ASSESSMENT OF THE QUALITY OF WORK LIFE OF PROFESSIONAL OR TECHNICAL AND MANAGERIAL WOMEN

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CHAPTER I

INTRODUCTION

Quality of work life (QWL) is concerned with improving the workplace, making the work situation more humane, and creating an environment where people will find work personally satisfying as well as economically rewarding (Nadler, 1981). About a decade ago, the term quality of work life had not been used in corporate America. Yet, in just over 13 years, the term and its acronym, QWL, have become an accepted and much used part of the American work life. QWL refers to the better utilization of resources, particularly human resources.

In the future, QWL and its programs may be the key to an organization's successful motivation of today's employee. The companies prepared to meet the challenge will be the ones which will probably succeed. According to Rosow (1981):

> The 1980's promise excitement, challenge, and increased complexity in managing people. The twin goals of productivity and an enhanced quality of working life are attainable, but only for those managers who make the effort.
>
> An accommodation between the organization's goals and the employee's expectations will be more difficult. People will bring a more complex and varied set of needs to the workplace. The workplace itself will impose technological and information demands upon its internal human resources. The aging of the population, the growing role of women, the increased pressures for equality of opportunity, and the rising personal expectations for decent, satisfying, and challenging jobs will all demand an effective response.

> Management, labor and government will each place greater demands on the workplace and these will not always be harmonious. Thus, those who are most imaginative and innovative stand to gain the most in the new environment whereas those who resist change at every turn are more likely to suffer problems and disappointments (p. 52).

To date, however, there have been only two studies conducted concerning the quality of work life of dietitians (Leche, 1984; Taylor, 1984). The health care industry has always considered people as its greatest asset, yet its lack of investment in people has lead to worker dissatisfaction (Broski and Cook, 1978). Human resources are among the most important components of any organization according to Roberts and Savage (1973). They report four reasons for being concerned about worker satisfaction:

1. There is a growing concern about human as well as physical assets.

2. Studies have suggested that personal satisfaction contributes to job performance.

3. There is evidence that satisfaction is negatively related to absenteeism and turnover.

4. It is considered desirable for management to know how employees feel about their jobs.

In a recent study by Agriesti-Johnson and Broski (1982) which measured job satisfaction of dietitians in the United States, it was discovered that job dissatisfaction may be related to societal changes, particularly the increased education and service demands made on dietitians without accompanying increase in factors that relate to job satisfaction.

Job satisfaction, however, is only one portion of assessing quality of work life (Lawler and Ozley, 1979). Quality of work life

represents the tendency of an individual worker to act in a certain way when confronted with a given set of stimuli from his work environment (Terry and Dar-El, 1980). In order to understand quality of work life and its implications for improved performance, one should first understand a little about this individual referred to in the definition. The intent of this study is to discover how dietitians in Oklahoma perceive their QWL and specifically how they feel about consequences of job dissatisfaction or incorrect stimuli (occupational stress). Results of this study will then be compared with the results of a national survey on stress of professional or technical and managerial women.

Purpose and Objectives

The purpose in this study is to assess the quality of work life of professional or technical and managerial women. Specific objectives are:

1. To determine if selected personal variables affect QWL of Oklahoma dietitians such as: age, highest degree obtained, route to ADA membership, position title, number of years in present job, marital status, R.D. status, and family size.

2. To determine if selected institutional variables affect QWL of Oklahoma dietitians such as size, type and location of facility and number of people supervised.

3. To determine if the QWL is associated with occupational stress.

4. To determine if the QWL of Oklahoma dietitians compares with the QWL of professional or technical and managerial women in The 9 to 5 National Survey on Women and Stress.

5. To make recommendations for further studies involving dietitians and occupational stress.

Hypotheses

The hypotheses postulated in this study were:

H_1: There will be no significant differences in the QWL: actual work related conditions on present job of Oklahoma dietitians based on selected personal variables.

H_2: There will be no significant differences in the QWL: actual work related conditions on present job of Oklahoma dietitians based on selected institutional variables.

H_3: There will be no significant differences in the work related stressors, mediators and health effects of Oklahoma dietitians based on selected personal variables.

H_4: There will be no significant differences in the work related stressors, mediators and health effects of Oklahoma dietitians based on selected institutional variables.

H_5: There will be no significant association between QWL: actual work related conditions on present job and work related stressors, mediators and health effects of Oklahoma dietitians.

H_6: There will be no significant differences between the QWL: actual work related conditions on present job of Oklahoma dietitians and professional or technical and managerial women in The 9 to 5 National Survey on Women and Stress based on selected personal variables.

H_7: There will be no significant differences between the QWL: actual work related conditions on present job of Oklahoma dietitians

and professional or technical and managerial women in The 9 to 5 National Survey on Women and Stress based on selected institutional variables.

H_8: There will be no significant differences between the work related stressors, mediators and health effects of Oklahoma dietitians and professional or technical and managerial women in The 9 to 5 National Survey on Women and Stress based on selected personal variables.

H_9: There will be no significant differences between the work related stressors, mediators and health effects of Oklahoma dietitians and professional or technical and managerial women in The 9 to 5 National Survey on Women and Stress based on selected institutional variables.

H_{10}: There will be no significant association between the QWL: actual work related conditions on present job and work related stressors, mediators and health effects of Oklahoma dietitians and professional or technical and managerial women in The 9 to 5 National Survey on Women and Stress.

Limitations and Assumptions

Since this study is limited to members of the Oklahoma Dietetic Association, results cannot be considered representative of all dietitians. Results from the study can therefore only be generalized to this group of dietetic practitioners. It is assumed that respondents completed the questionnaire according to their actual work situation rather than what they perceive as ideal.

Definition of Terms

Quality of Work Life (QWL): No single definition of quality of work life has been accepted. Comprehensive survey-based programs often include questions on the following quality of work life issues:

1. Overall organization (feeling and commitment)
2. Compensation issues (pay and benefits)
3. Job security
4. Management (policies)
5. Immediate supervisor (relations with)
6. Advancement issues
7. Co-worker and interpersonal relations
8. The job itself (characteristics, demand, satisfaction)

(Bowditch and Buono, 1982).

American Dietetic Association, The (ADA): A professional organization responsible for establishing education and supervised clinical experience requirements and standards of practices in the profession of dietetics (Position paper, 1981).

Oklahoma Dietetic Association, The (ODA): A state associated organization with goals similar to the ADA.

Professional: A person in an occupation requiring a high level of training and proficiency. Some examples include: engineer, scientist, lawyer, teacher, registered nurse and dietitian.

Managerial: Relating to the ability to manage a business or an institution. Some examples may include: accountant, bank officer, health service administrator, hotel manager, restaurant manager, school administrator, food service manager, and food service supervisor.

Technical: The ability of one who has learned the practical technical details and special techniques of an occupation. Some examples may include: LPN, drafter, computer programmer, health record technician, legal technician, and dietetic technician.

Occupational Stress: Any characteristic of the job environment which poses a threat to the individual--either excessive demands or insufficient supplies to meet his needs. Occupational stress also refers to a misfit between the person and his environment (French, Cobb, Van Harrison, and Pinneau, 1976, p. 3).

CHAPTER II

REVIEW OF LITERATURE

Most of the QWL programs reported in the literature were directed toward the nonservice industry. Very limited literature dealt directly with the QWL and the health care industry and particularly with dietitians. According to Rosow (1979):

> Creating improved quality of working life--humanizing work and working conditions--is the objective of a good society and is also the objective of a productive society. It translates to increasing human dignity at the workplace and, at the same time, is an important goal for both the private and public sectors of the American economy (p. 7).

The topics discussed in this review are aspects of QWL to include: Overview of QWL, Job Satisfaction (Job Satisfaction in General and Job Satisfaction of Dietitians), Career of Dietitians, and Occupational Stress.

Overview of Quality of Work Life

The term "quality of work life" (QWL) in the last 15 years has come to mean more than giving workers the chance to participate meaningfully with management in making decisions affecting their jobs. As the literature revealed, there was no one definition of QWL accepted by all areas of the work force. Traditionally, Glaser (1976) believed that QWL had come to mean more than job security, good working conditions, adequate and fair compensation, equal employment opportunity or job enlargement. He believed that the essential component of any

QWL program was the opportunity for employees at any level to influence their working environments and to have some say over what goes on in connection with their work.

The first comprehensive definition of QWL was recorded by Walton (1974) in the Harvard Business Review. Walton offered eight conceptual categories or criteria for QWL:

1. Adequacy in compensation--sufficient income to maintain a socially acceptable standard of living.

2. Safe and healthy working conditions--reasonable hours in a standardized work week and physical working conditions that minimize risk of illness and injury.

3. Immediate opportunity to use and develop human capacities--opportunities for workers to use and develop their skill and knowledge.

4. Opportunity for continued growth and security--worker's work assignments and educational pursuits, advancement and employment security associated with job.

5. Social integration in the work organization--freedom from prejudice, a sense of community, interpersonal openness, and the absence of class differences in the organization.

6. Constitutionalism in the work organization--protection of worker's rights.

7. Work and total lifespace--balanced role of work and employee's life.

8. Social relevance of work life--social responsibility of organization.

Walton pointed out that workers from different cultures and life styles had different definitions of high QWL. He recommended three

ways to accommodate the differences: work assignments can be tailored to meet individual preferences, work can be organized differently from one work unit to the next and employees can choose which styles suit them best. The most feasible idea was to encourage organizations to develop consistent patterns of work life and provide prospective employees with sufficient information to choose an organization that was a good fit for them.

Others believed that QWL dealt more with the economic, social and psychological aspects of work (Lippitt, 1978; Lawler and Mirvis, 1981). Lippitt (1978) defined QWL as referring to the degree to which work provides an opportunity for an employee to satisfy personal needs such as surviving with some security, interacting with others, having a sense of personal usefulness, being recognized for achievement, and having the opportunity to improve one's skills and knowledge. According to Lawler and Mirvis (1981), an integrated view of QWL focused on characteristics of the organization, the workplace and the work itself that influenced employee satisfaction, well being, and behavior on and off the job.

Organizational design and effectiveness and the use of QWL programs has been a topic of research (Bohlander, 1979; Goodman, 1980). Bohlander (1979) believed that quality of work programs are designed to improve the nature of work while contributing to organizational effectiveness and efficiency. He reported that quality of work programs are intended to satisfy the intrinsic needs of the employee. Examples of quality-of-work programs discussed by Bohlander include: flextime, job enrichment, management by objectives, job rotation and job enlargement. The purposes of these programs were to improve

productivity, update management practices, and reduce absenteeism, turnover and morale problems. Bohlander believed that there are three problem areas that cause QWL programs to fail: managerial attitudes, union influences, and the restrictiveness of industrial engineers.

Success of QWL programs was to overcome the problem areas. To alleviate problems of managerial attitudes, the organization must: assess managerial assumptions about employees, determine management leadership style, evaluate the organizational attitude toward job change program, evaluate superior-subordinate relationship and determine how aware management is of the program. To alleviate union influence, the organization must assess the current union-management relationship, involve the union in planning, share cost saving gains with employees and make any contract changes before implementing the program. Finally, to overcome the restrictiveness of industrial engineering the organization should: establish measurable criteria, monitor program progress through a pilot study and allow it to run three to six months and expand the program to other employees on a selective basis.

Goodman (1980) believed that QWL projects were based on two definitional characteristics: to restructure multiple dimensions of the organization and to institute a mechanism that introduces and sustains change over time. According to Goodman, restructuring multiple dimensions of the organization means that the change effort attempts to change the organization as a total system rather than just one of its parts. The purpose was to provide greater democratization of the workplace, greater control for the worker over his or

her environment and greater joint labor and management problem solving. The second characteristic, mechanism for change, meant that a mechanism internal to the organization was created to diagnose organizational problems, introduce changes, monitor the changes, and make adjustments. The purpose was to institutionalize the process of change.

According to Goodman (1980), the reason why QWL programs did not remain in effect over a period of time was because: the sponsors left no mechanism to socialize new QWL members, lack of feedback, conflict between QWL and non-QWL parts, unbound contacts, conflict in work values, lack of total commitment, decrease in attractiveness of reward, sudden changes in demand and problems created by the QWL project with the union.

As president of the Work in American Institute, Rosow (1981) believed that factors contributing to, or influencing, the QWL over the next decade will be far greater in number as well as significance, than during any other period in the nation's history. In discussing the emerging trends and their probable impact on productivity and the QWL during the decade of the 1980's, he identified seven critical issues most important to track. These issues included: pay, employee benefits, job security, alternative work schedules, occupational stress, participation, and democracy in the workplace.

Rosow (1981) reported that pay ranked high on any list of employee expectations with 77 percent citing "good wages" as the most important aspect of the job. More and more employees also felt economic participation as having a "piece of the action" an important part of their work package. They now feel that benefits and job security, once part of the bargaining process, are fundamental to QWL for individual

employees. Also, alternative work schedules have become an important QWL issue. In the 1980's, it was anticipated that increased applications of alternative work schedules in the American workplace will become more prominent. Occupational mental health programs to deal with stress are beginning to emerge as an important aspect of working life. Rosow (1981) stated:

> The cost of ignoring occupational behavior-medical problems are reflected in absenteeism, excessive use of sickness and accident benefits, on-the-job accidents, low productivity, high medical insurance premiums, and other more subtle symptoms (p. 46).

Most Americans felt they had a right to worker participation. Rosow (1981) reported that in 1977, 54 percent of the American public stated that they felt they had a right to take part in decisions affecting their jobs. This issue also tied in with democracy in the workplace. American workers expect conditions within the workplace to be compatible with political and social conditions in other aspects of their lives.

In summary, why do we measure QWL? According to Likert (1967), the performance and output of an enterprise is entirely dependent upon the quality of the human organization and its ability to function as a tightly knit, motivated, technically competent entity. In a 1973 Gallup poll, 50 percent of all wage earners said that they could accomplish more each day, and 60 percent of those stated they could increase their performance by 20 percent (Miller, 1980). This being the case, management was not adequately linking behavior with performance.

The purpose of QWL assessment was to provide means for identifying behavioral problems which were inhibiting performance (Terry and Dar-El,

1980). Terry and Dar-El (1980) stated that production was highest in an organization in which groups were encouraged to utilize creative potential to seek out problems and assist in solutions. In a time of increased labor costs, decline in productivity, possible increased unionization and high absenteeism and turnover, it behooves an organization to better understand the worker, his needs, goals and satisfaction.

The development of this research instrument to meet the criteria from the QWL literature review was based on dimensions developed by Bowditch and Buono (1982) in their text, Quality of Work Life Assessment. They considered the following as QWL dimensions: overall organization (feelings and commitment), compensation issues (pay and benefits), job security, management (policies), immediate supervisor (relations with), advancement issues, co-worker and interpersonal relations, the job itself (characteristics, demand, and satisfaction). These dimensions were found to be comprehensive enough to include any aspects of QWL and its surrogate measurements, and appropriate to use with the educational level of the sample chosen for this study.

Job Satisfaction

Work occupies a large percentage of the waking hours of most Americans. The quality of life of most workers is influenced by the nature of that employment. The reactions of workers to their jobs alter their perceptions and self-esteem. To most, work is one of the key elements of their lives. A changing technology and an economic environment less orientated to growth have placed the worker in an increasingly stressful environment. In order to promote a better

quality of life for workers, researchers have focused considerable energy on understanding the complexities of work. The level and determinant of job satisfaction have been a central emphasis in such research (Hopkins, 1983).

Recent trends in work (Rambo, 1982) indicate that a growing number of individuals want jobs that satisfy personal objectives and provide them with something more than adequate wages and/or reasonable prospects for advancement. They want work that is socially meaningful, psychologically fulfilling, makes a positive contribution to the community, and permits personal growth and utilization of individuals talents. People tend to seek jobs that permit them to achieve some sense of identity and purpose.

Job satisfaction has received a great deal of attention as an important characteristic of work behavior. In fact, according to Hopkins (1983):

> For over 50 years job satisfaction has been the focus of repeated study. In 1935, Hoppock could already point to and review 32 prior studies of job satisfaction. By 1972 Kahn estimated there were over a thousand studies of job satisfaction relative to work. It has been treated as both independent and dependent variables. As an independent variable, job satisfaction is seen as the cause of other phenomena such as productivity and motivation. As the dependent variable, job satisfaction is seen as being caused by other conditions such as the nature of the job and individual characteristics (p. 19).

Since job satisfaction is considered to be a surrogate measure of QWL (Lawler and Ozley, 1979; Goodman, 1980), a review of literature in this area is considered essential. The literature review will have two parts: job satisfaction in general and job satisfaction of dietitians.

Job Satisfaction in General

There are many reasons why we study job satisfaction. Understanding job satisfaction so that productivity can be increased has underlaid most studies of job satisfaction. The original motives for seeking the enhancement of job satisfaction have changed over the years. In early research, job satisfaction was often linked to productivity, turnover and absenteeism (Kerr, 1948; Webb and Hollander, 1956, Ross and Zander, 1957). As time progressed, however, researchers had mixed results in establishing a linkage between productivity and job satisfaction (Vroom, 1964; Ronan, 1970), and the direction of job satisfaction research was altered. Job satisfaction was now studied as a dependent variable rather than as an independent variable (Salancik and Pfeffer, 1977). Job satisfaction was not considered as an indicator of the quality of work life (Kahn, 1972).

Since job satisfaction is rarely dealt with conceptually (Locke, 1969), the definition of job satisfaction is most often implied from its measurement. With the exception of some recent literature on job satisfaction as an indicator of the quality of life, most research studies have relied on a need-satisfaction model. Basically, the need-satisfaction model assumes that individuals have stable needs that are identifiable and that jobs have stable and identifiable characteristics. Some have argued, however, that these basic assumptions of the need-satisfaction model are questionable (Salancik and Pfeffer, 1977).

