12	0.0365	-0.17483	0.0017
JOB FUTURE X SKIN	14.91156	9	0.0934	-0.21102	0.0002
JOB FUTURE X EAR	14.57186	6	0.0239	-0.04403	0.2320
JOB FUTURE X ANX	11.74596	6	0.0679	-0.12854	0.0176
JOB FUTURE X DEPR	31.48049	12	0.0017	-0.19486	0.0006
JOB FUTURE X IRR	21.62849	9	0.0101	-0.23531	0.0000

CATEGORY BY SCALE	CHI-SQUARE	D.F.	SIGN	PEARSON'S R	SIGN
OFSAT X STOM	18.07196	9	0.0343	-0.21659	0.0001
OFSAT X MUS	33.20269	12	0.0009	-0.23759	0.0000
OFSAT X EYE	31.67995	9	0.0002	-0.31202	0.0000
OFSAT X ANX	19.26218	6	0.0037	-0.20011	0.0005
OFSAT X DEPR	31.06204	12	0.0019	-0.27007	0.0000
OFSAT X IRR	17.91281	9	0.0362	-0.23489	0.0000

CATEGORY BY SCALE	CHI-SQUARE	D.F.	SIGN	PEARSON'S R	SIGN
SUPERV SUP X STOM	23.52939	9	0.0051	-0.15129	0.0058
SUPERV SUP X MUS	32.17820	12	0.0013	-0.22829	0.0001
SUPERV SUP X EYE	27.44212	9	0.0012	-0.27620	0.0000
SUPERV SUP X EAR	16.11141	6	0.0132	-0.19601	0.0005
SUPERV SUP X SLEEP	24.95629	6	0.0003	-0.23557	0.0000
SUPERV SUP X ANX	25.28226	6	0.0003	-0.26543	0.0000
SUPERV SUP X DEPR	37.55673	12	0.0002	-0.24515	0.0000
SUPERV SUP X IRR	40.58920	9	0.0000	-0.31857	0.0000

CATEGORY BY SCALE	CHI-SQUARE	D.F.	SIGN	PEARSON'S R	SIGN
COWORKER X NTC	20.78670	12	0.0536	-0.11629	0.0308
COWORKER X STOM	25.60230	9	0.0024	-0.20657	0.0003
COWORKER X MUS	23.33117	12	0.0250	-0.17144	0.0020
COWORKER X SKIN	37.04177	9	0.0000	-0.14411	0.0081
COWORKER X EYE	20.65822	9	0.0143	-0.10759	0.0361
COWORKER X DEPR	52.94602	12	0.0000	-0.21559	0.0002
COWORKER X IRR	20.54192	9	0.0148	-0.19446	0.0006

CATEGORY BY SCALE	CHI-SQUARE	D.F.	SIGN	PEARSON'S R	SIGN
CHAIR CON X EYE	16.88489	6	0.0097	-0.10868	0.0360
CHAIR CON X ANX	10.40257	4	0.0342	-0.03964	0.2603

CATEGORY BY SCALE	CHI-SQUARE	D.F.	SIGN	PEARSON'S R	SIGN
AIR STRESS X STOM	30.51707	9	0.0004	0.20248	0.0003
AIR STRESS X MUS	36.00719	12	0.0003	0.30378	0.0000
AIR STRESS X SKIN	15.97050	9	0.0675	0.19194	0.0007
AIR STRESS X EYE	22.84535	9	0.0066	0.22781	0.0001
AIR STRESS X FTG	16.91940	6	0.0096	0.22560	0.0001
AIR STRESS X ANX	15.06051	6	0.0198	0.17274	0.0022
AIR STRESS X IRR	15.58063	6	0.0162	0.21285	0.0002

CATEGORY BY SCALE	CHI-SQUARE	D.F.	SIGN	PEARSON'S R	SIGN
ERGONOMIC X EYE	18.98969	9	0.0253	-0.25315	0.0000
ERGONOMIC X EAR	17.60418	6	0.0073	-0.13915	0.0100
ERGONOMIC X FTG	16.80297	6	0.0100	-0.17544	0.0016
ERGONOMIC X ANX	13.45304	6	0.0364	-0.07521	0.1094

CATEGORY BY SCALE	CHI-SQUARE	D.F.	SIGN	PEARSON'S R	SIGN
DECISION L. X SKIN	21.92661	9	0.0091	-0.08713	0.0744
DECISOIN L. X ANX	18.69331	6	0.0047	-0.17482	0.0020
DECISON L. X IRR	19.44153	9	0.0217	-0.12871	0.0161

APPENDIX F

REPORTED HEALTH VARIABLES

WEIGHT IN POUNDS

VALUE	FREQ	PCT	VALUE	FREQ	PCT	VALUE	FREQ	PCT
85	1	0	130	20	7	178	1	0
98	1	0	133	2	1	183	2	1
99	1	0	134	1	0	185	1	0
102	1	0	135	13	5	187	2	1
104	1	0	136	1	0	190	7	3
105	4	1	139	1	0	192	2	1
106	2	1	140	0	7	195	4	1
107	2	1	141	1	0	196	1	0
108	2	1	142	1	0	200	6	2
110	6	2	144	1	0	202	1	0
112	3	1	145	11	4	205	1	0
113	1	0	147	1	0	210	1	0
114	2	1	149	1	0	215	1	0
115	8	3	150	17	6	220	2	1
117	2	1	153	2	1	235	2	1
118	4	1	155	6	2	240	1	0
120	10	4	156	1	0	245	2	1
122	2	1	160	10	4	250	3	1
123	1	0	163	1	0	258	1	0
125	12	4	164	1	0	260	1	0
126	2	1	165	15	5	265	3	1
127	4	1	170	12	4	280	1	0
128		3	175	2	1			

MEAN 150.9 MEDIAN 140.5 MODE 130 MAXIMUM 280
VALID CASES 280 MISSING CASES 0

HEIGHT IN INCHES

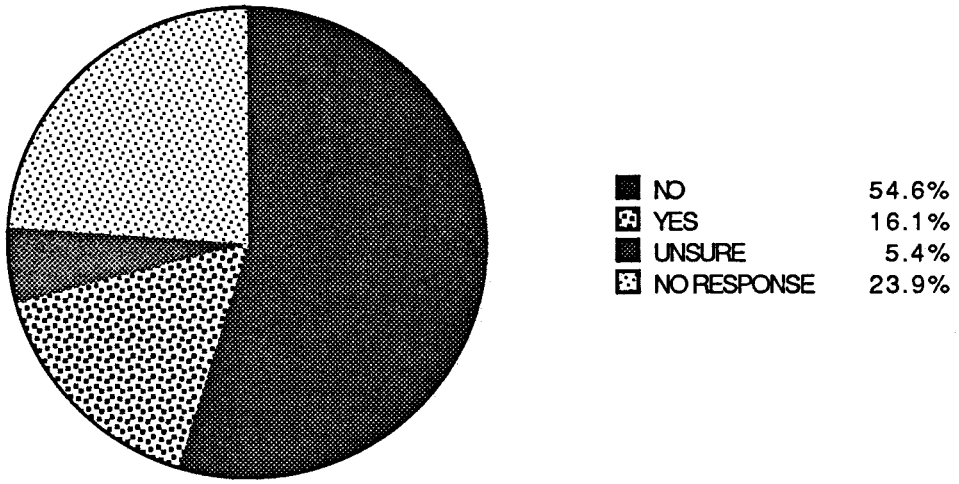
VALUE	FREQ	PCT	VALUE	FREQ	PCT	VALUE	FREQ	PCT
58	1	0	63	34	12	68	15	5
59	4	1	64	42	15	69	7	3
60	12	4	65	35	13	70	4	1
61	22	8	66	29	10	71	4	1
62	46	16	67	24	9	73	1	0