The most widely known research dealing with needs is the work of Maslow (1954). His finding has remained central to much of the need-satisfaction research, despite lack of empirical verification (Roberts and Glick, 1981). Roberts and Glick (1981) criticize the

use of growth-need measures because no account is taken of the expected job responses to those with low-growth needs. Modifications were made in the need-satisfaction model that acknowledge different strengths of needs in individuals (Vroom, 1964; Hackman and Lawler, 1971) and different individual expectations from jobs (Argyris, 1973).

There are numerous ways to measure job satisfaction, and many studies are not measuring the same phenomena (Wanous and Lawler, 1972). Seashore and Taber (1975) believe that no single desirable measurement exists. There are two basic types of job satisfaction measurement. The most common is referred to as the facet-free measurement of job satisfaction (Kalleberg, 1974). The employee is asked directly, "How satisfied are you with your job?" It is considered the common sense approach to measuring job satisfaction. In responding to the facet-free questions, individuals are likely to consider a variety of different aspects of their job and provide their own means of summarizing these into a single response (Seashore and Taber, 1975).

The second type of job satisfaction measurement is called the facet-specific measurement (Hackman and Oldham, 1975). Facet-specific measure asks the respondent to assess his/her satisfaction with job facets. The responses are then combined in one of a number of ways. Faceted-measurement job satisfaction has the advantage that it coincides with the multidimensional character of job satisfaction, provides comparability across the respondents, and permits a degree of control and direction by the researcher (Seashore and Taber, 1975).

The nature of the environment within which individuals work and the nature of the work itself are critical components of job satisfaction. All work exists within overlapping environments, one

of which is the work situation (Hopkins, 1983). The environmental studies seek to define the work situation by identifying components of the work environment that may affect something else, usually job satisfaction or productivity (Porter and Steers, 1973). In most studies involving the work situation is a need-satisfaction model (Hackman and Lawler, 1971). Job attitudes are portrayed by a degree of satisfaction and are linked to individual needs (Maslow, 1954), the nature of the job, and to the larger work environment.

Recent focus of research has changed from seeking increased productivity to seeking improvement of the quality of the worker's life. This is reflected in many studies that focus on job redesign or job enlargement in order to maximize satisfaction or motivation (Lawler, 1969; Hackman and Oldham, 1980). Also, Oldham and Hackman (1981) examined the impact of the organizational structure on job satisfaction.

The work situation is considered to have two basic areas: job characteristics and job environment (Porter and Steers, 1973). Job characteristics include such factors as repetitiveness, variety, autonomy, skill levels, and co-workers. The job environment provides the context within which the job is performed and is determined by attitudes and actions of others (Hopkins, 1983). The job environment includes such factors as compensation, supervision, promotions, working conditions, discrimination and unionization.

The measurement of job characteristics originated with the work of Turner and Lawrence (1965). Measurement instruments have been frequently used: The Job Diagnostic Survey (Hackman and Lawler, 1971; Hackman and Oldham, 1975, 1980) and to a lesser extent, The Job Characteristics Inventory (Sims, Szilagyi, and Keller, 1976).

The Job Diagnostic Survey (JDS) (Hackman and Oldham, 1975, 1980) was developed to evaluate the redesign of current jobs, to increase output and motivation of workers, and to assess the effects of these changes on personnel. The JDS encompassed the relationship between job characteristics (skill variety, task identity, task significance, and autonomy) and several outcome variables (general satisfaction, internal work motivation, and satisfaction with growth opportunities). It also incorporated several moderating variables (job security, pay, relations with co-workers, nature of supervision, and individual growth needs) which were presented as influencing the relationship between job characteristics and the outcome variables. Also measure of critical psychological states were provided. These included: experienced meaningfulness of work, experienced responsibility for work outcomes, and knowledge of results of work activity. A seven-point response scale was used with blue collar, white collar and lower level managerial personnel. The instrument generally disgnosed a group of individuals in a similar job rather than the job of a single individual.

The Job Characteristics Inventory (JCI) was developed by Sims, Szilagyi, and Keller in 1976. This instrument measured six job characteristic dimensions: variety, autonomy, feedback, dealing with others, task identity, and friendship. A five-point Likert scale was used. The instrument was tested for reliability, construct, convergent, and discrimant validities. The JCI was used in a study of registered nurses in the state of Iowa (Brief and Aldag, 1978).

The measurement of job environment most commonly used was the Job Descriptive Index (JDI) developed by Smith, Kendall, and Hulin

(1969). It has been utilized extensively as an attitude measure in organizational research. The JDI measures five facets of job satisfaction: work itself, pay, opportunity for promotion, supervision, and relationship with co-workers. Participants are asked to respond with a "yes", "no", or "cannot decide". Because of the simple vocabulary, it could be self-administered, and only low level reading ability is necessary. Yet, the JDI was found to be stable over time and applicable to employees with different demographic characteristics (Hopkins, Vaden, and Vaden, 1979). The JDI has been used extensively in business and the public sector (Hulin, 1968; Blood, 1969; Sims, Szilagyi, and Keller, 1976) as a research tool and a diagnostic indicator. The JDI structure seemed stable across some occupational groups (Smith, Smith, and Rollo, 1975) and relied basically on white, industrial workers. It was also a popular measure among dietitians. Broski and Cook (1978), Calbeck, Vaden, and Vaden (1979), Agriesti-Johnson and Broski (1982), Leche (1984), and Taylor (1984) all have used the JDI with dietitians.

The final literature review area dealt with job satisfaction and the individual worker. The individual orientations that may affect a worker included: psychological orientations, job orientations, and personal attributes (Hopkins, 1983). Psychological orientations contained two components: an individual's general view of his ability to control, direct or influence his life and job (life view) and the relative importance of his job or his employer to his own life (organizational commitment).

An individual who had a positive life view seemed more likely to feel positively about his job and its environment than one who had a

negative life view. Also, identification with or commitment to one's job seemed likely to predispose an individual to greater job satisfaction (Hopkins, 1983).

Life view was thought to be akin to personality characteristics (McGregor, 1960; Likert, 1967; Katz and Kahn, 1978). Life view was considered an extent to which an individual felt he could control his life and acted as a frame of reference for an individual in evaluating his job. Life view was expected to relate positively to job satisfaction. Hypothesizing a positive relationship between job satisfaction and life view was consistent with an assertion by Argyris (1973) that only an individual who showed a high degree of self-direction in setting his own goals and following through on them felt successful on his job.

Organizational commitment was shown to have a positive relationship with job satisfaction. Porter and Steers (1973) found that as self-identification with a job increased, turnover was likely to decrease. It was revealed that workers who gave a high priority to their jobs and/or occupations seemed likely to do so for a prolonged period of time only if their jobs were relatively satisfying or had the hope of becoming more so. If the job was rated highly and job satisfaction was low, tension and dissonance might result (Morris and Steers, 1979). Morris and Steers (1979) believed that organizational commitment was positively associated with age.

In addition to psychological orientation, job orientation affected the individual and job satisfaction. Four individual job orientation characteristics included: occupational status, occupational mobility, length of service, and education (Hopkins, 1983). According to

Hopkins (1983), each characteristic reflected the individual's past interaction with some other factor such as family, schooling, or job that potentially could condition or predispose the individual toward his/her current work.

Occupational status was a much studied individual orientation. General occupational status has been found to be positively related to job satisfaction (Litterer, 1965). Herzberg (1959) found in 17 of 18 studies that occupational status was positively related to job satisfaction. In another survey, Vroom (1964) noted constantly that occupational status was positively related to job satisfaction. It could be expected that higher status jobs generally carry with them greater variety and wider responsibility, which have been found to promote greater satisfaction.

Occupational mobility also was expected to be positively related to job satisfaction (Presthus, 1962). If an employee was downwardly mobile, the individual may be experiencing unmet aspiration and frustration and, consequently, a lower level of job satisfaction. Form and Geschwender (1962) found that if upward mobility occurred, then an individual would seem more apt to be satisfied. In their survey of manual workers, they found that individuals who felt they had achieved an occupational level equal or higher than that of their parents exhibited higher satisfaction.

A third job orientation factor also was expected to be positively related to job satisfaction and this was length of service (Herzberg, 1959). Herzberg (1959) found that in the 17 studies that looked at length of service, eight found that as job tenure increased, job satisfaction also increased. A more recent study (Kilpatrick, Cummings,

and Jennings, 1964) that incorporated length of service has found that new employees had different levels of job satisfaction. Those in the middle periods exhibited low satisfaction, while those in the long-service displayed high levels of satisfaction.

Education as the fourth job orientation characteristic has been found to positively (Weaver, 1980) and negatively relate to job satisfaction. In a recent study of 4,000 employees, Weaver (1980) found a positive relationship between education and job satisfaction. On the other hand, Herzberg (1959) had mixed findings. He felt that there was some tendency for education levels to be inversely related to job satisfaction. Higher education levels tended to decrease the likelihood of job satisfaction. It was presumed that increased education heightens job expectations.

The third dimension of individual orientation was personal attributes as it acts as a surrogate measure of job satisfaction (Seashore and Taber, 1975). The three personal attributes found to be important to job satisfaction are age, sex, and race. Research indicated that age was positively related to job satisfaction (Herzberg, 1959). Rousseau (1978) and Weaver (1980) stated that as an individual aged, his or her likelihood of being satisfied was greater than at a younger age. They felt this relationship may be the result of the individual adjusting to the increased difficulty of alternative employment or that one's expectations alter with maturity. Also, it was suggested that being female may be positively related to job satisfaction (Miller, 1980) while being non-white may be inversely related (Konor, 1981). Miller (1980) found that sex differences existed on those work situation factors most related to

job satisfaction. Konar (1981) found that non-whites might be expected to be less satisfied than whites since previously low expectations seem to have risen since the civil rights movement. Lower level of satisfaction could be produced by increased expectations and employment discrimination.

Job Satisfaction of Dietitians

There has been a growing interest in the area of job satisfaction of dietitians in the United States (Agriesti-Johnson and Broski, 1982). In fact, several studies analyzing job satisfaction of dietitians Tansiongkun and Ostenso, 1968; Myrtle, 1978; Broski and Cook, 1978; Calbeck, Vaden, and Vaden, 1979; Stone, Vaden, and Vaden, 1981; Agriesti-Johnson and Broski, 1982; Leche, 1984; and Taylor, 1984) and nutritionists (Vermeersch, Feeney, Wesner, and Dahl, 1979) have been found in the literature.

The most recent surveys dealt with QWL and job satisfaction and were conducted by Leche (1984) and Taylor (1984). Leche studied the QWL of 400 dietitians with management responsibilities in the health care delivery system. The research instrument was a modified long version of the Job Descriptive Index (Smith, Kendall, and Hulin, 1969). Leche found that consultants, others, and directors thought more positively about their work than did generalist dietitians. Dietitians in larger institutions and in less conventional settings tended to be more challenged with their jobs than those in traditional settings. Older dietitians seemed happier and more content with current pay and benefits. Dietitians with administrative titles in

larger institutions thought more positively towards their colleagues and their organizations than did those in smaller facilities or non-traditional settings.

Taylor (1984) assessed the QWL of dietitians in business and industry. The research instrument, similar to Leche (1984), was a modified, long version of the JDI (Smith, Kendall, and Hulin, 1969). Taylor found the dietitians in business and industry, overall, seemed to be very happy with their quality of work life--with the possible exception of opportunities for promotion. Respondents seemed satisfied with the company, pay and benefits, people on present job, and jobs in general. They also seemed very happy with the supervision received on their present job.

One of the older studies of job satisfaction of dietitians was conducted by Tansiongkun and Ostenso (1968). They surveyed 125 hospital dietitians with respect to how important they felt the 15 psychological needs were and the degree to which these needs were met or not met in their positions. The instrument used was Part I of the Management Position Questionnaire developed by Porter (1961). It assessed how well the dietitians' positions met five categories of psychological needs: security, social, esteem, autonomy, and self-actualization. Results indicated that: (a) vertical positions on the organizational ladder were important in assessing the psychological needs, (b) job dissatisfaction was more critical with administrative and therapeutic dietitians than with chief or only dietitians, and (c) greater gaps between managerial levels were indicated when classified by type of hospital control and volume of daily operations than by age or years of professional experience.

Myrtle (1978) reported on job satisfaction among California administrative and clinical dietitians. A small sample (N = 69) of dietitians was asked what they liked the most and the least about their jobs and what were the toughest problems they faced on the job. Myrtle indicated that dietitians enjoyed the parts of their jobs that require interaction, patient interaction, or working with people. Conversely, managing people and routine duties were the most frequently mentioned as items disliked. Clinical dietitians felt that "lack of status" and "receiving professional acceptance" were two of their toughest problems, while administrative dietitians mentioned "using time effectively" as their problem area.

Broski and Cook (1978) conducted a study comparing the job satisfaction of allied health professionals. The four groups investigated were: medical dietitians, physical therapists, occupational therapists, and medical technologists. The goal of the investigation was to determine how allied health professionals felt about their jobs generally, and about specific job facets, in particular. The subjects were graduates (1971-76) of the 11 baccalaureate programs of The Ohio State University School of Allied Medical Professions.

The instrument used in this study was the JDI (Smith, Kendall, and Hulin, 1969). Researchers found that dietitians scored the lowest total satisfaction and the satisfaction with all job facets studied except pay was lowest, when compared with the other allied health groups. The researchers also compared the scores with national norms and found that dietitians' scores were in the bottom third of scores of all those with similar levels of education.

A study of hospital dietitians comparing selected demographic variables and job satisfaction and work values was conducted by Calbeck, Vaden, and Vaden (1979). The sample was drawn from ADA members with four specialties: foodservice management, clinical, generalist, and management. The research was limited to dietitians (N = 323) in nine midwestern states.

The instrument was broken into three sections. The first section obtained biographical information about respondents and employing hospitals. Section two used the JDI (Smith, Kendall, and Hulin, 1969). The third section of the instrument was a work values scale adapted by Swartz and Vaden (1978) from a study of occupational values (Kilpatrick, Cummings, and Jennings, 1964).

They compared the mean JDI scores of the dietitian with the foodservice workers of the Martin and Vaden (1978) research. It was found that dietitians were more satisfied with all components of their jobs, except promotions. Also, the dietitians were found to be particularly satisfied with work itself, co-workers, and pay. The dietitians' overall job satisfaction was greater than that of the foodservice workers. Directors of dietetics (management) were significantly more satisfied with their work than were clinical, administrative (foodservice management), or generalist dietitians.

The foodservice employees viewed and valued several aspects of work differently than did the dietitians. The dietitians had higher drive and ambition and a stronger competitive spirit in relation to their work.

Agriesti-Johnson and Broski (1982) conducted a study to determine the level of job satisfaction of a sample (N = 529) of dietitians in

the United States. Job satisfaction scores were studied in relation to marital status, age, years of employment, place of employment, position, salary, job responsibilities, and dietitian category. The sample (N = 529) included the following categories of dietitians: consultant, clinical, other, general, administrative, community, heads of departments, research, and teachers.

Job satisfaction scores were obtained through the use of the JDI (Smith, Kendall, and Hulin, 1969). When compared with norms (Smith, Kendall, and Hulin, 1969), JDI scores were low and few significant differences were observed between total JDI scores and any of the job-related variables. Subscores did show some differences:

1. "Other" dietitians were significantly better satisfied with work than were clinicians or generalists.

2. Clinical dietitians were significantly better satisfied with supervision than "other" dietitians, consultants, and teachers.

3. Consultants were significantly better satisfied with pay than clinicians or researchers.

4. "Other" dietitians scored significantly higher in satisfaction with promotion than clinicians and researchers.

In general, the respondents were most satisfied with supervision they received and least satisfied with opportunities for promotion.

Productivity improvement and job satisfaction among public health nutritionists was studied by Vermeersch et al. (1979). Thirty-eight nutritionists from state and local health agencies in California attended a workshop in March, 1978. The workshop was on productivity improvement, stress management, and the enhancement of job satisfaction. The objectives were to analyze job-related behaviors to identify time

savers and sources of job stress and to develop strategies for lasting improvement.

The instrument was a work sheet in which nutritionists identified job activities that precipitated dissatisfaction and stress. Then, in a group, they suggested ways in which stress and dissatisfaction could be reduced so that job comfort and excitement could increase. Finally, the group identified general strategies to improve productivity.

Verneersch et al. (1979) discovered that the time nutritionists waste on the job and their potential for productivity improvement overall do not appear to differ from other professional groups. Job dissatisfaction and discomfort were traced to activities that elicit feelings of alienation, rejection, and failure. The researchers recommend possible solutions to job stress and discomfort: role clarification, development of time management abilities, and assertiveness training.

Career of Dietitians

According to Lanz (1983, p. 147), "There has been limited investigation of the selection of dietetics as a career choice and career satisfaction in the profession." It is necessary to review dietetics as a career as well as job satisfaction among dietitians to better understand the environment in which dietitians work.

In a 1981 ADA Courier, the Policy Research Corporation Study reported that in a sample of ADA dietitians, 64 percent were very satisfied with their current positions, 66 percent were very satisfied with their career potential, and 65 percent were very satisfied with their professional preparation. Stone, Vaden, and Vaden (1981)

reported that job dissatisfaction among dietitians has been most evident regarding career prestige, recognition, promotion, and earnings. Some dietitians voiced dissatisfaction with the field because of an unrealistic picture of the profession.

For these reasons, the researcher will review two recent sets of studies dealing with dietitians and careers. The first is a study by Stone, Vaden, and Vaden (1981) dealing with career selection, career motivation, and career of young dietitians. The second study deals with career patterns, interests, aspirations, and continuing education of hospital dietitians in mid-career (Fargen, Vaden, and Vaden, 1982).

Stone, Vaden, and Vaden (1981) reported on career selection and related variables. The sample (N = 395) was limited to women dietitians employed half-time or more and less than 30 years old. The researchers were interested in dietitians in the early establishment stage of their careers, chronological age period of 24 to 29.

The instrument had five parts. Part I included questions designed to measure the following: career selection, career involvement, professional identification, and psychological success. Part II included questions pertaining to professional involvement. Parts III and IV included measures of career satisfaction and components important in a career (Job Dimensions Blank, Schletzer, 1965). Part V was demographic information.