MEAN 64 MEDIAN 64 MODE 62 MAXIMUM 73
VALID CASES 280 MISSING CASES 0

DOES THIS JOB MAKE YOU HEALTHIER OR NOT?

Response	Ss	Percentage
NO	153	54.6
YES	45	16.1
NEITHER	15	5.4
NO RESPONSE	67	23.9
TOTAL	280	100.0

DOES YOUR JOB MAKE YOU HEALTHLIER



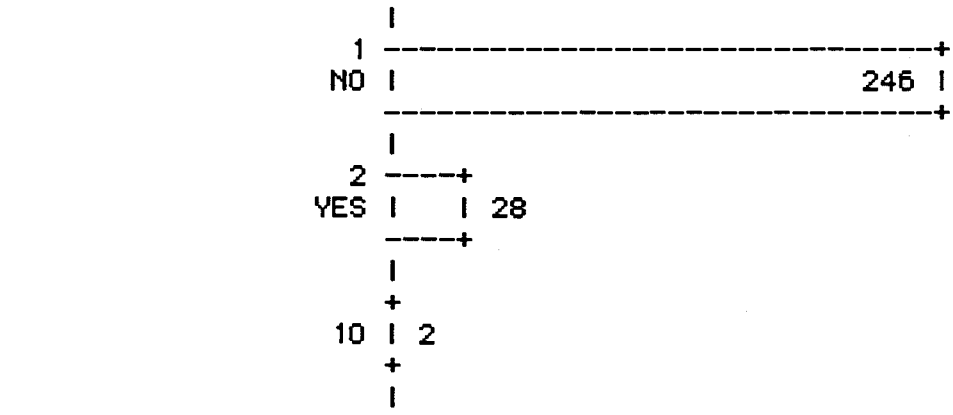
ANY HEALTH PROLBLEM RELATED TO JOB

VALUE	FREQ	PCT	VALUE	FREQ	PCT	VALUE	FREQ	PCT
NO	82	44	YES	97	52	DON'T KNOW	8	4
VALID CASES	187		MISSING CASES	93				

STOMACH OR DUIDENAL ULCER

VALUE LABEL	VALUE	FREQUENCY	PERCENT
NO	1	246	87.9
YES	2	28	10.0
	10	2	.7
MISSING	.	4	1.4
	TOTAL	280	100.0

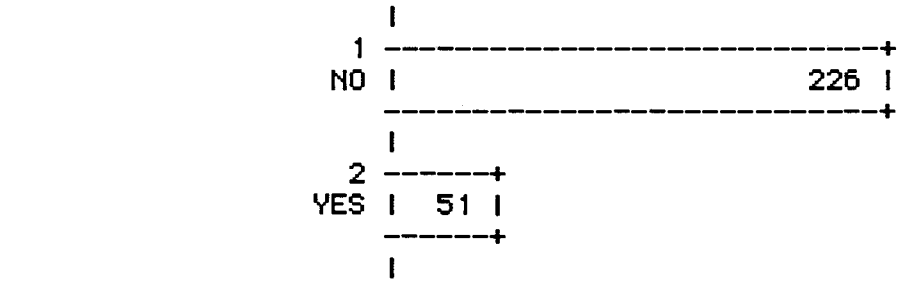
STOMACH OR DUIDENAL ULCER



ARTHRITIS OR RHEUMATISM

VALUE LABEL	VALUE	FREQUENCY	PERCENT
NO	1	226	80.7
YES	2	51	18.2
MISSING		3	1.1
TOTAL		280	100.0

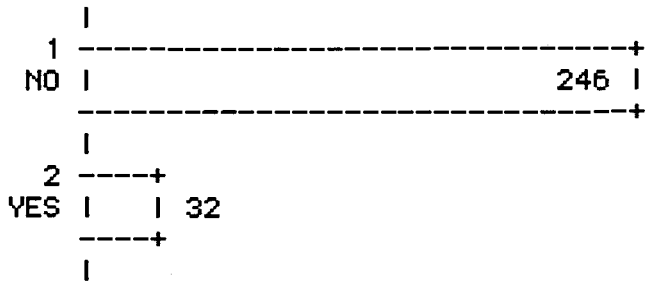
ARTHRITIS OR RHEUMATISM



ASTHMA

VALUE LABEL	VALUE	FREQUENCY	PERCENT
NO	1	246	87.9
YES	2	32	11.4
MISSING	.	2	.7
	TOTAL	280	100.0

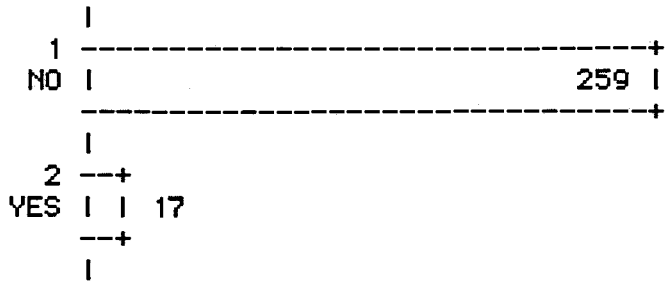
ASTHMA



ULCERATIVE COLITIS OR CROHN S DISEASE

VALUE LABEL	VALUE	FREQUENCY	PERCENT
NO	1	259	92.5
YES	2	17	6.1
MISSING	.	4	1.4
	TOTAL	280	100.0

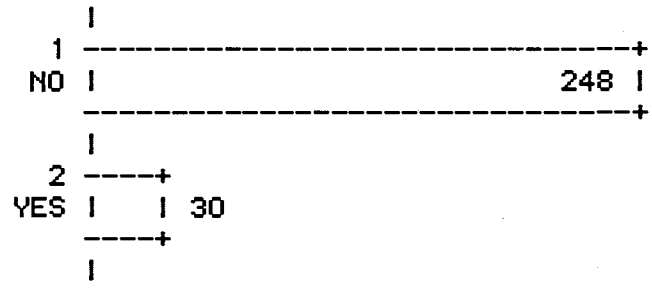
ULCERATIVE COLITIS OR CROHN S DISEASE



VARICOSE VEINS

VALUE LABEL	VALUE	FREQUENCY	PERCENT
NO	1	248	88.6
YES	2	30	10.7
MISSING	.	2	.7
	TOTAL	280	100.0

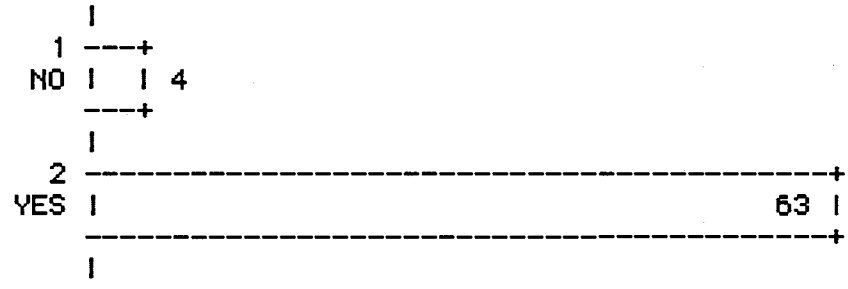
VARICOSE VEINS



OTHER

VALUE LABEL	VALUE	FREQUENCY	PERCENT
NO	1	4	1.4
YES	2	63	22.5
MISSING	.	213	76.1
	TOTAL	280	100.0

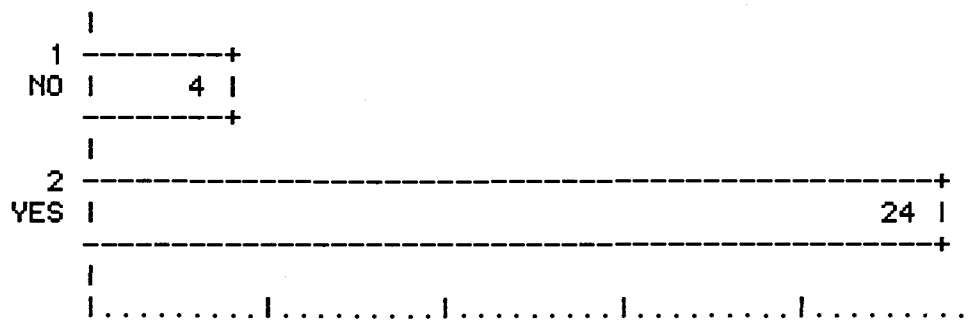
OTHER



OTHER

VALUE LABEL	VALUE	FREQUENCY	PERCENT
NO	1	4	1.4
YES	2	24	8.6
MISSING	.	252	90.0
	TOTAL	280	100.0

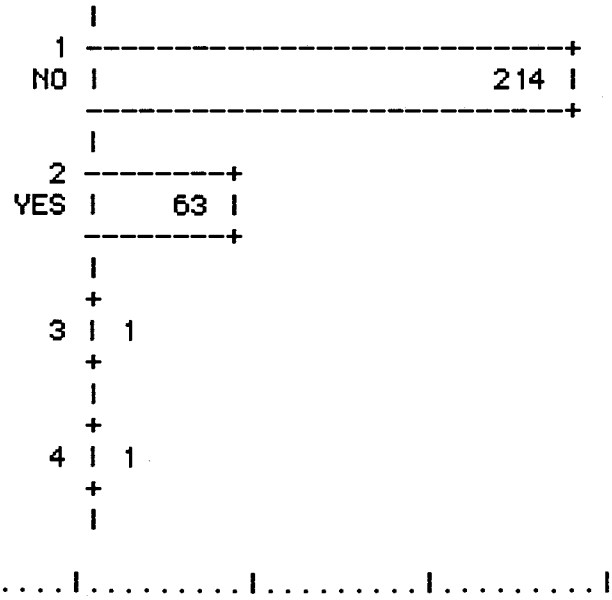
OTHER



PAST 2 WK ILLNESS CHANGE ACTIVITY

VALUE LABEL	VALUE	FREQUENCY	PERCENT
NO	1	214	76.4
YES	2	63	22.5
MISSING	.	3	1.2
	TOTAL	280	100.0