The authors found in the study that young dietitians' recruitment and career guidance are important in making a career selection. Abilities and interest were also indicated as two of the most important influences on career choice.

The young dietitians seemed to have pride in and identification with their profession. The career involvement and psychological success scores indicated that young professionals in dietetics are finding sources of goal achievement and are internalizing them.

In a comparison study, Stone, Vaden, and Vaden (1981) studied the correlation of career motivation and satisfaction among young dietitians in the early establishment stage of their careers. The sample and the instrument were similar to their earlier study. Survey participants (N = 395) were asked to rate important characteristics of a career in dietetics and sources of career satisfaction.

Stone, Vaden, and Vaden (1981) concluded that young dietitians seemed most satisfied with the opportunity to use their abilities to serve others. Autonomy and task variety also appeared to be satisfying aspects of dietetic careers. Dietitians with advanced degrees were less satisfied with their careers than those with bachelor's degrees. The young dietitians were least satisfied with their career prestige, earnings, and promotion. Overall, the career satisfaction of young dietitians appeared to be relatively high.

The second set of studies dealth with hospital dietitians in mid-career (Fargen, Vaden, and Vaden, 1982). The researchers studied career patterns, interests, and aspirations of mid-career hospital dietitians. The sample (N = 367) was limited to women dietitians born between 1932 and 1949, employed half-time or more in hospitals and university medical centers. The authors classified mid-career dietitians as those who have been in the work force more than seven years and have at least 18 years remaining before retirement.

The instrument was broken down into two parts. The first part contained 38 questions related to educational background, professional practice, career interests and plans, and continuing education experience. In the second part, the dietitian was asked to record information about job history and career breaks.

The study found that the dietitians in the three practice areas (administrative, clinical, and general) had the most professional experience in their present practice area. The clinical and administrative dietitians expressed interest in remaining in their present practice areas, while generalists thought of becoming directors or head dietitians. Ultimate professional objectives also tended to be within present practice areas. Large numbers of administrative dietitians were interested in positions outside of the field of dietetics.

A companion study by Fargen, Vaden, and Vaden (1982) examined continuing education experiences and plans of mid-career hospital dietitians from several perspectives. The same sample and instrument were used.

Fargen, Vaden, and Vaden (1982) found hospital dietitians attended seminars or workshops on topics related to their present dietetic practice area. They indicate the dietitians specialized in an area of dietetic practice and attempted to maintain competence by emphasizing that specialization in continuing education.

The dietitians also reflected a relatively strong commitment to continuing education. Two-thirds of those surveyed had either completed the required hours in three years or had made significant progress toward this goal. Two-thirds also held advanced degrees, had

plans for pursuing graduate study, were currently working on a degree, or had taken graduate courses.

Occupational Stress

Another area of literature that provided insights into QWL of dietitians is occupational stress. Cooper and Marshall (1976) in their review of occupational stress identified five sources of stress at work. The first factor included stressors intrinsic to the job such as poor working conditions, work overload, time pressures, and physical danger. A second category of stressors involved aspects of the employee's role in the organization, such as role ambiguity, role conflict, responsibilities for people, and conflicts about organizational boundaries. A third set of stressors is related to career development. This refers to the impact of overpromotion, underpromotion, status, incongruence, lack of job security, thwarted ambition, etc. Another major source of stress at work has to do with the nature of relationship with one's boss, subordinates, and colleagues. A fifth source of organizational stress involves those aspects of the structure of an organization which can make work life either satisfactory or stressful, such as little or no participation in the decision-making process, lack of effective consultation, and restrictions on behavior.

As Cooper and Marshall (1976) indicated, occupational stress is mainly a negative factor in the job environment. This concept supports a majority of the literature (Kahn, Wolfe, Quinn, Snoek, and Rosenthal, 1964; Buck, 1972; House and Rizzo, 1972). Yet a second school of thought indicated that certain types and amount of stress can be of

benefit to an organization (Lazarus, 1966; Selye, 1967; Shontz, 1975; Burke, 1976; Hall and Lawler, 1977).

The Kahn et al. (1964) research indicated that job tension on organizational research was bad. It could result in both decreased job satisfaction and low levels of organizational performance. Role conflict and role ambiguity were defined by the authors as two types of stress and implied that occupational stress should be viewed as a cost or detriment to both the individual and the organization.

The results of the research showed that trust in, respect for, and liking for superiors decreased significantly as stress generated from role conflict varied from high to low. Kahn et al. (1964) found that persons experiencing high stress due to role conflict tend to communicate less frequently with superiors than when low stress conditions existed. Also, persons under high stress attributed less power to their superiors than under low stress. Consequently, the individual was assuming a defensive stand by utilizing a form of withdrawl.

Role ambiguity was considered another negative consequence of organizational stress by Kahn et al. (1964). It was suggested that task ambiguity (a type of role ambiguity) tends to create dissatisfaction with work. The effects of role ambiguity are similar to those of role conflict. In spite of similar effects associated with both role conflict and role ambiguity, it was found that these two types of stress occur independently of each other.

In Buck's (1972) view of occupational stress, he agrees with that of Kahn et al. (1964). He concedes that some amount of stress may be beneficial to the individual and organization, however, stress is

basically dysfunctional. He felt the word "stress" could have been used instead of "pressure" as the variable of investigation in the study. Pressure was chosen because employees of this study used the term in discussing their work experiences.

Buck (1972) looked at the relationship between job pressure (stress) and job satisfaction and mental health. The results indicated that job pressure and job satisfaction were negatively related. The relationship between job pressure and mental health was not clear because there was a significant negative relationship for workers but not for managers. Buck (1972) concluded the only clear benefit to the organization of job pressure would be if workers produced more or performed better. It could be shown that there is little to recommend having employees work under pressure.

House and Rizzo's (1972) review of occupational stress is similar to that of Kahn et al. (1964) and Buck (1972). Their research on role conflict and ambiguity was just an extended version of the original findings.

The second school of thought on occupational stress discovered stress to be both good and bad. In Burke's (1976) research, he found two categories of stress: functional and dysfunctional. For the functional category, three occupational stresses were used by Burke (1976) that were associated with a challenging job or good organizational expectations of the employee. The three stresses included having an excess of responsibility, perceiving oneself as not qualified and having an excessively large work load. Also, making decisions that affect the lives of others was the last occupational stress that fit

the functional category. The researcher found these stresses to be positively related to job satisfaction.

The dysfunctional occupational stresses that were positively related to job dissatisfaction include:

1. Lack of organizational support
    a. Lack of information about job duties
    b. Promotional opportunities
    c. Standing with one's boss
    d. Lack of information needed to do the job properly
2. Lack of control over the work situation
    a. Too little job authority
    b. Too little influence with one's boss
3. Job pressure
    a. Some may get the job the individual wants
    b. Slow job progress
    c. Feeling unreasonable pressures for improved job performance

Hall and Lawler's (1971) research relating to job pressures support the work of Burke (1976). They noted that humans have a need to experience internal pressues (stress). They found that if an individual lacked necessary stimuli from the extenal environment, a person will extend an effort in an attempt to create the needed internal pressure (stress).

Three types of job pressure were examined in the research. They included time, quality, and financial responsibility and their relationship to individual satisfaction, involvement and organizational performance. Quality pressure was related positively to both job involvement and technical effectiveness. Financial responsibility

pressure was significantly correlated with technical effectiveness and satisfaction. Finally, time pressure was found to be unrelated to the effectiveness and attitudinal measures. Where time pressure existed, effectiveness, satisfaction, and involvement were high, while others were low.

Selye's (1967) research findings were compatible with the others. Through physiological experiments, the author concluded that a person's life experiences can be classified as either pleasant and healthy or unpleasant and damaging. Selye stated that an extremely pleasant experience can produce as much stress in body changes as an extremely unpleasant experience. On the other hand, the stress generated from a pleasant experience can occur without producing harmful effects, whereas the opposite is true for stress (distress) generated from an unpleasant experience.

Selye (1967) also felt there is a threshold level of stress. The study suggested that it is not adequate merely to classify a stress as either good or bad, but one should consider that the amount or level at which the stress is occurring can be functional or dysfunctional.

Shontz (1975) and Lazarus (1966) found that no two people respond to stress in exactly the same manner. A person may be calm externally, while internally he is extremely upset. The opposite may be true; a person may show an upset behavior, while on the inside may be calm. Confronted with a stressful situation, one person may show an improved ability to concentrate, whereas another becomes distracted and unable to organize his thoughts. Individuals, according to the researchers, may show different body changes, heart rates, skin responses, or respiration in response to stress. It is obvious that utilizing this

knowledge of individual responses to stress will enable management to increase job satisfaction and performance.

Three occupational groups (hospital nurses, educational administrators, and dietitians) were studied in their relationship to occupational stress. Vredenbargh and Trinkaus (1983) studied an analysis of role stress among hospital nurses using a sample of 566 nurses from four urban hospitals. The study focused on role stress, conceptualized in terms of role conflict, uncertainty about acceptance of one's behavior by supervisors and peers, and role ambiguity.

The results of the survey indicated that individual attributes, education, locus of control, and professional commitment predicted role stress as did work content variables and leadership sensitivity. Interaction effects on individual performance were discovered between role-stress variables, education, feedback from others, and leadership sensitivity.

Tung (1980) studied male and female educational administrators. The study sought to compare the occupational stress profiles of male vs. female educational administrators to determine whether there were significant differences in their profiles and to examine whether males and females were equally good candidates for administrative jobs, which are positions often associated with a high degree of job-related stress.

The instrument was the Administrative Stress Index developed by the authors of the Job-Related Stress Index (Indik, Seashore, and Slesinger, 1964). The sample (N = 1,156) was from the membership of the Confederation of Oregon School Administrators. One hundred eight respondents were female.

The results indicated that women administrators experienced lower levels of self-perceived occupational stress than their male counterparts on all factors. The women administrators had lower levels of stress with respect to boundary-spanning stress and conflict-mediating stress, both of which related to stress arising from the management of the organization-external environment interface.

Agriesti-Johnson and Miles (1982) studied occupational stress among dietitians. The researchers compared role ambiguity and role conflict with job satisfaction among dietitians.

The study's sample and instrumentation were from a previous study (Agriesti-Johnson and Broski, 1982). Additional items on the instrument included four questions related to role ambiguity, five related to role conflict, one related to general job satisfaction and one related to reason for staying in a position which is not satisfying. The role ambiguity and role conflict items were adapted from a role concept scale developed by House and Rizzo (1972).

The results of the study indicated that role ambiguity scores for all dietitians were consistently low. General dietitians scored significantly higher in role ambiguity than dietitians who were heads of departments and dietitians in the other private practice group. Role conflict scores were considerably higher for all dietitian groups than role ambiguity scores. For most groups role conflict scores were slightly higher than mid-point. Generalist dietitians scored significantly higher in role conflict than did six other groups of dietitians. There was no significant correlation between role ambiguity or conflict and job satisfaction.

CHAPTER III

METHOD

Quality of work life is not a new concept in the world of work. As a measure it has been used in all professions with the exception of health care. Very few studies have been conducted to investigate the quality of work life of dietitians (Leche, 1984; Taylor, 1984). The purpose in this study was to assess the quality of work life of professional or technical and managerial women. Specifically, Oklahoma dietitians were asked how they felt about job conditions, stressful working conditions, work related stressors and mediators, coping with stress and health effects and medical conditions as related to stress. Then their responses were compared with results of a national study on professional or technical and managerial women. Details concerning the research design; population and sample; data collection, which included planning and development, development of the instrument, the instrument, and survey procedures; and data analysis were included in this chapter.

Research Design

The descriptive status survey was the research design used to meet the objectives of the study. Descriptive research "involves the description, recording, analysis, and interpretation of conditions that exist. It involves some type of comparison or contrasts and attempts to discover relationships between existing nonmanipulated

variables" (Best, 1981, p. 25). Descriptive surveys describe a specific set of phenomenon at one point in time (Fox, 1969). Joseph and Joseph (1979) described descriptive research as that which systematically describes a situation, area of interest, a series of events, opinion, attitudes, or other variables or set of variables in a factual and accurate manner. They believe that descriptive research is based on data collected from a representative sample without bias. Descriptive survey was selected for this study in order to reach a broad view of professional, technical, and managerial dietitians working in various sizes and types of health care facilities as well as other types of dietetic practitioners.

Population and Sample

The population used in the study was the total membership listing of the ODA (N = 476). Males (N = 16) were, however, eliminated because the comparison sample from the national study did not have males. Also, technician and associate ADA members were eliminated, hence the research sample only included active members of the ODA. Generalization of the results was limited to active ODA members. The comparison sample from The 9 to 5 National Survey on Women and Stress (henceforth written as the National Women and Stress Survey) (N = 40,171) was drawn from readers or subscribers of four national monthly magazines: Essence, Glamour, Ms. and Working Woman. From the total responses to the survey a smaller sample (N = 5,207) was selected randomly by Signet Research, Inc., of Clifton, New Jersey. Then, Essence was oversampled to ensure that the survey sample would include 20 to 25 percent black women respondents. Hispanic and Asian readers were too few to be

considered and were eliminated. The occupations used by this researcher included only professional or technical and managerial (N = 2,843).

Data Collection

Planning and Development

Planning and development began in the fall of 1984 and continued through the spring semester of 1985. Data collection procedures were determined and data analysis techniques appropriate to research hypotheses were selected at this time.

Development of the Instrument

The National Association of 9 to 5 Working Women (1983) (henceforth will be written as 9 to 5) has a three year background in health and safety issues, especially as related to women in work. In the late 1970's, they became aware of the increasing complaints among members of job related health and safety concerns. Upon investigation, they learned that very little research existed on these issues for the occupational group.

In 1980, they approached the Occupational Safety and Health Agency (OSHA) about the situation. Because of their unique ability to reach women workers, OSHA's New Directions Program funded 9 to 5 to conduct a health and safety survey among office workers. In late 1981 and early 1982, the association surveyed women in Los Angeles, California, and Baltimore, Maryland. Results of this health and safety survey were presented by Gregory (1983) at the National Institute for Occupational Safety and Health (NIOSH) conference in 1982 and were published in its Proceedings.

The response to the health and safety survey narrowed the issue focus for the association and stress emerged as the leading complaint. Interested by the depth of the stress that respondents reported, 9 to 5 developed a third survey, specifically on stress. It was distributed in Boston and Cleveland as the forerunner of the "National Women and Stress Survey". As a result of the information uncovered by the three surveys, NIOSH urged the association to undertake a more comprehensive survey on stress. Additional funds were obtained from Avon Products, Inc., the American Express Foundation, and the Polaroid Foundation, Inc.

The National Women and Stress Survey was initially designed by Gregory, who was then the 9 to 5 director, in consultation with a group of stress researchers. The survey instrument was drawn from a number of previously existing surveys relating to occupational stress and life events. The survey instrument will be distributed to other groups for future research projects.

Many authorities and experts directly contributed to, advised on, and/or reviewed the National Women and Stress Survey including the survey's preliminary version and subsequent revisions. In addition, the survey was reviewed by a statistician and computer analyst. Most of the following individuals who helped in the preparation of the survey also served as a panel of advisers to the data evaluation team when survey results were analyzed:

1. Dr. Michael Smith and Barbara Cohen, Stress Sections, Division of Behavioral and Biomedical Science, NIOSH

2. Dr. Suzanne Haynes, Department of Epidemiology, University of North Carolina, Chapel Hill

3. Dr. Jeanne Stellman, Executive Director, Women's Occupational Health Resource Center, School of Public Health, Columbia University, New York

4. Dr. Robert Karasek, Department of Industrial Engineering, Columbia University, New York

5. Dr. Gloria Gordon, Women's Occupational Health Resource Center, School of Public Health, Columbia University, New York

6. Margaret Quinn, School of Public Health, Harvard University, Cambridge

7. Dr. Chaya Piotrkowski, Department of Psychology, Yale University, New Haven

The National Women and Stress Survey measured four general categories of stress and coping mechanisms: psychosocial stressors in the workplace, coping or moderating methods, strain indicators, and background information. The instrument (Appendix A) included:

Section I

I. Psychosocial stressors and moderators in the workplace

1. Job demands and job conditions
2. Work relations/social support
3. Characteristics of employees
4. Job changes
5. Job characteristics
6. Office automation

Section II

I. Coping

1. Coping mechanisms

II. Strain indicators

1. Strain symptoms: mental and physical

2. Health history

III. Background information

1. Standard demographics

2. Job history

The National Women and Stress Survey was printed in four national monthly magazines: Essence, Glamour, Ms., and Working Woman in their 1983 issues. Vogue magazine announced and encouraged readers to write to 9 to 5 for copies of the survey. A total of 40,171 surveys were received by September 30, 1983. The total pool of responses was broken down by magazine readership: 33.6 percent Glamour (N = 13,497); 16.7 percent Essence (N = 6,709); 13.1 percent Working Woman (N = 5,262); 36.3 percent Ms. (N = 14,582); and 0.3 percent Vogue (N = 121). Vogue's total response (N = 121) was deleted since it was considered statistically insignificant.

A random sample (N = 5,207) was drawn by Signet Research, Inc. Data entry was verified at 100 percent. In "cleaning" the data base prior to analysis, a small number of respondents were deleted to remove statistically insignificant groups of respondents. Those deleted included: 18 male respondents; respondents age 15 or less; respondents with yearly personal salary of $99,000 or higher; and respondents with illogical responses.

The Instrument

The research instrument chosen for this research was The 9 to 5 National Survey on Women and Stress (1983) (Appendix A). Dr. Lea Ebro

was approached by the National Association of 9 to 5 Working Women to apply for a grant to investigate QWL and occupational stress using the 1983 national survey on stress data. Once the grant was awarded, a data base of 5,207 responses was forwarded for analysis. The researcher, in consultation with his research committee, decided to use the national stress survey instrument with a few modifications based on the existing QWL studies at Oklahoma State University (Leche, 1984; Taylor, 1984).

The research instrument is a five page questionnaire with additions and deletions (Appendix B). Additions included information pertaining to dietitians. Deletions included questions pertaining to home life. The survey consisted of multiple choice questions, check-lists and short answers.

The questionnaire is divided into three sections. Section one contains questions about relevant demographic information similar to the QWL with dietitians (Leche, 1984; Taylor, 1984). Section two contains questions about conditions of the job. Section three contains questions about work related stressors, mediators and health effects. The research instrument was examined for content validity, clarity and format by a panel (N = 14) consisting of members of the ODA in Stillwater, Oklahoma, and a faculty member of the Department of Statistics at Oklahoma State University.

Survey Procedures

A cover letter (Appendix C) was developed to accompany the instrument explaining the research and providing instructions for completion of the questionnaire. The cover letter and questionnaire were printed on goldenrod bond paper and reproduced at the Oklahoma

State Engineering Duplicating Services. The questionnaire was folded into thirds and stapled shut with address labels purchased from ODA visible. They were mailed third class, and business reply mail was utilized on the return mailing; payment was made on returned questionnaires only. The 476 questionnaires were mailed on April 1, 1985, and respondents were asked to return them on or before April 15, 1985. Because the researcher sent the questionnaires third class, a large majority of the sample did not receive their survey in time to reply. To facilitate the situation the researcher included a memo (Appendix D) in the registration packets of the spring meeting of the Oklahoma Dietetic Association on April 16, 1985. As a result, 34.6 percent of the replies were received by May 1, 1985. On May 1, the researcher sent a second mailing using the names of non-respondents. The total response (N = 202) was 42.2 percent.

Data Analysis

The collected data were transcribed and processed onto computer worksheets, then directly onto the IBM terminal (Series 3103-20) using the time sharing option (TSO). The interaction allowed the user direct access to the mainframe computer (IBM 3081D). Appropriate programs were selected to analyze the data using the Statistical Analysis System (SAS) (Helwig, 1979). Standard statistical procedures including frequency tables, t-test, analysis of variance (ANOVA), Duncan's Multiple Range Test, and Pearson Product-Moment Correlation were used to analyze the data (Steel and Torrie, 1980).

CHAPTER IV

RESULTS AND DISCUSSION

The purpose of the investigator of this study was to assess the quality of work life of professional or technical and managerial women. Data were obtained using the research instrument described in Chapter III, "Methods". The questionnaires were mailed to 476 members of the Oklahoma Dietetic Association. Total response from ODA members was 42.4 percent (N = 202). Six questionnaires were eliminated due to lack of information. One hundred ninety-six questionnaires were usable for complete or partial analysis.

Characteristics of ODA Respondents

Sex, Age, and Marital Status

Ninety-eight percent (N = 193) of the respondents were female, while the remaining two percent (N = 3) were males. Twenty-seven percent of the respondents were in the 30 or under (N = 53, 31 to 40 (N = 53), and 41 to 55 (N = 54) age group. The remaining 18 percent (N = 36) were 56 and older. Figure 1 illustrates the age group distribution of ODA respondents. Seventy-two percent (N = 138) were married, 11 percent (N = 20) were single, and the remaining 17 percent (N = 33) were either divorced, separated, or widowed.

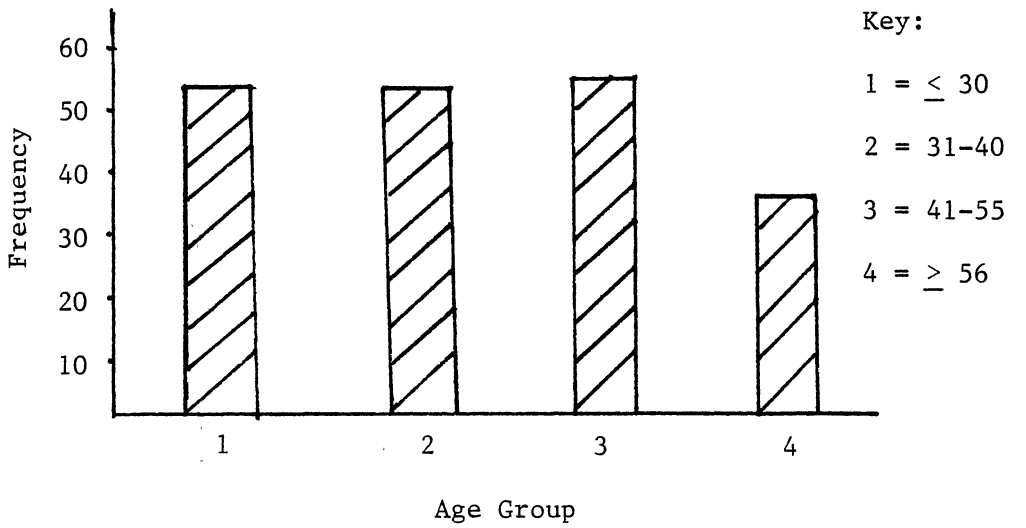


Figure 1. ODA Members by Age Group

Highest-Level Degree Obtained and Major

Thirty-six percent (N = 70) of the respondents had obtained an advanced degree, while only 64 percent (N = 126) had earned a bachelor degree. Of those who achieved bachelor degree status, 31 percent (N = 60) did not list major, 27 percent (N = 52) majored in dietetics, 29 percent (N = 57) majored in foods and nutrition, and the remaining 13 percent (N = 25) majored in either institutional administration, home economics or other areas. Of those with master degrees (N = 70), the largest groups included 46 percent foods and nutrition (N = 32) and 11 percent home economics (N = 8). Finally, only two percent of the respondents (N = 4) reported completing a doctoral degree. Table I indicates highest-level of degree obtained and major of respondents.

TABLE I

HIGHEST LEVEL DEGREE AND MAJOR

Type of Degree and Major	Frequency	Percent*
B.S.		
General	60	31
Foods and Nutrition	57	29
Dietetic	52	27
Home Economics	19	10
Institutional Administration	4	2
Zoology	1	1
English	1	1
M.S.		
Foods and Nutrition	32	46
General	16	23
Home Economics	8	11
Institutional Administration	5	7
M.P.H.	4	6
M.B.A.	3	4
Dietetic	2	3
Ph.D.		
General	2	50
Foods and Nutrition	1	25
Home Economics	1	25

*Sum not equal to 100 due to round-off error.

R.D. Status and Licensure

Ninety-seven percent (N = 190) of the respondents said that they were R.D.'s, while three percent (N = 6) were not R.D.'s. Eighty-four percent (N = 165) of the ODA dietitians reported that they were licensed. It was assumed that those not licensed were either in the process of licensing (as it will be illegal to practice dietetics in Oklahoma on or after November 1, 1985, without a license) or were retired and not interested in licensing.

Route to ADA Membership

Fifty-five percent (N = 107) of the respondents listed the dietetic internship as their route to membership in the ADA. Thirty percent (N = 58) of the respondents became ADA members via the M.S. plus six months of work experience or the CUP program. The remaining 15 percent (N = 30) of the respondents completed a traineeship, or three years preplanned work experience or used "other" as route to ADA membership.

Position Title

Since this question on the survey was an open ended one, 17 different position titles were received by the researcher. The five most commonly used titles were consultant dietitians (N = 45) with 24 percent, clinical dietitian (N = 48) with 26 percent, general dietitian (N = 30) with 16 percent, administrative dietitian (N = 15) with eight percent, and nutritionist (N = 26) with 14 percent. The "other" was (N = 23) 12 percent, and will be listed in Table II.

TABLE II

ODA'S "OTHER" POSITION TITLES

"Other" Position Title	Frequency
Teacher/Educator	8
Not Working	5
Director of Nutrition Counseling	2
Home Economist	2
Sales	2
Assistant Hospital Director	1
Manager of Patient Services	1
Homemaker	1
Student	1

Income

Twenty-nine percent (N = 54) of the ODA respondents have a yearly personal income between $20,000-$24,999. Twenty-one percent (N = 38) made under $15,000, 21 percent (N = 39) from $25,000-$29,999, 13 percent (N = 24) from $15,000-$19,999, and four percent (N = 29) from $30,000-$45,000. Only two percent (N = 4) made over $45,000. Twelve respondents did not reply, possibly feeling the question was too personal. The number of respondents under $15,000 may be unusually high because 16 percent (N = 30) indicated they worked less than 20 hours per week.

Number of Years in Present Job, Administrative, Therapeutic and General Dietetics and Other Job

Fifty-five percent (N = 96) of the ODA dietitians that responded had been in their present job four years or less. Twenty-one percent

(N = 37) of the respondents had been in their jobs for five to 10 years, 21 percent (N = 37) 11 to 20 years, and the remaining two percent (N = 4) for greater than 20 years.

The types of dietetic and other jobs according to the ODA respondents in this study, showed that 65 percent (N = 127) were once employed as therapeutic dietitians, 51 percent (N = 96) were once employed as administrative, 25 percent (N = 49) were once employed in other areas of dietetics, and 14 percent (N = 27) once had other types of jobs.

The majority of ODA dietitians (N = 68) who worked in administrative dietetics have worked for less than five years. The remaining dietitians (N = 32) have worked from six to 40 years. The dietitians who worked in the therapeutic area also showed a majority, 72 percent (N = 92) have worked for less than five years.

Current Employment Status

Seventy percent (N = 130) of the respondents were employed at least 35 hours per week. Sixteen percent (N = 30) were employed 20 hours per week or less, and 14 percent (N = 25) were employed 20 to 34 hours per week.

Spouse's Occupation

Of the dietitians who were married (N = 138), 86 percent (N = 119) had a spouse with a full-time job. Sixty-two percent (N = 83) of the spouses who were employed worked in professional or technical areas and 19 percent (N = 25) worked as managers. The remaining spouses'

occupations consisted of 19 percent (N = 25) in sales, blue collar, clerical, service jobs, or "other" areas.

Race

Ninety-four percent (N = 182) of the ODA respondents declared white as their race. Blacks (N = 3) and native Americans (N = 3) made up two percent each of the remaining group. In addition, one percent each was made up of Hispanics (N = 2) and Asians (N = 2). Only three survey participants did not respond to this question.

Number of Children and Those Who Live at Home

ODA dietitians who responded to the question dealing with children showed that 75 percent (N = 139) had children. Fifty-one percent (N = 94) had two or less children, 23 percent (N = 42) had three to five children, and two percent (N = 3) had more than five children.

Fifty-one percent (N = 94) of the respondents had no children living at home. Twenty-four percent (N = 43) had two children at home, 20 percent (N = 36) had one child at home while five percent (N = 10) had three or more children living at home. The results may be misleading because the number of respondents who had no children at home may not be married or never had children.

Sole Support

Seventy percent (N = 133) of the ODA respondents declared that they were not the sole supporters of their household. That correlated closely with the respondents, 72 percent (N = 138) who declared that

they were married. Only 30 percent (N = 58) said that they were the sole supporters of their household.

Characteristics of ODA Institutions

Size of Facility

Twenty-eight percent (N = 48) of ODA dietitians worked in facilities of fewer than 100 clients. Twenty-four percent (N = 42) worked in facilities with between 100-299 participants, 18 percent (N = 32) over 1,000, 17 percent (N = 29) between 300-499, and 13 percent (N = 23) between 500-999. Figure 2 illustrates the size of facility distribution of respondents.

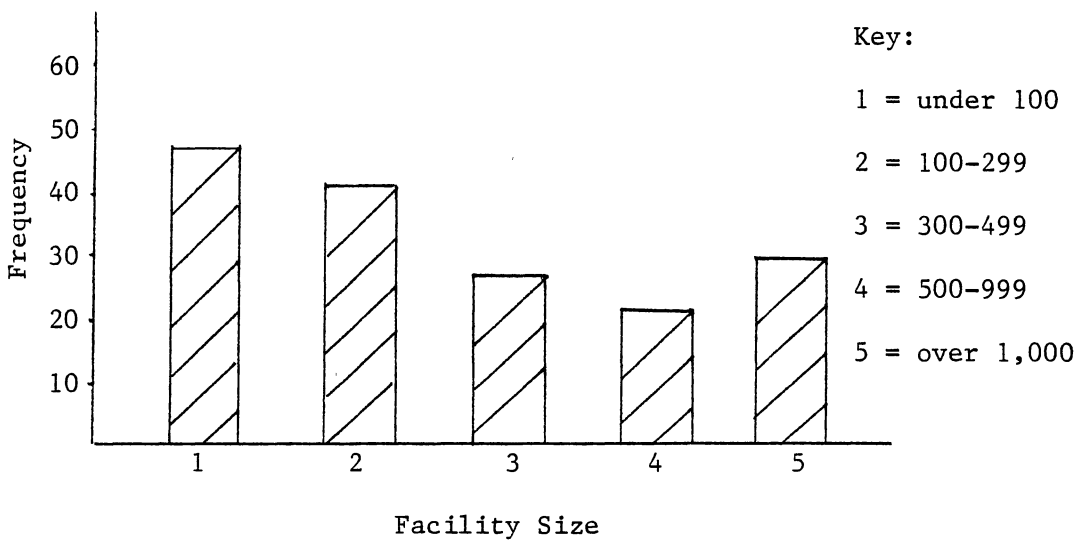


Figure 2. Survey Respondents by Size of Facility

Population

The largest group of respondents, 43 percent (N = 77), indicated that the estimated population of the city in which their organization was located was over 150,000. Twenty-eight percent (N = 50) indicated city size of between 25,000-150,000; 27 percent (N = 49) between 2,500-24,999; and only two respondents indicated that they worked in towns below 2,500 population. The results are not surprising since a majority of the state of Oklahoma's population, facilities, and jobs are located in the two large metropolitan cities, Oklahoma City and Tulsa.

Type of Facility

Exactly one-half (N = 92) of the ODA dietitians who responded reported that they were employed at a hospital. Thirteen percent (N = 23) were employed at a nursing home, and the remaining 37 percent (N = 69) belonged to the category of either college foodservice or "other". The type of facility, their frequency of response, and percentage of respondents can be seen in Table III.

Number of Employees Supervised

Thirty-eight percent (N = 68) of the ODA members that responded did not supervise any employees (Figure 3). Twenty-two percent (N = 40) supervised 5 to 10 employees, 16 percent (N = 28) supervised one to four employees, 14 percent (N = 25) supervised over 20 employees, and 10 percent (N = 18) supervised 11 to 20 employees.

TABLE III

TYPE OF FACILITY

Type of Facility	Frequency	Percent*
Hospital	92	50
Nursing Home	23	13
County Health Department	13	7
Public Agency	9	5
Clinic	8	4
School Foodservice	6	3
University Teaching	6	3
Sales	5	3
Private Practice	4	2
College Food Service	3	2
Community	3	2
Hospital and Nursing Home	3	2
Institution for Mentally Retarded	2	1
Health Science Center	2	1
Commercial Foodservice	1	1
WCD Program	1	1
University Nursing School	1	1
Rehabilitation Institution	1	1
Community College	1	1

*Sum not equal to 100 due to round-off error.

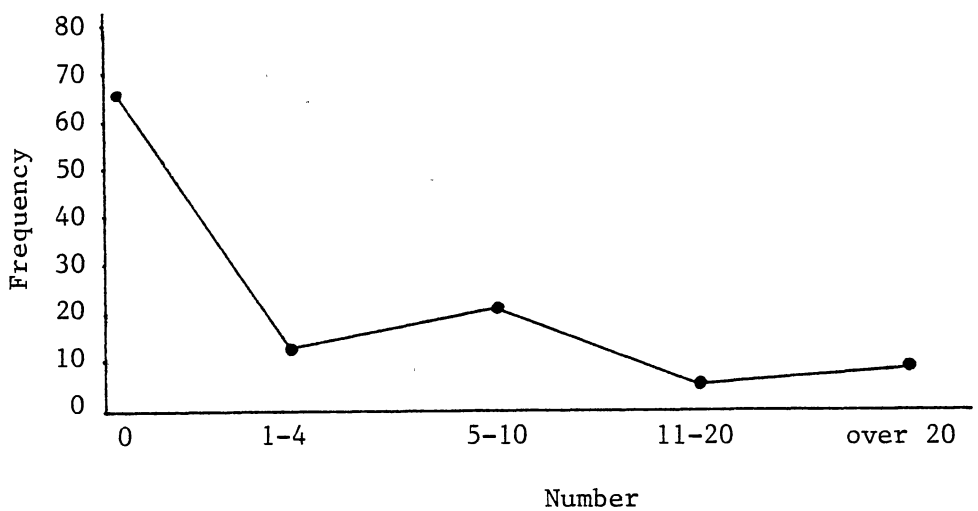


Figure 3. Number of Employees Supervised

Number of People and Women and Type of Race at Work

Twenty-two percent (N = 38) of the respondents indicated that they worked around more than 30 people on a regular basis. Twenty-one percent (N = 36) worked around 20 to 30 people, 20 percent (N = 35) worked with zero to five people, 19 percent each worked around six to 10 people (N = 33), and 11 to 19 people (N = 33).

Fifty-two percent (N = 95) of the ODA participants responded that of the people they worked around regularly, 85 percent were women. Twenty-three percent (N = 41) of the respondents worked around all women, 13 percent (N = 24) worked with 65 percent women, and 12 percent (N = 22) worked with 50 percent or less women.

Forty-five percent (N = 83) of the respondents reported that they worked around 85 percent workers of the same race as themselves. Twenty-one percent (N = 39) indicated that all workers were of the same race, 18 percent (N = 32) worked around 65 percent of the same race, and 16 percent (N = 29) worked around 50 percent or less of the same race.

Supervisors

Fifty-five percent (N = 95) of the respondents' immediate supervisors were female, and 45 percent (N = 77) were male. These results were not surprising since a majority of the respondents worked in health care, usually for other dietitians.

Ninety percent (N = 159) of the ODA dietitians who responded said that their immediate supervisor's race was white. The largest minority group identified was that of native American with two percent (N = 7).

The remaining six percent (N = 10) were either black, Asian or other. Hispanics were not represented.