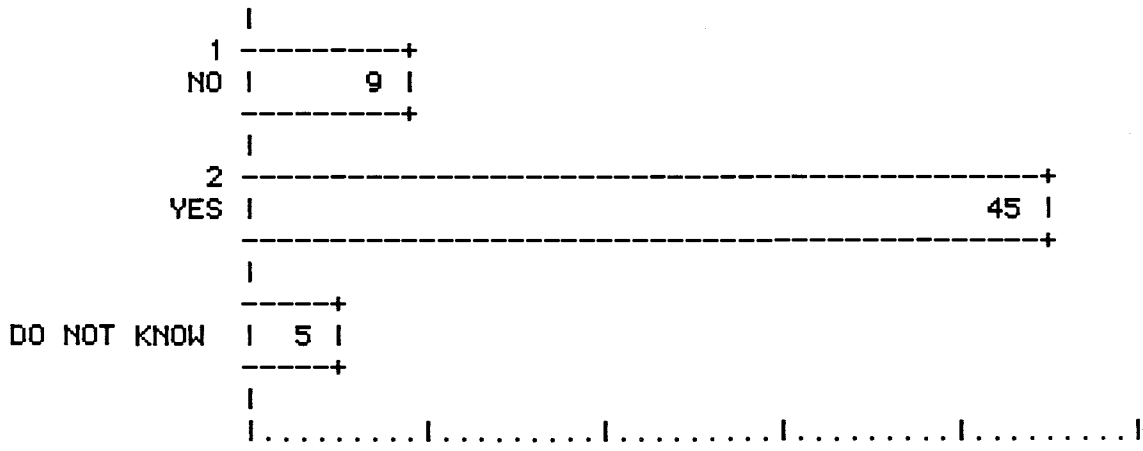
PAST 2 WK ILLNESS CHANGE ACTIVITY



RELATED TO JOB

VALUE LABEL	VALUE	FREQUENCY	PERCENT
NO	1	9	3.2
YES	2	45	16.1
DO NOT KNOW	3	5	1.8
MISSING		220	78.6
	TOTAL	280	100.0

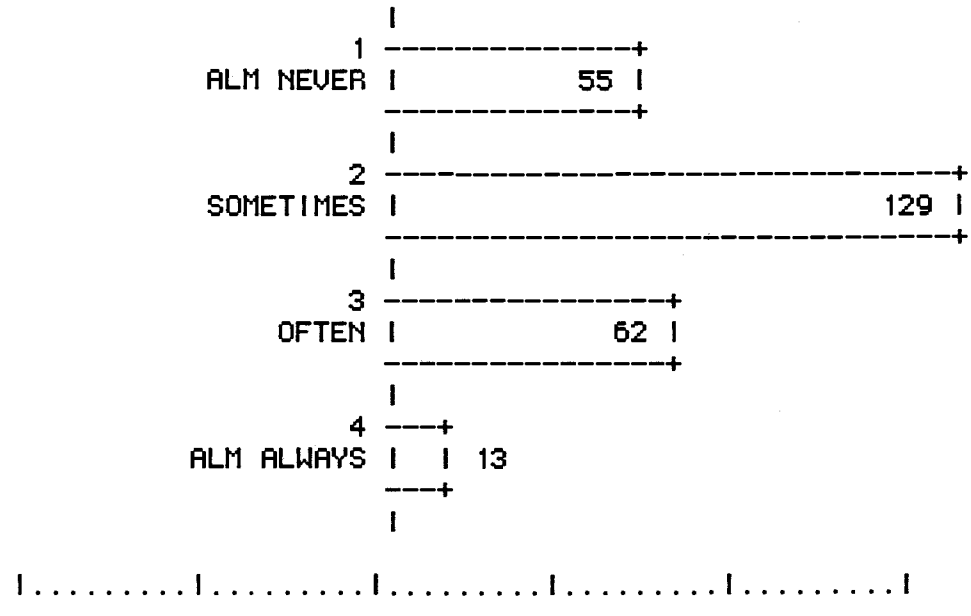
RELATED TO JOB



NOSE OR THROAT IRRITATION

VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	55	19.6
SOMETIMES	2	129	46.1
OFTEN	3	62	22.1
ALM ALWAYS	4	13	4.6
MISSING	.	21	7.5
	TOTAL	280	100.0

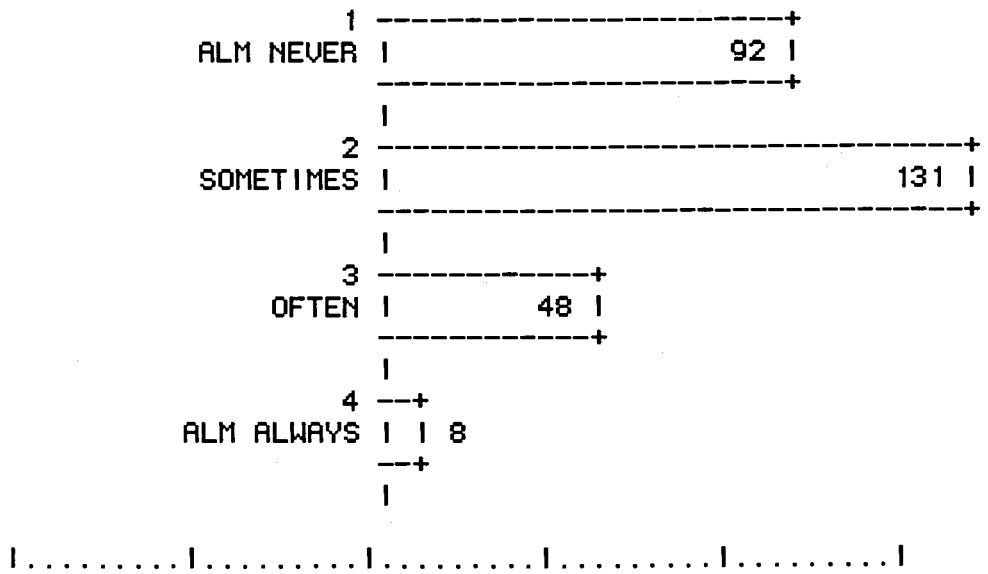
NOSE OR THROAT IRRITATION



COLDS OR SORE THROATS

VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	92	32.9
SOMETIMES	2	131	46.8
OFTEN	3	48	17.1
ALM ALWAYS	4	8	2.9
MISSING	.	1	.4
	TOTAL	280	100.0

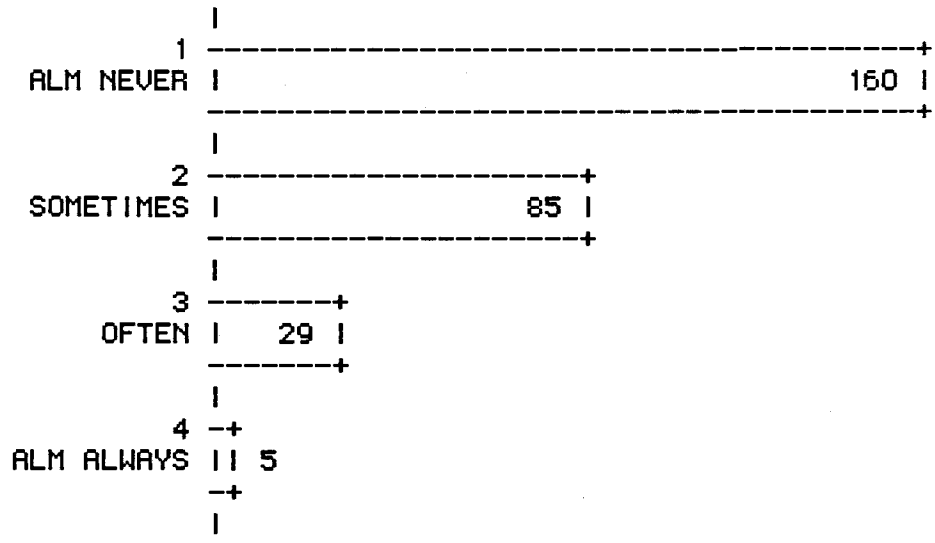
COLDS OR SORE THROATS



PERSISTENT COUGHS

VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	160	57.1
SOMETIMES	2	85	30.4
OFTEN	3	29	10.4
ALM ALWAYS	4	5	1.8
MISSING	.	1	.4
	TOTAL	280	100.0