Characteristics of National Women's Stress Survey of Professional or Technical and Managerial Women

For comparison purposes the researcher reviewed the characteristics of respondents of the National Women's Stress Survey of Professional or Technical and Managerial Women. The response was from 2,895. Of those respondents, 2,843 replies were usable for analysis.

Sex, Age, and Marital Status

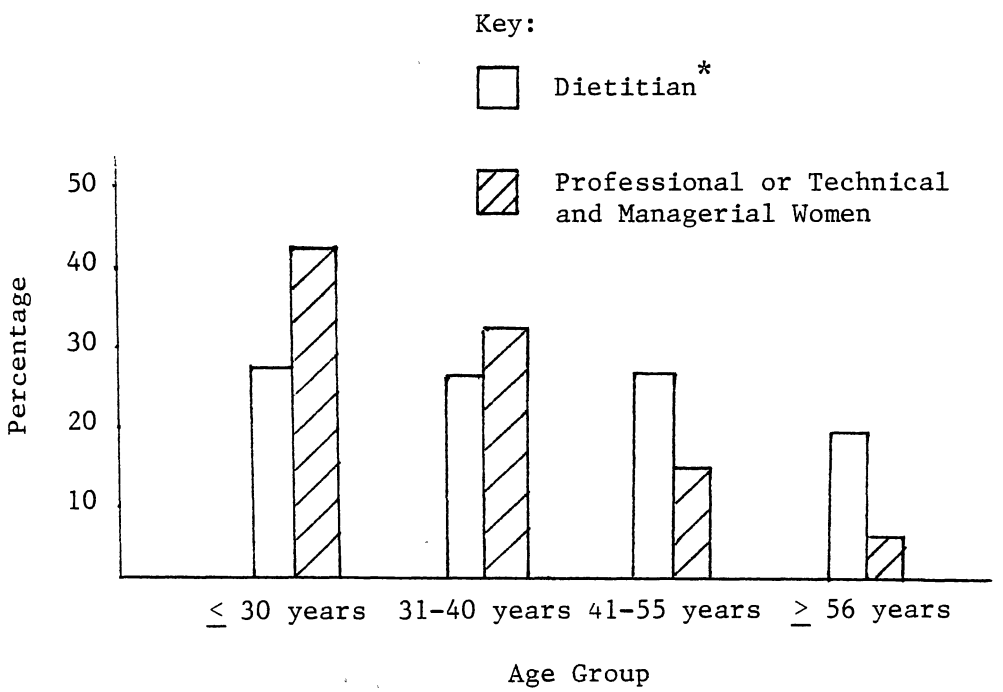
All respondents (N = 2,843) were limited to female (see Chapter III, Development of Instrument). Forty-four percent (N = 1,225) of the stress survey respondents were under 30 years of age. Thirty-nine percent (N = 1,106) of the respondents were in the 31 to 40 age group, 15 percent (N = 424) were 41 to 55, and two percent (N = 49) were in the 56 and over age group. See Figure 4 for comparison of respondents to ODA dietitians' age groups.

Forty-three percent (N = 1,225) of the respondents were married. Thirty-four percent (N = 965) of the respondents were single, 18 percent (N = 527) divorced, and the remaining four percent (N = 119) were either separated or widowed. Refer to Figure 5 for comparison of respondents to ODA dietitians.

Years in Education

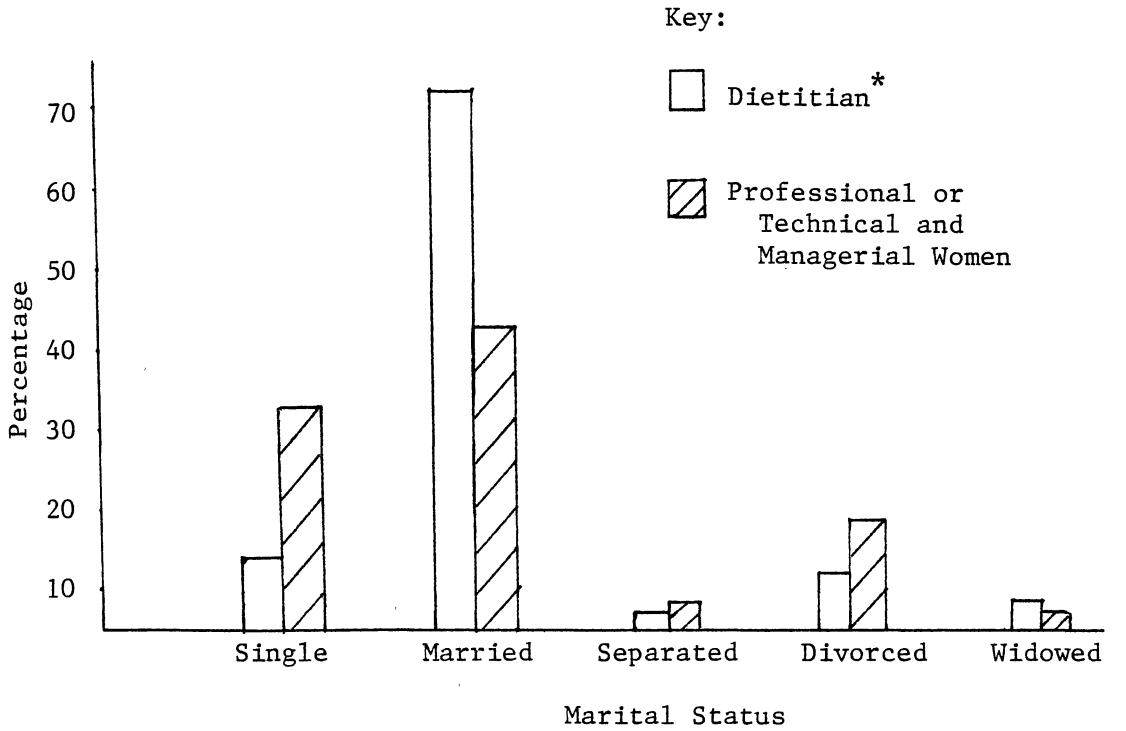
Fifty-one percent (N = 1,427) of the women respondents had between

13 and 16 years of education, while 43 percent (N = 1,192) had over 16 years, and 6 percent (N = 199) had 12 or less years of education. It is not surprising that a large majority of respondents had either a baccalaureate or a post-baccalaureate degree, since their occupation category was professional, managerial, or technical. Comparison of the respondents to dietitians would be difficult, if not impossible, because years of education do not always equate to a high school or college degree.



*Sum not equal to 100 due to round-off error.

Figure 4. Comparison of Age Groups of ODA Dietitians and Professional or Technical and Managerial Women of the National Women's Stress Survey



*Sum not equal to 100 due to round-off error.

Figure 5. Comparison of Marital Status of ODA dietitians and Professional or Technical and Managerial Women of the National Women's Stress Survey

Position Title

When the respondents were asked what is their job title, 30 percent (N = 841) responded that they were managers. Twenty-one (N = 598) indicated professional work, 20 percent (N = 578) indicated "other", 7 percent (N = 187) indicated teacher, six percent (N = 154) indicated nurse, five percent (N = 139) indicated supervisor, three percent (N = 87) indicated health care, three percent (N = 84) indicated administrator, three percent (N = 76) indicated office manager, and

three percent (N = 70) indicated accountant. "Other" positions are illustrated in Table IV.

TABLE IV

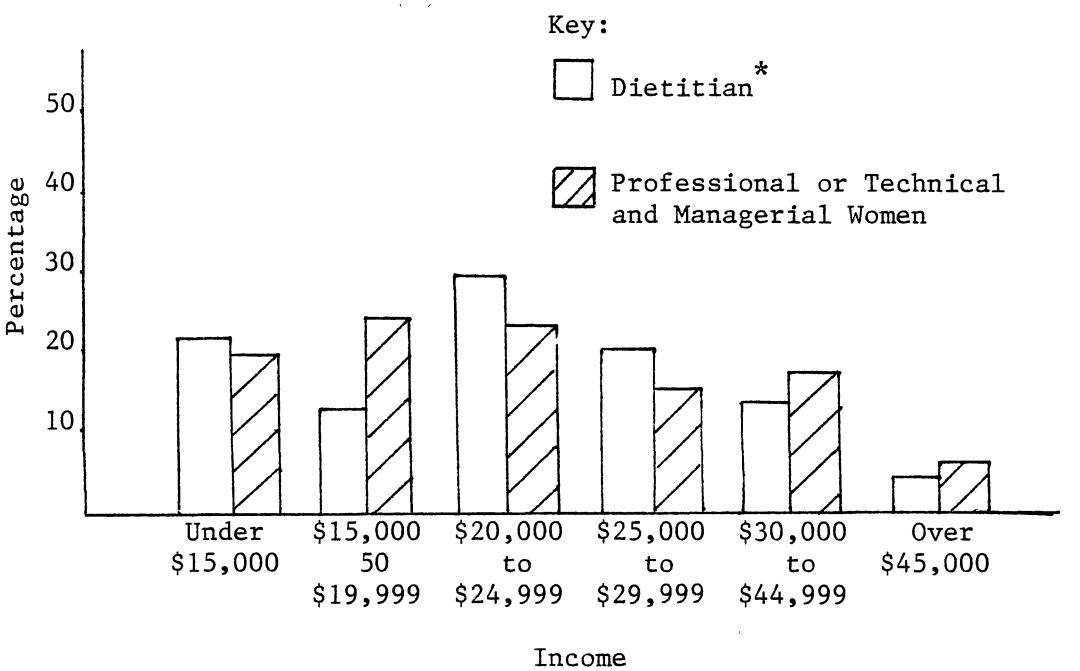
WOMEN'S STRESS SURVEY'S
"OTHER" POSITION TITLES

Position Titles	Frequency
Social Worker	58
Computer Programmer	54
Professor	48
Librarian	48
Engineer	41
Sales	28
Clerk	23
Secretary	17
Accounting Clerk	15
Claims Executive	14
Legal Secretary	12
Insurance	11
Service Rep.	11
Hair Dresser	10
Data Entry Person	9
Work Processor	8
Bank Teller	6
Computer Operator	6
Receptionist	5

Income

When asked what their total yearly personal income was, before taxes, 23 percent (N = 624) indicated their income was between $15,000 and $19,999. Twenty-two percent (N = 608) reported their income as between $20,000 and $24,999, 19 percent (N = 525) reported under

$15,000, 18 percent (N = 485) reported between $30,000 and $44,999, 15 percent (N = 416) reported between $25,000 and $29,999, and four percent (N = 120) reported $45,000. Figure 6 illustrates the comparison income of the two studies. The figure does not indicate great differences in income levels. This is borne out by the approximate $1,500 difference in the income study's means. The only other consideration would be the recording dates of the data (ODA dietitians, April, 1985, and National Women's Stress Survey, September, 1983).



*Sum not equal to 100 due to round-off error.

Figure 6. Comparison of Income of ODA Dietitians and Professional or Technical and Managerial Women in the National Women's Stress Survey

Number of Years Worked

The women respondents indicated that 31 percent (N = 884) have since age 18 worked six to 10 years for pay. Twenty-seven percent (N = 748) have worked 11 to 50 years, 16 percent (N = 446) 16-20 years, 15 percent (N = 430) under five years, and 11 percent (N = 315) have worked over 20 years for pay since age 18. Figure 7 illustrates the comparison of the two studies. The results show that ODA dietitians (67 percent) mainly had worked less than 10 years or over 20 years, while the majority of the women from the stress survey (74 percent) have worked between six and 20 years.

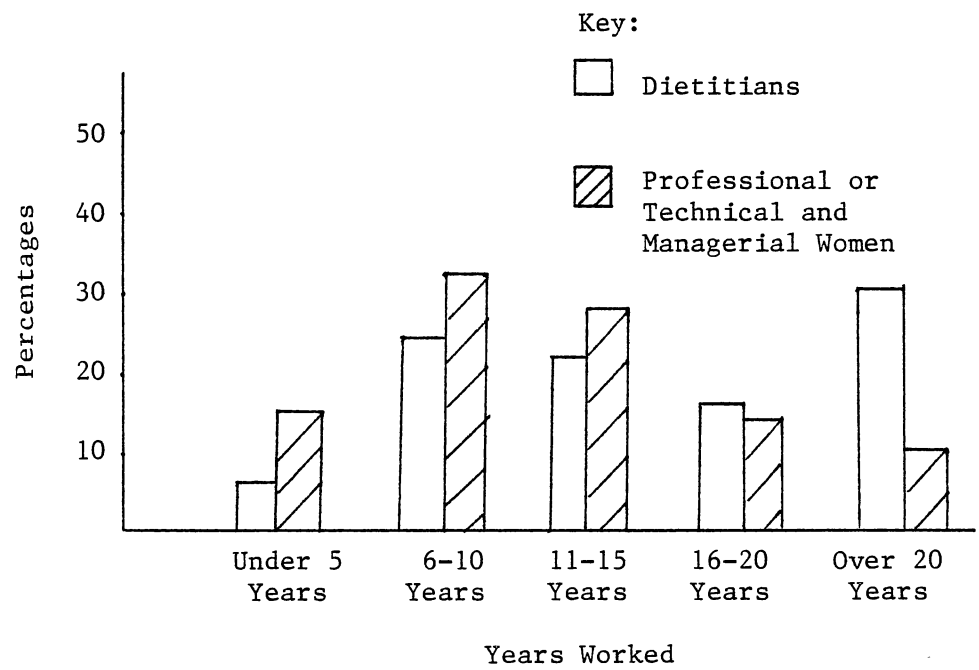


Figure 7. Comparison of Years Worked of ODA Dietitians and Professional or Technical and Managerial Women of the National Women's Stress Survey

Current Employment Status

When the respondents of the Women's Stress Survey were asked, "How many hours do you work in an average week?", 45 percent (N = 1,263) responded with between 35-40 hours. In fact, 33 percent (N = 937) indicated they worked 40 hours per week. Thirty-four percent (N = 963) responded with 41-50, 13 percent (N = 362) with over 50, six percent (N = 162) between 21-34, and three percent with under 20 hours per week. Figure 8 illustrates the comparison of the respondents of the two data bases. The differences may arise from the answering procedure. The ODA dietitians had a check list and the women in the stress survey had an open ended question.

Spouse's Occupation

Of the women in the stress survey who were married (N = 1,225), 49 percent (N = 595) of the spouses who were employed worked in the professional or technical area. Twenty-one percent of the respondents' spouses worked either as manager/official/office (N = 261) or as the "other" (N = 258) category. The remaining nine percent (N = 111) were blue collar workers. Figure 9 illustrates the comparison of spouses of the respondents of the two data bases.

Race

Eighty-two percent (N = 2,314) of the respondents declared white as their race. Sixteen percent (N = 451) as black, and the remaining two percent (N = 76) were either Hispanic, Asian, native Americans, or "other". The reason black had such a large representation was

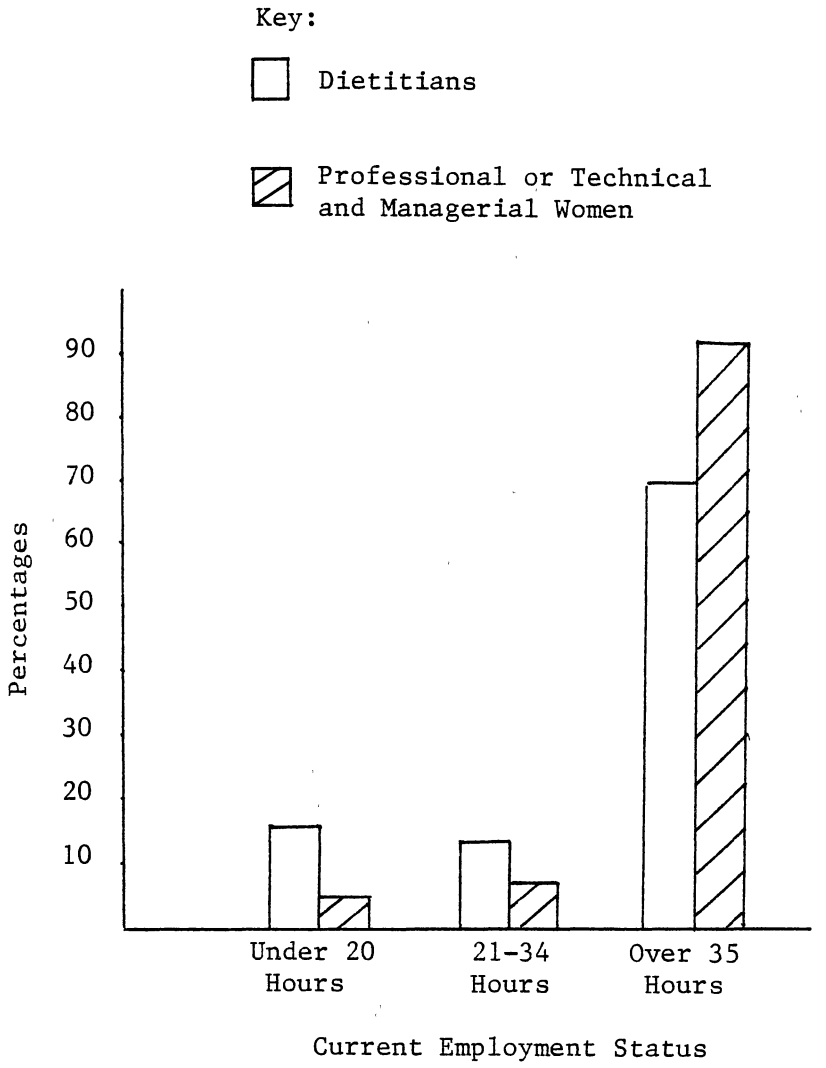


Figure 8. Comparison of Current Employment Status of ODA Dietitians and Professional or Technical and Managerial Women of the National Women's Stress Survey

explained in Chapter III under Development of the Instrument. Except for the black representation, the two data bases were similar.