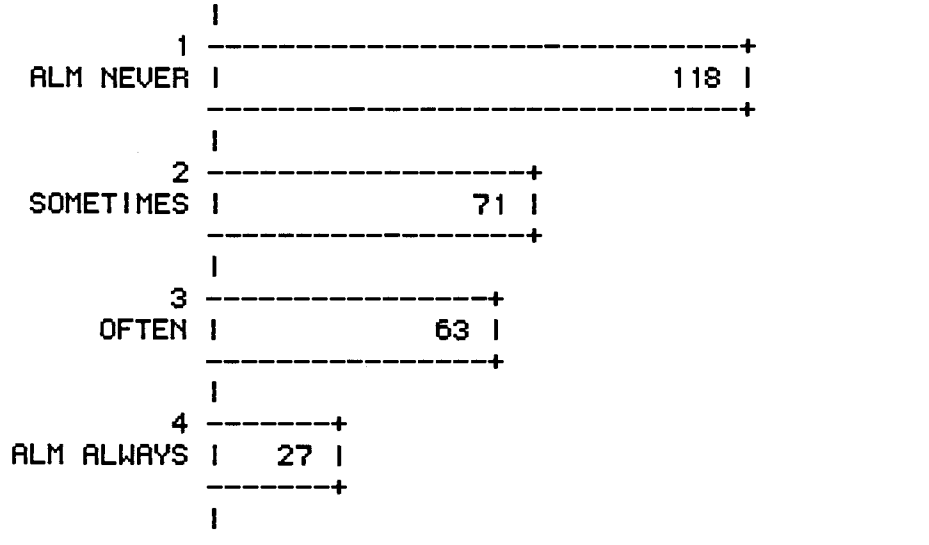
PERSISTENT COUGHS



ALLERGY OR SINUS TROUBLE

VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	118	42.1
SOMETIMES	2	71	25.4
OFTEN	3	63	22.5
ALM ALWAYS	4	27	9.6
MISSING	.	1	.4
	TOTAL	280	100.0

ALLERGY OR SINUS TROUBLE



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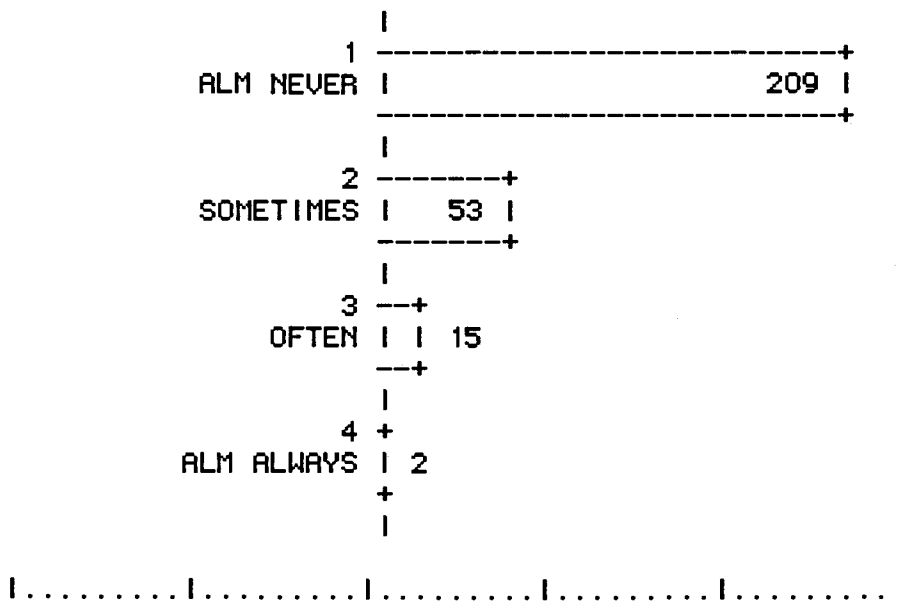
SHORTNESS BREATH TROUBLE BREATHING

VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	209	74.6
SOMETIMES	2	53	18.9
OFTEN	3	15	5.4
ALM ALWAYS	4	2	.7
MISSING	.	1	.4
	TOTAL	280	100.0

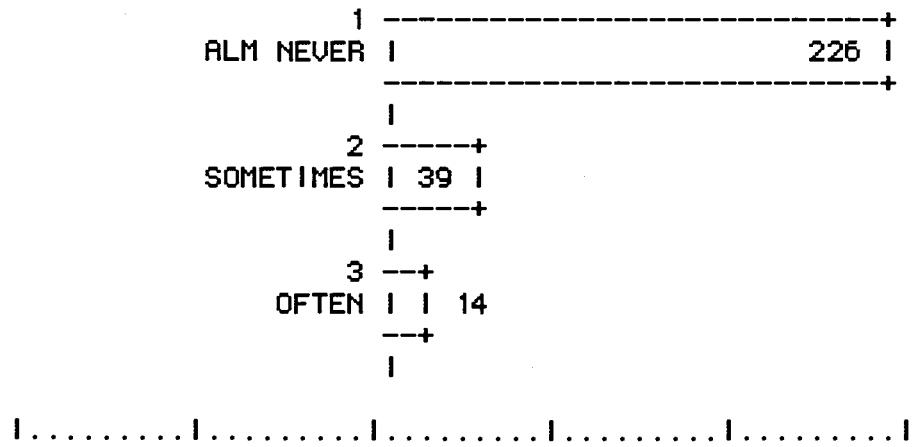
SHORTNESS BREATH TROUBLE BREATHING



CHEST TIGHTNESS OR PRESSURE

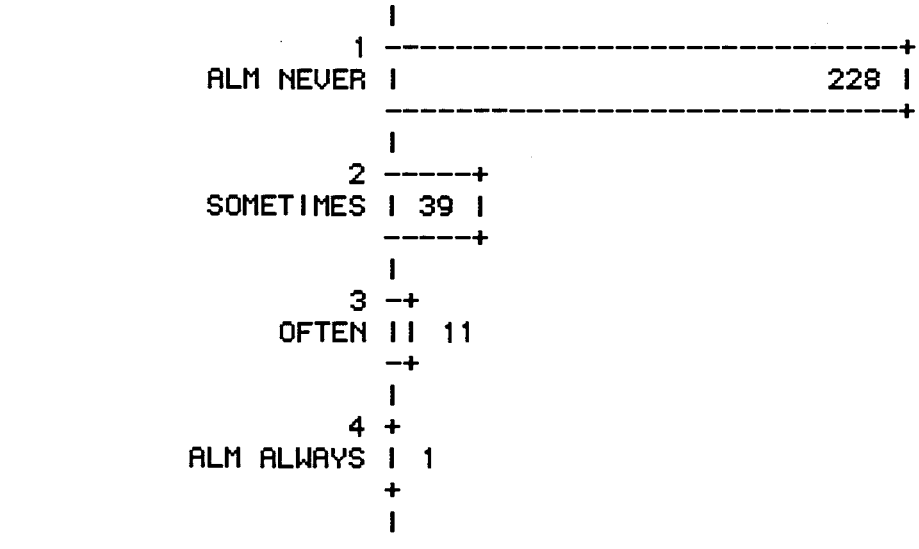
VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	226	80.7
SOMETIMES	2	39	13.9
OFTEN	3	14	5.0
MISSING	.	1	.4
	TOTAL	280	100.0

CHEST TIGHTNESS OR PRESSURE



PAIN OR DISCOMFORT IN THE CHEST

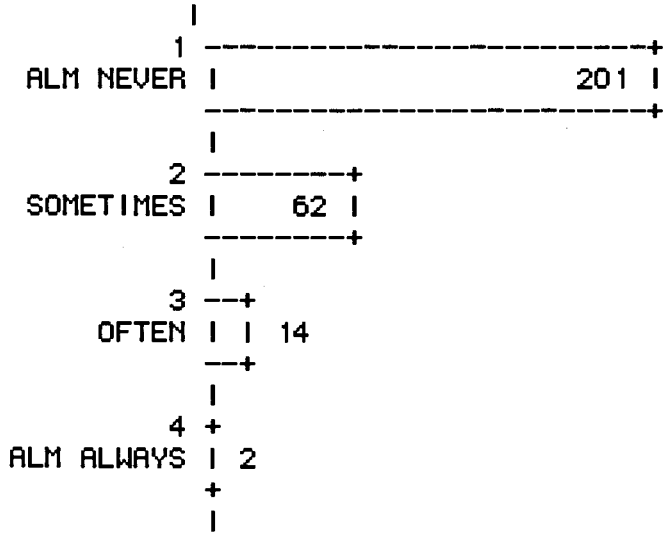
VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	228	81.4
SOMETIMES	2	39	13.9
OFTEN	3	11	3.9
ALM ALWAYS	4	1	.4
MISSING	.	1	.4
	TOTAL	280	100.0



RACING OR POUNDING HEART

VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	201	71.8
SOMETIMES	2	62	22.1
OFTEN	3	14	5.0
ALM ALWAYS	4	2	.7
MISSING	.	1	.4
	TOTAL	280	100.0

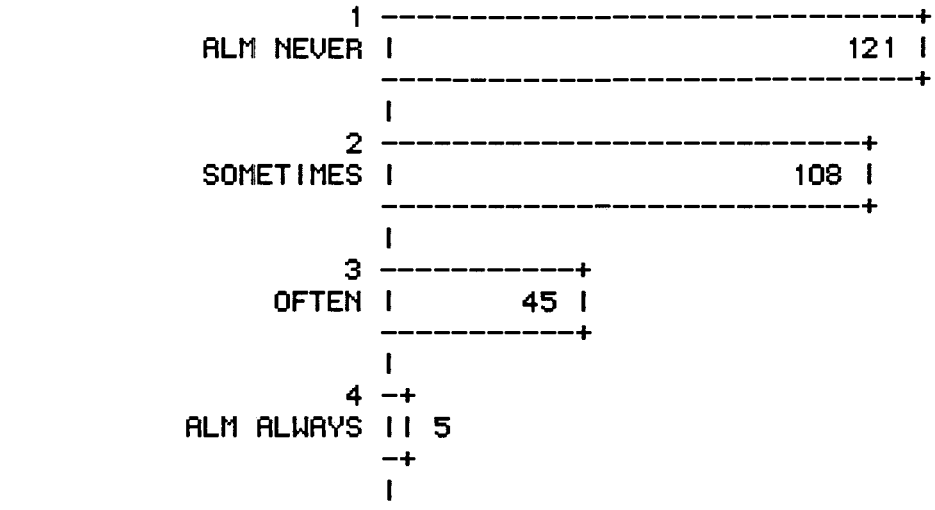
RACING OR POUNDING HEART



INDIGESTION OR HEARTBURN

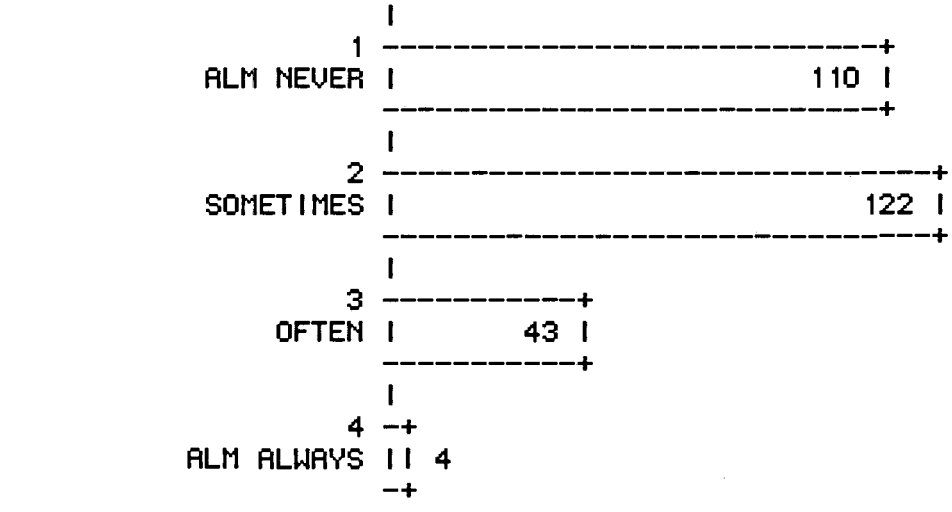
VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	121	43.2
SOMETIMES	2	108	38.6
OFTEN	3	45	16.1
ALM ALWAYS	4	5	1.8
MISSING	.	1	.4
	TOTAL	280	100.0

INDIGESTION OR HEARTBURN



GAS OR GAS PAIN

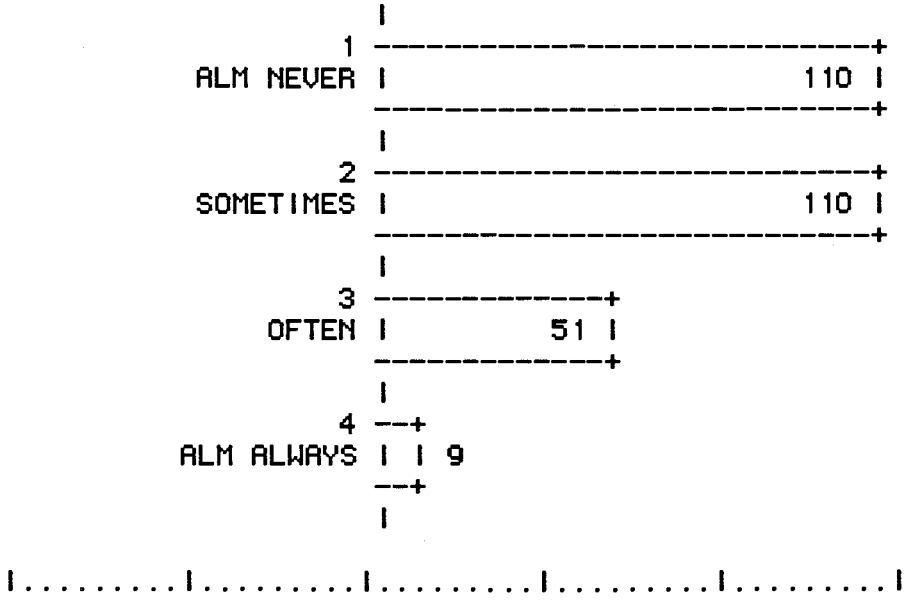
VALUE LABEL	VALUE	FREQ	PERCENT	PERCENT	PERCENT
ALM NEVER	1	110	39.3		
SOMETIMES	2	122	43.6		
OFTEN	3	43	15.4		
ALM ALWAYS	4	4	1.4		
MISSING	.	1	.4		
	TOTAL	280	100.0		