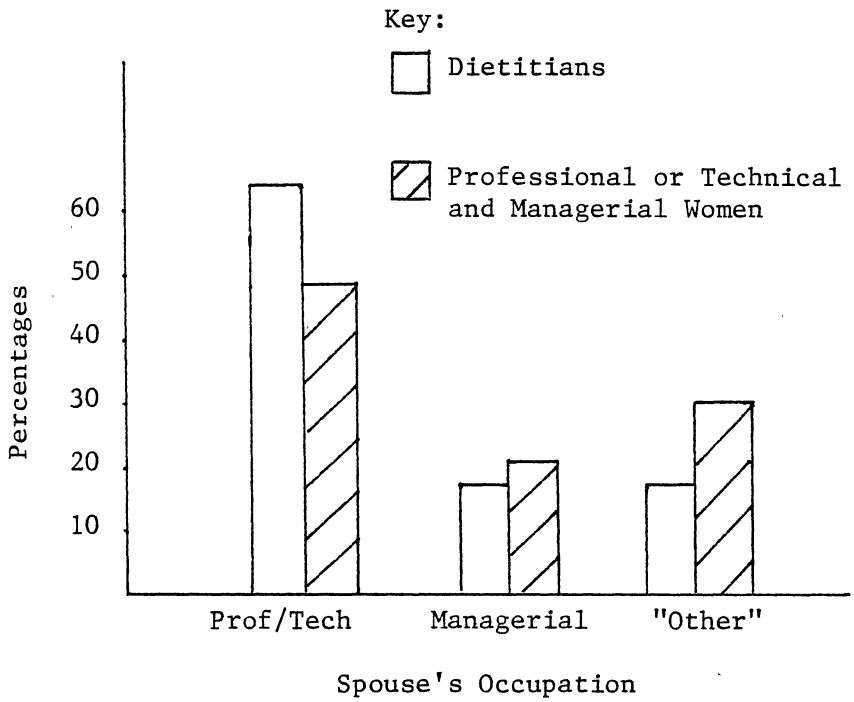


Figure 9. Comparison of Spouse's Occupation of ODA Dietitians and Professional or Technical and Managerial Women of the National Women's Stress Survey

Number of Children and Those Who Live at Home

Respondents in the stress survey indicated that 60 percent (N = 1,622) did not have any children. Thirty percent (N = 855) responded with one or two children, nine percent (N = 256) with three to five children, and one percent (N = 23) had more than five children.

Sixty-five percent (N = 1,673) of the women who responded revealed that they had no children living at home. This percentage may be deceiving for the same reason as the ODA dietitians' results. Thirty-one percent (N = 804) had one or two children and four percent (N = 109) had three or more children.

Sole Support

Fifty-five percent (N = 1,535) of the women in the stress survey responded that they were the sole support of the household. That correlated very closely with the 57 percent (N = 1,611) women who declared that they were not married.

Characteristics of the Institutions of the Respondents from the Women's Stress Survey

Type of Industry

Seventeen percent (N = 492) of the respondents when asked, "What is the industry of your employer?", replied the health industry. Fourteen percent of the women indicated either the government (N = 401) or business services (N = 402). Ten percent (N = 208) of the respondents reported school, eight percent (N = 229) manufacturing, and seven percent (N = 190) "other". Table V illustrates a list of types of industries of the women respondents from the stress survey.

Number of Employees Supervised

Thirty-six percent (N = 993) of the respondents reported that they supervised between one and four workers. Thirty-two percent (N = 895)

supervised no employees, 17 percent (N = 477) between five and 10 employees, eight percent (N = 229) over 20 employees, and seven percent (N = 204) between 11 and 20 employees. Figure 10 illustrates the comparison of number of employees supervised by the ODA dietitians and the women from the national stress survey. The chart indicates that the stress survey respondents supervise smaller groups of employees.

TABLE V

TYPE OF INDUSTRY

Type of Industry	Frequency	Percentage
Health	492	17
Business Services	402	14
Government	401	14
School	280	10
Manufacturing	229	8
"Other"	190	7
University	167	6
Community	159	6
Trade	148	5
Banking	131	5
Industrial	98	3
Unemployed	89	3
Personal Services	57	2

Number of People and Women and Type of Race at Work

Twenty-eight percent (N = 749) of the respondents indicated that

they worked with between six and 10 people on a regular basis. Twenty-one percent (N = 575) worked around five or less people, and 18 percent worked around 20 to 30 people (N = 510) and over 30 people (N = 506). The remaining 16 percent (N = 444) worked around between 11 and 19 people. Figure 11 illustrates the comparison of the two surveys respondents' data. The only difference is in respondents who worked around between six and 10 people.

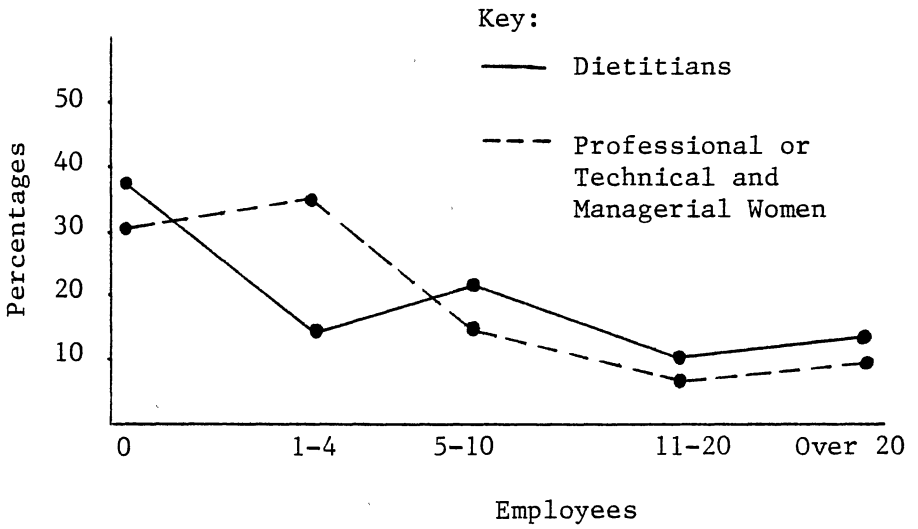


Figure 10. Comparison of the Number of Employees Supervised by ODA Dietitians and Professional or Technical and Managerial Women of the National Women's Stress Survey

Thirty-one percent (N = 873) of the women who responded reported that of the people they worked around regularly, 85 percent were women. Twenty-six percent (N = 719) of the respondents worked around less than

50 percent women, 17 percent (N = 469) 50 percent, 16 percent (N = 435) 65 percent, and 10 percent (N = 287) around all women.

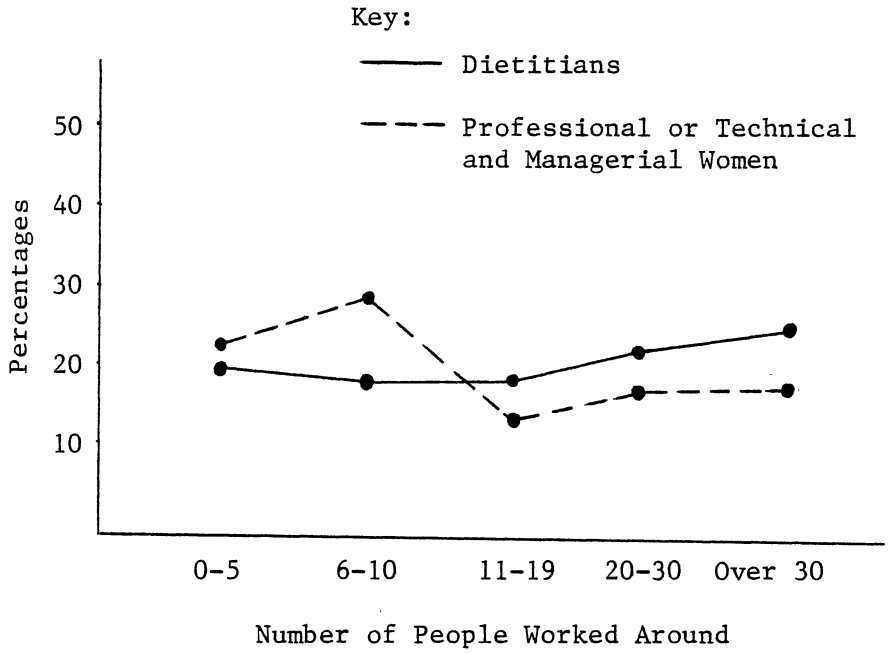


Figure 11. Comparison of the Number of People Worked Around by ODA Dietitians and Professional or Technical and Managerial Women of the National Women's Stress Survey

Thirty-five percent of the respondents reported that they either worked around all (N = 976) or 85 percent (N = 984) workers of the same race. Twenty-two percent (N = 649) indicated that 50 percent of the workers were of the same race, and eight percent (N = 234) worked around 65 percent workers of the same race.

Supervisors

Sixty-five percent (N = 1,803) of the respondents' immediate supervisors were male and 35 percent (N = 967) were female. These results better represent today's working conditions than those reported by ODA respondents.

Ninety percent (N = 2,502) of the women in the stress survey who responded said their immediate supervisor's race was white. The second largest group with six percent (N = 177) were black. Again, because of the oversampling of the survey responses the results are not unusual. The remaining four percent (N = 99) of the respondents were either native America, Asian, or "other".

QWL of ODA Dietitians

The QWL dependent variables were determined by an analysis of the National Women's Stress Survey in conjunction with QWL studies by Leche (1984) and Taylor (1984). This researcher and other knowledgable individuals in the area of QWL reviewed the survey instrument and collectively chose those questions which best described the characteristics of QWL Dimensions (Leche, 1984; Taylor, 1984). The QWL dimensions chosen to study in this research included: Company or Organization, Actual Work on Present Job (AWPJ), Promotion, Supervision on Present Job (SPJ), People on Your Present Job (POYPJ), General Job Satisfaction (GJS), Job in General (JIG), and Performance Constraint Measure (PCM).

The QWL scores are illustrated in Table VI. The maximum and minimum scores were those of survey respondents. The dimensions of promotion and JIG have such low mean scores because one of the two

TABLE VI

QWL DIMENSIONS SCORES AND MEANS

Dimensions	N[a]	Maximum[b] Scores	Minimum[b] Scores	Mean Scores[c]
Organization	171	20	7	15.64 ± 2.70
Actual Work on Present Job	175	37	17	28.82 ± 3.76
Promotion	175	9	0	1.70 ± 1.92
Supervision on Present Job	172	30	16	25.78 ± 3.27
General Job Satisfaction	177	7	3	5.45 ± .85
People on Your Present Job	175	16	8	14.39 ± 1.63
Job in General	177	65	5	21.00 ± 10.47
Performance Constraint Measure	130	20	7	13.38 ± 3.40

[a]Unequal N's due to nonresponse on some dimensions.

[b]Actual maximum and minimum scores of respondents.

[c]Standard deviations.

questions asked in the analysis dealth with a number (either times for promotion or years for the JIG question).

QWL: Organization

The QWL dimension, organization, dealt with how individuals felt about the organization that employed them. According to the 171 dietitians who answered items concerning the organization dimension, they were satisfied with the organization they worked for. The mean score was 15.64 with a standard deviation of 2.70. According to the previous QWL studies (Leche, 1984; Taylor, 1984), the expected score from a balanced attitude was one-half the total scored. The balanced attitude score would then be 10 for organization. Because Leche's (1984) and Taylor's (1984) studies used only favorable and unfavorable items, the results can only be generalized.

Of the 27 personal and institutional variables examined, only three significantly ($p \leq .05$) affected organization scores. The variables of age ($p = 0.0485$), size of facility ($p = .01303$), and race of supervisor ($p = .0305$) (Table VII) had significant scores. Included in Table VII is employment status ($p = .0584$) because of the closeness to significances.

Dietitians who were over 60 years of age ($N = 18$, $\bar{X} = 17.00$) were significantly happier with the organizations they worked for (Table VIII) than those who were 25 years of under ($N = 7$, $\bar{X} = 13.571$). The other respondents, ages 26 through 60, were not significantly different from either the older group or younger group (Table VIII).

Respondents who worked in facilities with fewer than 100 participants ($N = 41$, $\bar{X} = 16.59$) were significantly happier with their

organizations they worked for (Table VIII) than were those who worked in facilities of over 1,000 participants (N = 28, $\bar{X}$ = 14.96), 300-499 (N = 27, $\bar{X}$ = 14.89), and 500-999 participants (N = 22, $\bar{X}$ = 14.64). Those who worked in a facility of 100-299 participants (N = 40, $\bar{X}$ = 15.98) were not significantly different from the other two groups.

TABLE VII

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR ORGANIZATION DIMENSIONS BY PERSONAL AND INSTITUTIONAL VARIABLES

Source	df	Mean Squares	F	p
Age	8	14.07	2.01	0.0485
Error	162	7.00		
Total	170			
Facility Size	4	22.70	3.19	0.0151
Error	153	7.12		
Total	157			
Race of Supervisor	4	19.42	2.74	0.0305
Error	165	7.09		
Total	169			
Employment Status	2	20.66	2.89	0.0584
Error	166	7.15		
Total	168			

ODA respondents indicated that their supervisors' race of Hispanic (N = 5) had a mean organization score (12.00) less than the mean organization scores of the other groups: white (N = 154, $\bar{X}$ = 15.79), native American (N = 6, $\bar{X}$ = 15.67), and Asian (N = 4, $\bar{X}$ = 14.25).

TABLE VIII

DUNCAN MULTIPLE RANGE TEST FOR ORGANIZATION DIMENSION SCORES AND PERSONAL AND INSTITUTIONAL VARIABLES

Variables	N	Mean	Grouping*
Age			
Over 60 years	18	17.00	A
51-55 years	15	16.73	AB
36-40 years	15	16.13	AB
46-50 years	17	15.94	AB
31-35 years	30	15.47	ABC
26-30 years	41	15.46	ABC
41-45 years	14	14.71	BC
56-60 years	14	14.71	BC
25 and under	7	13.57	C
Facility Size			
Fewer than 100 participants	41	16.59	A
100-299 participants	40	15.98	AB
Over 1,000 participants	28	14.96	B
300-499 participants	27	14.89	B
500-999 participants	22	14.64	B
Race of Supervisor			
White	154	15.79	A
Native American	6	15.67	A
Asian	4	14.25	A
Hispanic	5	12.00	A

*Means with the same letter are not significantly different at the .05 level. Data shown for significant finding only ($p \leq .05$).

Although p = .0305, the Duncan Multiple Range Test (Table VIII) did not show a significant difference between the groups, due to unequal cells.

When comparing the organization dimension scores with Leche (1984) and Taylor (1984), only the variable age of Taylor's (1984) study showed similar significance. Where the DIBI highest means scores were 31-50 years of age, the ODA dietitians were from 51-over 60 years. Both studies' lowest means scores were the studies' lowest age group.

QWL: Actual Work on Present Job

The QWL dimension, actual work on present job, dealt with the nature of the work itself. Characteristics of actual work on present job included: speed of work, work load, interesting work, work schedules, and work environment. According to the 175 respondents who answered AWPJ questions, they were satisfied with their work. The mean score for the group was 28.82 (Table VI) with a standard deviation of 3.76 and a maximum possible score of 40.

Of the 27 personal and institutional variables examined, only five significantly ($p \leq .05$) affected AWPJ scores. The variables of organizational goals (p = .0255) (Table X), sole support (p = .0196) (Table XI), position title (p = .0052), current employment status (p = .0004), and number of children (p = .0160) affected work scores significantly (Table IX). Size of facility also showed a close significance (p = .0632) to work (Table IX).

Dietitians working at profit-making organizations (N = 52, $\bar{X}$ = 29.15) scored significantly higher than did dietitians working at non-profit organizations (N = 119, $\bar{X}$ = 28.92) (Table X). Only Leche (1984) compared AWPJ with organizational goals and the study found the

TABLE IX

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR ACTUAL WORK ON PRESENT JOB DIMENSION BY PERSONAL AND INSTITUTIONAL VARIABLES

Source	df	Mean Squares	F	p*
Position Title	14	30.39	2.37	0.0052
Error	155	12.82		
Total	169			
Facility Size	4	31.29	2.28	0.0632
Error	157	13.73		
Total	161			
Employment Status	2	108.21	8.21	0.0004
Error	170	13.18		
Total	172			
Number of Children	7	35.11	2.56	0.0160
Error	160	13.73		
Total	167			

*Only those significant at the .05 level are listed.

TABLE X

t-TEST PROCEDURE FOR AWPJ DIMENSION AND ORGANIZATIONAL GOALS

Organizational Goals	N	Mean	Standard Error	t	p*
Profit-Making	52	29.15	0.62	.77	0.0255
Non-Profit	119	28.62	0.32		

*Significant (t-test) at the .05 level.

variables not to be significant. It could only be speculated that dietitians working at profit-making organizations are more satisfied with their work than those working at non-profit organizations because in a profit situation individuals are reinforced for good or excellent work.

TABLE XI

t-TEST PROCEDURE FOR AWPJ DIMENSION AND SOLE SUPPORT

Sole Support	N	Mean	Standard Error	t	p*
No	117	29.24	0.37	-2.26	0.0296
Yes	57	28.00	0.40		

*Significant (t-test) at the .05 level.

The respondents who were not sole support of their household ($N = 117$, $\bar{X} = 29.24$) scored significantly higher than the dietitians who were sole support of their families ($N = 57$, $\bar{X} = 28.00$) (Table XI). No other study dealing with dietitians and QWL has examined the issue of sole support. It can only be assumed from this study that those dietitians who did not have the responsibility of sole support of their family could better enjoy their jobs.

There are 17 position titles and the Duncan Multiple Range Test (Table XII) yielded no differences in groups due to unequal cells.