NERVOUS OR UPSET STOMACH

VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	110	39.3
SOMETIMES	2	110	39.3
OFTEN	3	51	18.2
ALM ALWAYS	4	9	3.2
	TOTAL	280	100.0

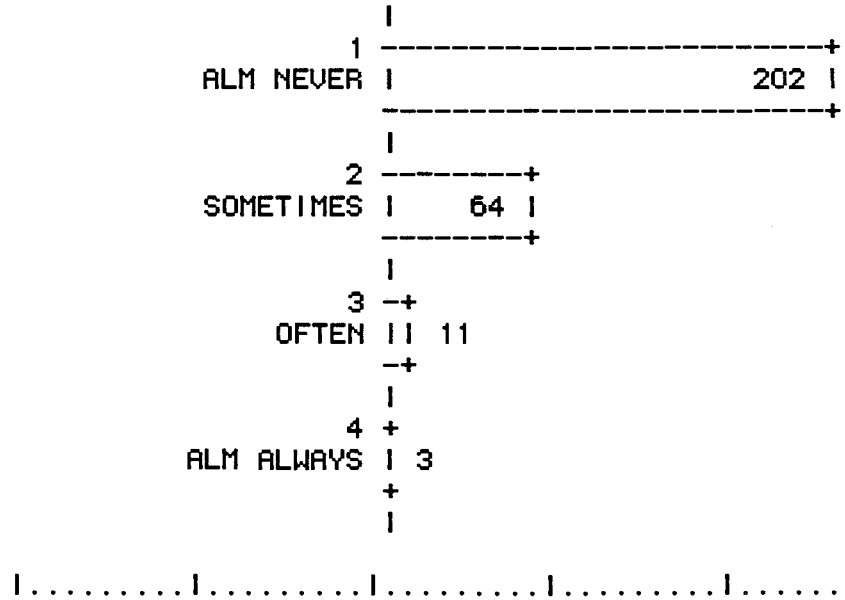
NERVOUS OR UPSET STOMACH



NAUSEA OR VOMITING

VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	202	72.1
SOMETIMES	2	64	22.9
OFTEN	3	11	3.9
ALM ALWAYS	4	3	1.1
	TOTAL	280	100.0

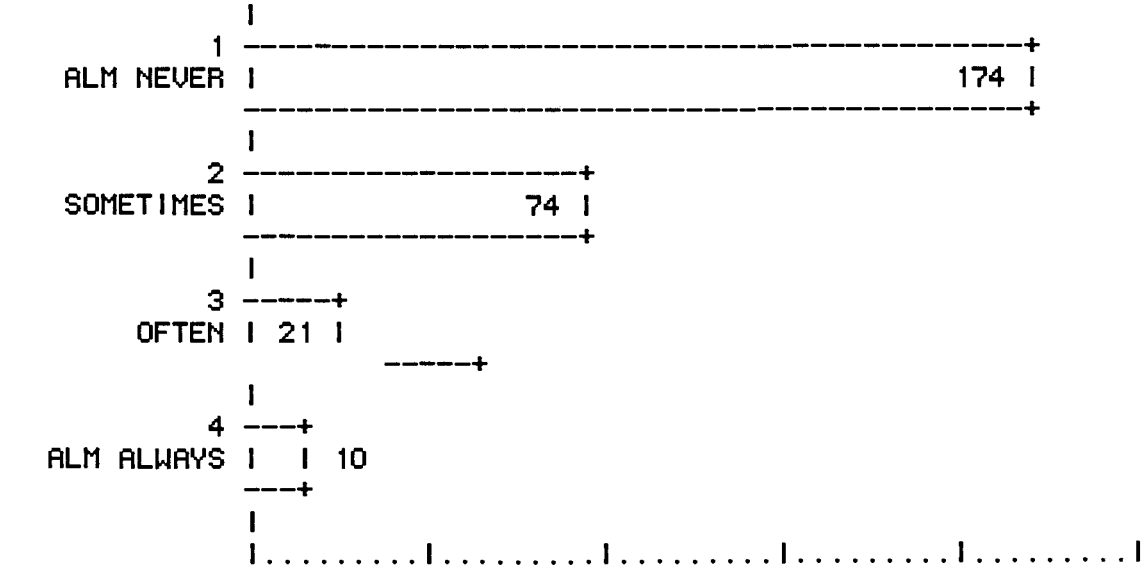
NAUSEA OR VOMITING



CONSTIPATION

VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	174	62.1
SOMETIMES	2	74	26.4
OFTEN	3	21	7.5
ALM ALWAYS	4	10	3.6
	.	1	.4
	TOTAL	280	100.0

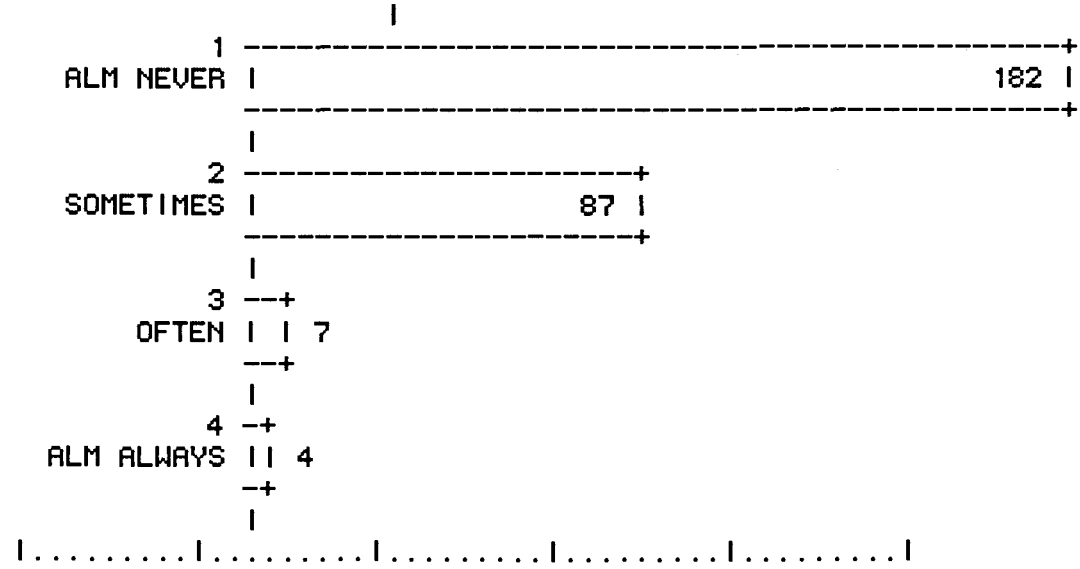
CONSTIPATION



DIARRHEA

VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	182	65.0
SOMETIMES	2	87	31.1
OFTEN	3	7	2.5
ALM ALWAYS	4	4	1.4
	TOTAL	280	100.0