TABLE XII

DUNCAN MULTIPLE RANGE TEST FOR AWPJ DIMENSION SCORES AND PERSONAL VARIABLES

Variables	N	Mean	Group*
Position Title			
Manager of Patient Services	1	32.00	A
Home Economist	2	32.00	A
Consultant Dietitian	39	30.87	A
Instructor/Teacher	3	30.67	A
Director of Nutritional Counseling	2	29.00	A
Sales	2	29.00	A
Chief Nutrition Branch	3	28.67	A
Professor	5	28.60	A
General Dietitian	28	28.57	A
Clinical Dietitian	47	28.49	A
Student	1	28.00	A
Nutrition Coordinator	9	27.89	A
Food Service Director	14	27.43	A
Not Working	1	27.00	A
Public Health Nutritionist	13	25.15	A
Facility Size			
Fewer than 100	43	29.91	A
100-299	41	29.05	AB
300-499	28	29.00	AB
500-999	21	27.86	AB
Over 1,000	29	27.48	B
Employment Status			
20-34 hours/week	23	31.09	A
Under 20 hours/week	27	30.07	A
35 or over hours/week	123	28.15	B
Number of Children			
8	1	36.00	A
5	4	31.75	AB
6	2	31.00	AB
3	25	30.32	B
4	10	29.40	B
2	56	29.04	B
1	26	28.15	B
0	44	27.50	B

Dietitians who worked independently of a particular operation or not managing large numbers of workers, home economists, consultants, teachers, and sales people, had higher mean scores than did the traditional dietitians, general, clinical, foodservice and public health nutritionists. The results may indicate dietitians not managing people enjoy their work better than those who do manage workers. When compared with the results of Leche (1984) and Taylor (1984) similar results were found.

Facility size ($p = .0632$) affected the AWPJ. It can be noted that workers who worked in facilities with fewer than 100 clients ($N = 29$, $\bar{X} = 27.48$) and over 1,000 clients ($N = 43$, $\bar{X} = 29.90$) seemed to be happier with present jobs than those working in facilities between 100 and 999 clients according to the Multiple Duncan Range Test. Those employed 20-34 per week ($N = 23$, $\bar{X} = 31.09$) and less than 20 hours per week ($N = 27$, $\bar{X} = 30.03$) were significantly happier with their work (Table XII) than those employed at least 35 hours per week ($N = 123$, $\bar{X} = 28.15$).

Respondents who had large families were happier with their present jobs than those smaller families (Table XII). In generalizing the results, it seems that dietitians with large families had higher mean scores and may enjoy their work more because they may want to get away from home and contribute to the family income.

QWL: Promotion

The QWL dimension, promotion, dealt with the question, "How many times have you ever been promoted?" The mean of 175 respondents ($\bar{X} = 1.707$) who answered the question on promotion did not favorably

correspond with the maximum score (N = 9) (Table VI). It is obvious from the results that the average respondent has been promoted just under two times.

Of the 27 variables studied, seven significantly ($p \leq .05$) affected the scores of dietitians' opportunities for promotion. Variables that significantly affected promotion scores were: sole support ($p = .0422$) (Table XIII), age ($p = .0005$), B.S. ($p = .0447$), income ($p = .0001$), years working in other job ($p = .0001$), other type of job ($p = .0001$), and marital status ($p = .0001$) (Table XIII). Size of facility ($p = .0637$) and race ($p = .0668$) will also be examined because of their closeness to significance ($p \leq .05$) (Table XIV).

TABLE XIII

t-TEST PROCEDURE FOR PROMOTION DIMENSION AND SOLE SUPPORT

Sole Support	N	Mean	Standard Error	t	p*
Yes	56	2.34	0.29	2.83	0.0422
No	119	1.40	0.16		

*Significant (t-test) at the .05 level.

Respondents who were sole supporters of their families (N = 56, $\bar{X} = 2.34$) scored significantly higher than did dietitians who were not sole supporters of their families (N = 119, $\bar{X} = 1.40$) on the promotion

TABLE XIV

ANALYSIS OF VARIANCE (ANOVA) RESULTS OF THE PROMOTION DIMENSION BY PERSONAL AND INSTITUTIONAL VARIABLES

Source	df	Mean Squares	F	p*
Age	8	12.31	3.73	.0005
Error	166	3.29		
Total	174			
B.S.	6	7.68	2.21	.0447
Error	166	3.48		
Total	172			
Income	7	17.54	5.44	.0001
Error	160	3.22		
Total	167			
Years on Other Job	3	22.56	11.48	.0001
Error	21	1.97		
Total	24			
Type of Other Job	7	9.34	3.63	.0172
Error	15	2.57		
Total	22			
Marital Status	4	24.39	7.58	.0001
Error	169	3.22		
Total	173			
Facility Size	4	8.57	2.27	.0637
Error	157	3.77		
Total	161			
Race	4	8.07	2.24	.0668
Error	170	3.60		
Total	174			

*Only those significant $\leq$ .067 level are listed.

dimension (Table XIII), with a significance level of 0.0422. In general, it seems that dietitians who supported their families felt that promotion is correlated with possible additional income or potential for additional income.

Respondents aged 51-55 years ($N = 15$, $\bar{X} = 3.00$) were significantly happier with the dimension promotion than those 25 years or under ($N = 7$, $\bar{X} = 1.00$) and 31-35 years ($N = 32$, $\bar{X} = 0.81$) (Table XV). Those in the age groups 26-50 years of age, 56-60 ($N = 10$, $\bar{X} = 2.60$) and 60 years and older ($N = 18$, $\bar{X} = 2.61$) were not significantly different from the other two age groups.

The ANOVA determinants (Table XIV) showed that B.S. significantly ($p = .0447$) affected promotion scores, however, the Duncan Multiple Range Test (Table XV) did not show a significant difference between the means of any of the seven majors because of uneven cells. The highest mean scores belonged to dietitians with majors in general B.S. ($N = 53$, $\bar{X} = 2.42$), home economics ($N = 16$, $\bar{X} = 1.81$) and foods and nutrition. The lowest mean scores were from those who majored in zoology ($N = 1$, $\bar{X} = 1.00$), institutional administration ($N = 4$, $\bar{X} = 1.00$), and english ($N = 1$, $\bar{X} = 1.00$).

Dietitians whose income was between $35,000-$39,999 ($N = 6$, $\bar{X} = 4.67$) were significantly happier with the QWL dimension promotion than were dietitians of income under $15,000 ($N = 31$, $\bar{X} = 1.13$) and $20,000-$24,999 ($N = 53$, $\bar{X} = 0.91$). There were no significant differences between the means of dietitians with incomes over $45,000 ($N = 2$, $\bar{X} = 3.50$), $30,000-$34,000 ($N = 15$, $\bar{X} = 3.00$), $40,000-$44,999 ($N = 4$, $\bar{X} = 2.75$), $15,000-$19,999 ($N = 21$, $\bar{X} = 2.00$), and $25,000-$29,999 ($N = 36$, $\bar{X} = 2.00$). When comparing the results with Taylor (1984)

TABLE XV

DUNCAN MULTIPLE RANGE TEST FOR PROMOTION SCORES AND PERSONAL AND INSTITUTIONAL VARIABLES

Variables	N	Mean	Grouping*
Age			
51-55 years	15	3.00	A
Over 60 years	18	2.61	AB
56-60 years	10	2.60	AB
46-50 years	16	2.50	AB
41-45 years	15	1.73	ABC
36-40 years	18	1.56	ABC
26-30 years	44	1.70	BC
25 or under years	7	1.00	C
31-35 years	32	0.81	C
B.S.			
General B.S.	53	2.42	A
Home Economics	16	1.81	A
Foods and Nutrition	51	1.43	A
Dietetic	47	1.19	A
Zoology	1	1.00	A
Institutional Administration	1	1.00	A
English	1	1.00	A
Income			
$35,000-$39,999	6	4.67	A
Over $45,000	2	3.50	AB
$30,000-$34,999	15	3.00	ABC
$40,000-$44,999	4	2.75	ABC
$15,000-$19,999	21	2.10	ABC
$25,000-$29,999	36	2.00	BC
Under $15,000	31	1.13	C
$20,000-$24,999	53	0.91	C
Years on the Job			
4-8 years	7	3.86	A
Over 8 years	5	3.00	A
2-3 years	6	0.50	B
One year	7	0.43	B

TABLE XV (Continued)

Variables	N	Mean	Grouping*
Other Types of Jobs			
General Business	5	4.40	A
Secretary	1	4.00	AB
Home Economist	1	3.00	AB
Foodservice	5	2.50	AB
Public Health	2	0.50	AB
Teaching	7	0.43	AB
Food Specialist	1	0.00	B
Financial Aid	1	0.00	B
Marital Status			
Widowed	9	3.78	A
Divorced	19	3.16	AB
Separated	3	2.33	ABC
Married	124	1.43	BC
Single	19	1.05	C

*Means with the same letter are not significantly different at the .05 level.

(who showed significance between income or salary and promotion) the mean score rankings were very similar with high salary with high mean scores and lower salary with lower mean scores.

Even though the ANOVA presented a significance level of p = .0001 (Table XIV), the Duncan Multiple Range Test (Table XV) did not show a significant difference between the means of the four categories of years or other jobs. However, those employed for more years, four - eight years (N = 7, $\bar{X}$ = 3.86) and over eight years (N = 5, $\bar{X}$ = 3.60) did score higher on promotion that did those employed less years, two - three years (N = 6, $\bar{X}$ = 0.43). Also, those respondents who had other jobs in the area of general business (N = 5, $\bar{X}$ = 4.40) were significantly different within the promotion dimension than were the food scientists (N = 1, $\bar{X}$ = 0.00) and financial aid workers (N = 1, $\bar{X}$ = 0.00) (Table XV). There were no significant differences between the mean scores of secretaries (N = 1, $\bar{X}$ = 4.00, home economists (N = 1, $\bar{X}$ = 3.00), foodservice (N = 5, $\bar{X}$ = 2.50), public health (N = 2, $\bar{X}$ = 0.50), teachers (N = 7, $\bar{X}$ = 0.43) and the other categories. The results showed that the dietitians who have had a job over four years outside the dietetic professions (particularly in business) may be more satisfied with promotion than dietitians with just traditional dietetic jobs.

Widowed respondents (N = 9) were happier ($\bar{X}$ = 3.78) with promotion than were single respondents (N = 19, $\bar{X}$ = 1.05) (Table XV). But there were no significant differences between scores of those divorced, separated, or married and either widowed or single dietitians.

QWL: Supervision on Present JOB (SPJ)

The QWL dimension, supervision on present job, dealt with the characteristics of the person responsible for overseeing the respondent. ODA dietitians seemed happy with the supervision they received (N = 172, $\bar{X}$ = 25.78) (Table VI). The maximum score was 32 for supervision and balance score (50 percent) would be 16.

TABLE XVI

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR SUPERVISION ON PRESENT JOB DIMENSION BY PERSONAL AND INSTITUTIONAL VARIABLES

Source	df	Mean Squares	F	p*
Income	7	33.97	3.52	.0016
Error	159	9.66		
Total	166			
Position Title	15	20.77	2.14	.0110
Error	149	9.72		
Total	164			
Years in Other Job	3	32.01	4.69	.0107
Error	23	6.82		
Total	26			
Route to ADA Membership	5	27.11	2.69	.0239
Error	164	10.17		
Total	169			
Number of People Supervised	3	43.29	4.39	.0055
Error	163	9.86		
Total	166			

*Only those significant at the .05 level are listed.

Of the 27 variables tested, five significantly ($p \leq .05$) affected the scores of dietitians of supervision on present job. These variables were: income ($p = .0015$), position title ($p = .0110$), years in other job ($p = .0107$), route to ADA membership ($p = .0239$), and number of people supervised ($p = .0055$) (Table XVI).

ODA dietitians earning incomes over $45,000 ($N = 3$, $\bar{X} = 29.30$), $40,000-$44,999 ($N = 4$, $\bar{X} = 29.65$) and $35,000-$39,999 ($N = 5$, $\bar{X} = 29.20$) were significantly higher with the supervision they received (Table XVII) than were those who made $30,000-$34,999 ($N = 14$, $\bar{X} = 25.71$), $20,000-$24,999 ($N = 51$, $\bar{X} = 24.84$) and $15,000-$19,999 ($N = 22$, $\bar{X} = 24.55$). Those who made under $15,000 ($N = 31$, $\bar{X} = 26.29$) and $25,000-$29,999 ($N = 37$, $\bar{X} = 26.22$) were not significantly different from the other two groups. The mean scores of high income dietitians may indicate that the respondents who made over $35,000 may be involved directly with supervision or have little supervision. Consequently, they have a strong interest in the dimension of supervision.

The Duncan Multiple Range Test for mean separation indicated three different groupings for position titles (Table XVII). The results reinforce the concept that those dietitians with management responsibility or little supervision (sales, $X = 27.50$) are happier with their supervision than other types of dietitians. There was no significant difference between the first two groups and the last group which included: sales, foodservice director, home economist, consultant dietitians, director of nutrition, counseling, general dietitians, professor, clinical dietitian, nutrition coordinator, public health nutritionist, teacher, and student.

TABLE XVII

DUNCAN MULTIPLE RANGE TEST FOR SUPERVISION ON PRESENT JOB SCORES AND PERSONAL AND INSTITUTIONAL VARIABLES

Variables	N	Mean	Grouping
Income			
Over $45,000	3	29.33	A
$40,000-$44,999	4	29.25	A
$35,000-$39,999	5	29.20	A
Under $15,000	31	26.29	AB
$25,000-$29,999	37	26.22	AB
$30,000-$34,999	14	25.71	B
$20,000-$24,999	51	24.84	B
$15,000-$19,999	22	24.55	B
Position Title			
Chief Nutrition Branch	3	29.33	A
Manager Patient Service	1	29.00	A
Assistant Director Hospital	1	29.00	A
Sales	2	27.50	AB
Foodservice Director	15	27.47	AB
Home Economist	2	27.00	AB
Consultant Dietitian	36	26.56	ABC
Director Nutrition Counseling	2	26.00	ABC
General Dietitian	28	25.82	ABC
Professor	3	25.67	ABC
Clinical Dietitian	46	25.24	ABC
Nutrition Coordinator	9	24.78	ABC
Public Health Nutritionist	12	23.33	ABC
Teacher	3	22.67	ABC
Student	1	21.00	ABC
Not Working	1	20.00	ABC
Years in Other Job			
Over 8 years	7	26.43	A
4-8 years	7	25.29	AB
One year	7	23.29	B
2-3 years	6	23.17	B

TABLE XVII (Continued)

Variables	N	Mean	Grouping
Route to ADA Membership			
"Other"	1	28.00	A
Internship	96	26.43	A
Three Year's Preplanned Work Experience	10	25.40	A
CUP Program	29	25.38	A
Master's and Six Months Work Experience	18	24.89	A
Traineeship	16	23.69	A
Number of People Supervised			
Over 10 people	41	26.73	A
6-10 people	30	26.37	A
1-5 people	37	26.00	AB
Zero people	59	24.61	A

Those dietitians who worked in other jobs (non-dietetic) for over eight years (N = 7, $\bar{X}$ = 26.43) were significantly happier with the supervision they received (Table XVII) than those who worked one year (N = 7, $\bar{X}$ = 23.29) and two - three years (N = 6, $\bar{X}$ = 23.17). Those who worked four to eight years were not significantly different from the other two groups.

Even though the ANOVA presented a significant level of p = .0055 (Table XVI), the Duncan Multiple Range Test (Table XVII) did not show a significant difference between the means of the six categories of route to ADA membership. The three highest means belonged to the "other" (N = 1, $\bar{X}$ = 28.00), internship (N = 96, $\bar{X}$ = 26.43), and three year's preplanned work experience (N = 10, $\bar{X}$ = 25.40). In generalizing the results, the older worker ("other") is happier with supervision than a younger worker, and the internship and preplanned work experience are better structured programs for dietitians than the other three routes to membership.

Respondents who supervised over 10 workers (N = 41, X = 26.73) and six - 10 workers (N = 30, X = 26.37) were significantly happier with their supervision (Table XVII) than those who supervised zero workers. Those who supervised one - five workers were not significantly different than the other two groups. It makes sense that those who supervise many workers better understand and appreciate supervision. Taylor (1984) found no significance between independent variables and supervision. Leche (1984) only found size of institution significantly affected the supervision on their present jobs.

QWL: General Job Satisfaction (GJS)

The general job satisfaction dimension of QWL refers to how a worker feels about his job. ODA dietitians overall seemed to experience general job satisfaction, as the mean score was 5.45 (N = 177) with a maximum possible score of 7 (Table VI).

Of the 27 personal and institutional variables tested, only three significantly ($p \leq .05$) affected GJS scores (Table XVIII). The variables found significant include: position title ($p = 0.0136$), employment status ($p = .0001$), and marital status ($p = 0.0200$).

ODA dietitians showed a significant relationship, though, with general job satisfaction, the number of observations for job titles did not indicate any difference between groups (Table XIX). No conclusions can be generalized from the results other than that consultant dietitians ($\bar{X} = 5.84$) seem more generally satisfied with their job than clinical dietitians ($\bar{X} = 5.50$) and general dietitians ($\bar{X} = 5.24$).

Respondents employed less than 20 hours per week ($N = 27$, $\bar{X} = 6.04$) and 21-34 hours per week ($N = 24$, $\bar{X} = 5.88$) were significantly happier with general job satisfaction (Table XIX) than those employed 35 hours or over per week ($N = 124$, $\bar{X} = 5.22$). Possibly, ODA dietitians who work less than 35 hours per week have higher job satisfaction because they may not need the job.

Even though the ANOVA (Table XVIII) revealed that marital status significantly affected ($p = .0200$) general job satisfaction scores, the Duncan Multiple Range Test (Table XIX) did not show a significant difference between the means because of unequal cells. Yet, those widowed ($N = 10$, $\bar{X} = 5.60$) and married ($N = 127$, $\bar{X} = 5.55$) did score

higher than those separated (N = 3, $\bar{X}$ = 5.33), divorced (N = 18, $\bar{X}$ = 5.11), and single (N = 18, $\bar{X}$ = 4.94). These results reinforce the concept that those who may not need to work (widowed or married) have higher job satisfaction.