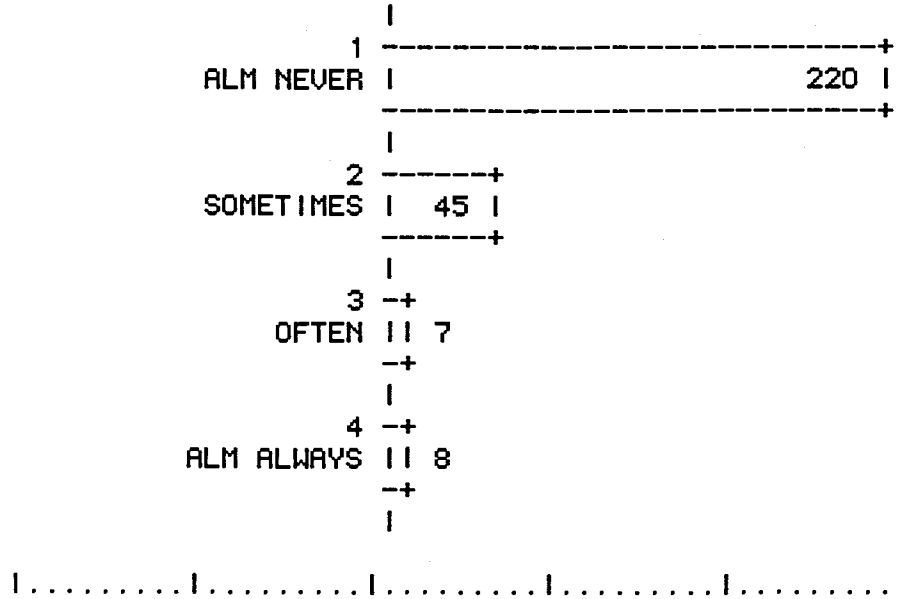
DIARRHEA



HEMORRHOIDS OR PILES

VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	220	78.6
SOMETIMES	2	45	16.1
OFTEN	3	7	2.5
ALM ALWAYS	4	8	2.9
	TOTAL	280	100.0

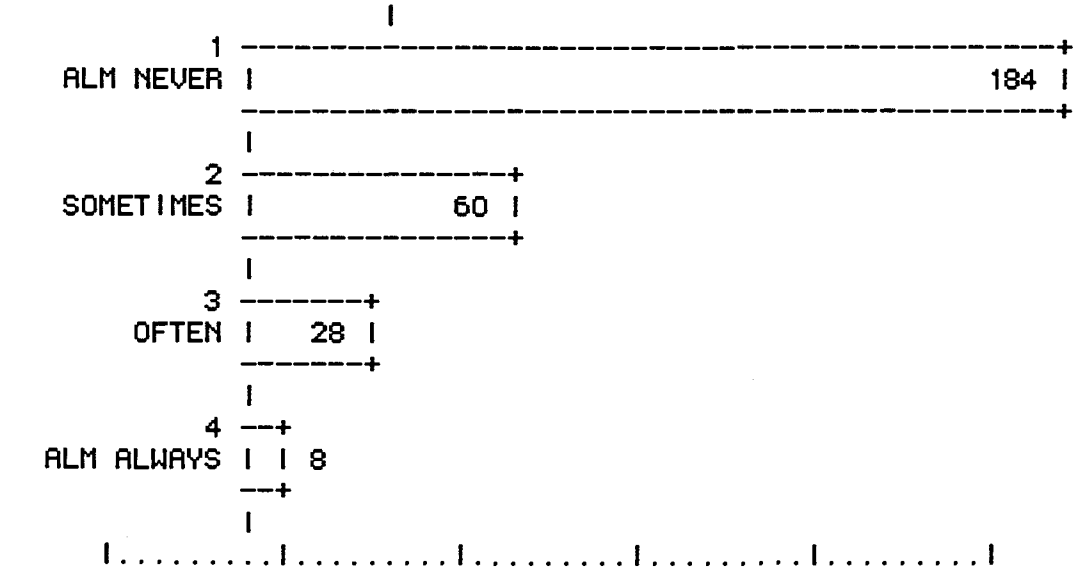
HEMORRHOIDS OR PILES



NUMBNESS OR TINGLING IN PART OF BODY

VALUE LABEL	VALUE	FREQUENCY	PERCENT
ALM NEVER	1	184	65.7
SOMETIMES	2	60	21.4
OFTEN	3	28	10.0
ALM ALWAYS	4	8	2.9
	TOTAL	280	100.0

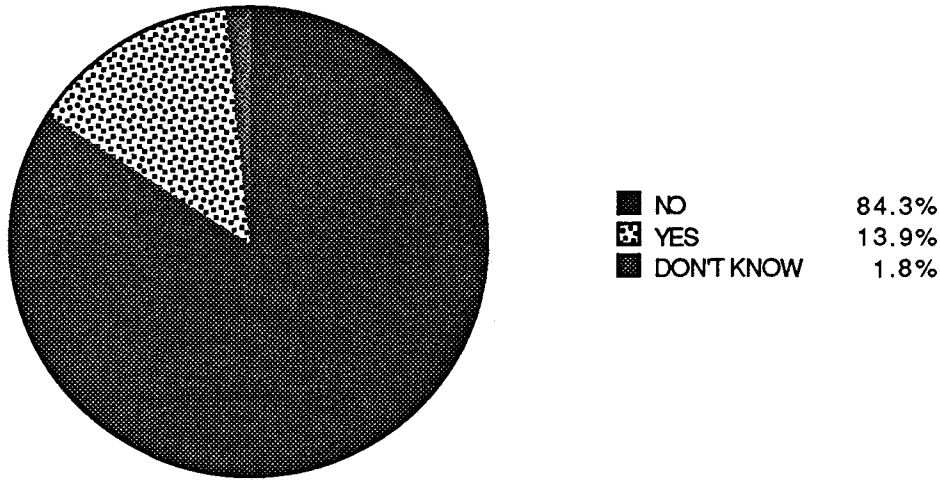
NUMBNESS OR TINGLING IN PART OF BODY



HIGH BLOOD PRESSURE

VALUE LABEL	VALUE	FREQUENCY	PERCENT
NO	1	236	84.3
YES	2	39	13.9
MISSING		7	2.5
	TOTAL	280	100.0

HIGH BLOOD PRESSURE



HEART DISEASE

VALUE LABEL	VALUE	FREQUENCY	PERCENT
NO	1	271	96.7
YES	2	5	.1
MISSING		4	.1
	TOTAL	280	100.0

HEART DISEASE