TABLE XVIII

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR GENERAL JOB SATISFACTION DIMENSION BY PERSONAL VARIABLES

Source	df	Mean Square	F	p*
Position Title	15	1.36	2.08	0.0136
Error	157	0.65		
Total	172			
Employment Status	2	10.08	15.56	0.0001
Error	173	0.61		
Total	175			
Marital Status	4	2.06	3.00	0.2000
Error	171	0.69		
Total	175			
Number of People Supervised	3	1.74	2.46	0.0632
Error	169	0.71		
Total	172			

*Only those significant at the .065 are listed.

According to Taylor (1984), the general job satisfaction dimension was adopted from the Job Diagnostic Survey (Hackman and Oldham, 1980). Hackman and Oldham (1980) provided normative data on a seven-point scale for professional or technical workers of 4.9 mean score. The DIBI

TABLE XIX

DUNCAN MULTIPLE RANGE TEST FOR GENERAL JOB SATISFACTION SCORES AND PERSONAL VARIABLES[a]

Variables	N	Mean	Grouping[b]
Position Title			
Assistant Director Hospital	1	7.00	A
Student	1	6.00	AB
Consultant Dietitian	44	5.84	AB
Chief Nutrition Branch	3	5.67	ABC
Teacher	3	5.67	ABC
Home Economist	2	5.50	ABC
Clinical Dietitian	46	5.50	ABC
Professor	5	5.40	ABC
General Dietitian	25	5.24	BC
Public Health Nutritionist	13	5.15	BC
Nutrition Coordinator	9	5.11	BC
Foodservice Supervisor	15	5.07	BC
Sales	2	5.00	BC
Director Nutrition Branch	2	5.00	BC
Not Working	1	4.00	C
Manager Patient Services	1	4.00	C
Employment Status			
Less than 20 hours/week	27	6.04	A
21-34 hours/week	25	5.88	A
35 hours and over/week	124	5.22	B
Marital Status			
Widowed	10	5.60	A
Married	127	5.55	A
Separated	3	5.33	A
Divorced	18	5.11	A
Single	18	4.94	A

[a]Data shown for significant findings only.

[b]Means with the same letter are not significantly different at the .05 level.

mean score of 26.80 was adjusted to 5.36. The ODA dietitians were greater than the norm and DIBI with a mean score of 5.45 (Table VI). The Leche (1984) score was a little lower than that of Taylor (1984).

QWL: People on Your Present JOB (POYPJ)

The QWL dimension, people on your present job, dealt with the characteristics of co-workers encountered on the job or the people met in connection with work. ODA dietitians answering items about co-workers (N = 175) appeared to be very happy with the people they worked with. The mean "people on your present job" score was 14.39 (Table VI) with a maximum score of 16.

Of 27 personal and institutional variables studied, only M.S. degree ($p = .0093$) and marital status ($p = .0158$) significantly ($p \leq .05$) affected the co-worker scores (Table XX). We will also examine age ($p = .0535$) and other type of dietetic jobs ($p = .0543$) because of their closeness to the .05 level of significance.

The ANOVA determination (Table XX) shows that M.S. degree significantly ($p = .0093$) affected people on your present job scores. The Duncan Multiple Range Test (Table XXI) did not show a significant difference between the means because of unequal cells. Yet, ODA dietitians in the traditional advanced degree majors: dietetics ($N = 2$, $\bar{X} = 15.00$), institutional administration ($N = 4$, $\bar{X} = 14.75$), or foods and nutrition ($N = 29$, $\bar{X} = 13.31$) had lower mean scores than the less traditional majors: home economics ($N = 6$, $\bar{X} = 15,33$), M.P.H. ($N = 4$, $\bar{X} = 15.25$), and general ($N = 14$, $\bar{X} = 15.07$).

Widowed respondents ($N = 9$) were happier ($\bar{X} = 15,67$) with co-workers than were single ($N = 20$, $\bar{X} = 13.95$), separated ($N = 3$,

X = 13.67) and divorced (N = 19, X = 13.63) respondents (Table XXI). There were no significant differences between the mean scores of married dietitians and the other two groups of dietitians.

TABLE XX

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR PEOPLE ON YOUR PRESENT JOB DIMENSION BY PERSONAL VARIABLES

Source	df	Mean Squares	F	p*
M.S.	6	8.20	3.20	.0093
Error	56	2.56		
Total	60			
Marital Status	4	8.04	3.15	.0158
Error	167	2.55		
Total	171			
Age	8	4.97	1.97	.0535
Error	166	2.53		
Total	174			
Other Dietetic Jobs	5	4.73	2.46	.0543
Error	32	1.93		
Total	37			

*Only those significant at the .0550 level are listed.

Respondents over 60 years old and above (N = 20, $\bar{X}$ = 15.50) were significantly happier with their workers than those 41-45 years (N = 14, $\bar{X}$ = 14.14), 56=60 years (N = 13, $\bar{X}$ = 14.08), 25 years and under (N = 8, $\bar{X}$ = 14.00) and 31-35 years (N = 30, $\bar{X}$ = 13.83). Those in the age range of 51-55 years (N = 18, $\bar{X}$ = 14.72), 46-50 years

TABLE XXI

DUNCAN MULTIPLE RANGE TEST FOR PEOPLE ON YOUR PRESENT JOB SCORES AND PERSONAL VARIABLES[a]

Variables	N	Mean	Grouping
M.S.			
Home Economics	6	15.33	A
M.P.H.	4	15.25	A
General	14	15.07	A
Dietetic	2	15.00	A
Institutional Administration	4	14.75	A
M.B.A.	2	13.50	A
Foods and Nutrition	29	13.31	A
Marital Status			
Widowed	9	15.67	A
Married	121	14.49	AB
Single	20	13.95	B
Separated	3	13.67	B
Divorced	19	13.63	B
Age			
Over 60 years	20	15.50	A
51-55 years	18	14.72	AB
46-50 years	17	14.47	AB
36-40 years	15	14.47	AB
26-30 years	40	14.30	AB
41-45 years	14	14.14	B
56-60 years	13	14.08	B
25 or under years	8	14.00	B
31-35 years	30	13.83	B
Other Dietetic Jobs			
Teaching/Training	5	15.60	A
Research	2	15.50	A
Community	4	15.00	AB
Generalist	4	14.00	AB
Consultant	18	14.00	AB
Public Health	5	13.00	B

[a]Data shown for significant findings only.

(N = 17, $\bar{X}$ = 14.47), 36-40 years (N = 15, $\bar{X}$ = 14.47), and 26-30 years (N = 40, $\bar{X}$ = 14.30) were not significantly different from the other two groups. Of the ODA dietitians who have worked in other types of dietetic jobs (other than administrative or therapeutic), teaching/ training (N = 5, $\bar{X}$ = 15.60) and research (N = 2, $\bar{X}$ = 15.50) were significantly happier with their co-workers than the area of public health (N = 5, $\bar{X}$ = 13.00). Dietitians who worked in the community (N = 4, $\bar{X}$ = 15.00), as a generalist (N = 4, $\bar{X}$ = 14.00) and as a consultant (N = 18, $\bar{X}$ = 14.00) were not significantly different from the other two groups.

QWL: Job in General (JIG)

The QWL dimension, job in general, dealt with the overall feeling about the work performed. The mean score of the respondents was 21, compared with a frequency mean score of 18.48. (Mean scores were calculated by adding the mean scores of the three questions used to measure general job satisfaction.) The respondents seemed happy about their jobs in general.

Of the 27 personal and institutional variables tested, 14 did significantly affect ($p \leq .05$) the JIG scores. The variables of significance included: sex (p = .0180) (Table XXII), age (p = .0001), B.S. (p = .0037), income (p = .0001), route to ADA membership (p = .0001), years in job (p = .0007), size of facility (p = .0455), marital status (p = .0010), spouse's occupation (p = .0154, number of children (p = .0001), and number of children at home (p = .0001) (Table XXIII).

TABLE XXII

t-TEST PROCEDURE FOR JOB IN GENERAL DIMENSION AND SEX

Sex	N	Mean	Standard Error	t	p*
Female	174	21.13	0.79	-1.17	0.0018
Male	3	14.00	0.58		

*Significant (t-test) at the .05 level.

Females (N = 174, $\bar{X}$ = 21.13) scored significantly higher than did males (N = 3, $\bar{X}$ = 14.00) on the job in general dimension (Table XXII) with a significance level of .0180. Respondents in the age category of job in general dimension had mean scores in five groups. ODA dietitians over 60 years old (N = 18, $\bar{X}$ = 35.56), 51-55 years (N = 18, $\bar{X}$ = 30.67) and 56-60 years (N = 12, $\bar{X}$ = 30.42) were significantly happier than those 41-45 years old (N = 13, $\bar{X}$ = 23.39), 36-40 years (N = 17, $\bar{X}$ = 18.65), and under 25 years (N = 8, $\bar{X}$ = 9.75) (Table XXIV). Yet, no significant differences were shown between the other groups and the first two groups. For other grouping refer to Table XXIV.

Older ODA dietitians seemed happier with their jobs in general possibly because they have been in the profession for a longer time and no longer have to establish themselves.

Even though the ANOVA presented a significance level of p = .0037 (Table XXIII), the Duncan Multiple Range Test (Table XXIV) did not show a significant difference between the means of the bachelor of science majors. The results do not reveal any particularly important

TABLE XXIII

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR JOB IN GENERAL DIMENSION BY PERSONAL AND INSTITUTIONAL VARIABLES

Source	df	Mean Squares	F	p
Age	8	1544.53	37.46	.0001
Error	168	41.23		
Total	176			
B.S.	6	343.84	3.36	.0037
Error	168	102.21		
Total	176			
Income	7	554.79	6.16	.0001
Error	167	90.91		
Total	174			
Route to ADA Membership	5	621.18	6.57	.0001
Error	171	94.60		
Total	176			
Years in Present Job	4	1632.27	22.87	.0001
Error	162	71.36		
Total	166			
Years in Administrative Dietetic Job	4	619.38	7.40	.0001
Error	85	83.74		
Total	89			
Years in Other Job	3	124.77	8.24	.0007
Error	22	88.00		
Total	25			
Size of Facility	4	271.19	2.49	.0455
Error	161	109.03		
Total	165			
Marital Status	4	490.17	4.86	.0010
Error	171	100.82		
Total	165			
Spouse's Occupation	8	241.20	2.50	.0154
Error	112	96.42		
Total	120			

TABLE XXIII (Continued)

Source	df	Mean Square	F	p
Number of Children	7	553.11	6.20	.0001
Error	162	89.18		
Total	169			
Number of Children at Home	4	620.43	6.45	.0001
Error	164	96.25		
Total	168			

TABLE XXIV

DUNCAN MULTIPLE RANGE TEST FOR JOB IN GENERAL SCORES AND PERSONAL AND INSTITUTIONAL VARIABLES

Variables	N	Mean	Grouping
Age			
Over 60 years	18	35.56	A
51-55 years	18	30.67	B
56-60 years	12	30.42	B
46-50 years	18	26.22	BC
41-45 years	13	23.39	C
36-40 years	17	18.65	D
31-35 years	31	14.61	DE
26-30 years	42	12.88	EF
Under 25 years	8	9.25	F
B.S.			
Home Economics	17	27.06	A
Institutional Administration	4	23.25	A
General	54	22.70	A
Foods and Nutrition	51	21.92	A
Dietetic	47	16.15	A
English	1	14.00	A
Zoology	1	13.00	A
Income			
$40,000-$44,999	4	35.50	A
$35,000-$39,999	6	35.50	A
Over $45,000	2	28.50	AB
$30,000-$34,999	15	24.13	BC
$15,000-$19,999	23	22.17	BC
$25,000-$29,999	37	21.57	BC
Under $15,000	35	21.14	BC
$20,000-$24,999	53	15.71	C
Route to ADA Membership			
Three Year's Preplanned Work Experience	10	25.10	A
Internship	98	24.08	A
"Other"	1	20.00	A
Master's and Six Months Work Experience	20	18.05	A
Traineeship	17	17.71	A
CUP Program	31	13.71	A

TABLE XXIV (Continued)

Variables	N	Mean	Grouping
Years in Present Job			
Over 13 years	34	32.41	A
6-13 years	30	23.03	AB
3-5 years	42	19.62	B
1-2 years	60	15.45	B
Years in Administrative Dietetic Job			
Over 11 years	20	31.70	A
5-11 years	24	25.67	AB
Zero years	4	22.00	B
3-4 years	16	19.94	B
1-2 years	26	17.92	B
Years in Other Type of Jobs			
Over 8 years	6	39.50	A
4-8 years	7	26.14	B
2-3 years	6	18.83	B
One year	7	15.14	B
Size of Facility			
500-999 participants	22	25.90	A
Over 1,000 participants	31	23.48	AB
Under 100 participants	45	21.47	AB
100-299 participants	40	19.13	B
300-499 participants	28	18.14	B
Marital Status			
Widowed	10	33.00	A
Divorced	19	23.63	B
Separated	3	21.33	B
Married	125	20.35	B
Single	19	16.79	B
Spouse's Occupation			
Service	1	41.00	A
Retired	7	32.00	AB
Rancher/Farmer	3	24.67	ABC
Manager	23	21.44	BC
Sales	7	20.14	BC
Professional/Technical	74	19.01	BC
Blue Collar	3	18.00	BC
Clerical	1	14.00	BC
Student	2	8.50	C

TABLE XXIV (Continued)

Variables	N	Mean	Grouping
Number of Children			
8	1	42.00	A
6	2	35.00	AB
5	4	29.25	ABC
4	10	28.40	ABC
3	25	26.68	BC
1	29	21.38	BC
2	54	20.35	BC
0	45	15.44	C
Number of Children at Home			
4	2	48.50	A
0	90	23.02	B
3	6	20.67	B
1	33	18.70	B
2	38	17.63	B

conclusion. Leche (1984) indicated that management dietitians with B.S. degrees were also happier with their jobs in general.

Respondents earning an income of $40,000-$44,999 (N = 4, $\bar{X}$ = 35.50) and $35,000-$39,999 (N = 6, $\bar{X}$ = 35.50) scored significantly higher on the JIG dimension than those earning $20,000-$24,999 (N = 53, $\bar{X}$ = 15.71) (Table XXIV). There was no significant difference noted between the means of the other group and the first two groups. It is obvious from the mean score that ODA dietitians who have a higher income were happier with their job in general. These results coincide with Taylor's (1984) very closely.

Even though the ANOVA (Table XXIII) suggested that route to ADA membership significantly affected (p = .0001) JIG scores, the Duncan Multiple Range Test (Table XXIV) did not show a significant difference between the mean of membership route. It did show that CUP program (N = 31, $\bar{X}$ = 13.71) and traineeship graduates (N = 17, $\bar{X}$ = 17.71) liked their jobs less than work experience dietitians (N = 10, $\bar{X}$ = 25.10) and internship graduates (N = 98, $\bar{X}$ = 24.08).

Years working for ODA dietitians were significantly related to their jobs in general. Respondents who have worked over 13 years (N = 34, $\bar{X}$ = 32.41) on the present job scored significantly higher on the JIG dimension than those who have worked three to five years (N = 42, $\bar{X}$ = 19.62) and one to two years (N = 60, $\bar{X}$ = 15.45) (Table XXIV). There were no significant differences between the mean scores of those who have worked six to 13 years on present job (N = 30, $\bar{X}$ = 23.03) and the other two groups. The longer you work on your job the happier you seem with it.

This is also true for those dietitians who work in the administrative area of dietetics and other types of jobs. Respondents who have worked over 11 years (N = 20, $\bar{X}$ = 31.70) in the administrative dietetics were significantly happier with their job in general than those who have worked four years or less. Refer to Table XXIV for mean scores. Also, dietitians who have worked over eight years in other types of jobs were significantly happier with JIG than those who worked less than eight years (Table XXIV).

Dietitians who worked in facilities of 500-999 clients (N = 22, $\bar{X}$ = 25.90) were significantly happier with their job in general than those who worked in facilities of 100-299 clients (N = 40, $\bar{X}$ = 19.13) and 300-499 clients (N = 28, $\bar{X}$ = 18.14). Respondents who worked in institutions of over 1,000 clients (N = 31, $\bar{X}$ = 21.47) were not significantly different from the other two facility sizes (Table XXIV). The results indicate that facilities with more clients seem to enjoy their job in general.

Widowed respondents (N = 10) were happier ($\bar{X}$ = 33.00) with their jobs in general than the other four marital status groups (Table XXIV). Again, it seems widowed dietitians look forward to work because of a lack of other activities. However, Taylor (1984) found that married dietitians were happier with the JIG dimension than single dietitians.

Respondents with large numbers of children seemed to enjoy their jobs, in general, more than those with small numbers of children. As the Table XXIV indicates, the mean scores lower as the number of children decreases. Also, those who have four children at home (N = 2, $\bar{X}$ = 48.50) significantly scored better on the JIG dimension

than those with three or less (Table XXIV). Again, it seems that dietitians with large families like their jobs for a variety of reasons.

QWL: Performance Constraint Measure (PCM)

The QWL dimension, performance constraint measure, was a frustration index that measured situation variables relevant to a worker's performance (Taylor, 1984). The higher the PCM score, the less frustration was experienced on the job. The maximum score was 20. The mean score of the ODA respondents was 13.38 which signifies that the respondents were basically not experiencing performance constraints.

The variables of income ($p = .0132$), position title ($p = .0025$), other types of job ($p = .0313$), employment status ($p = .0001$), and number of people supervised ($p = .0006$) did significantly ($p \leq .05$) affect performance constraint measure scores (Table XXV).

ODA dietitians' income was significantly related to PCM dimension and was categorized in three groups. Those respondents who had income over $45,000 ($N = 3$, $\bar{X} = 17.00$) scored significantly higher on the PCM dimension that did those who had incomes $35,000-$39,999 ($N = 5$, $\bar{X} = 10.80$) (Table XXVI). Yet, there was no significant difference between the mean scores of those of income in the third group. Refer to Table XXVI for groupings. In general, those who have more income seem to have less performance constraints on the job.

Because of the small observations between the mean scores of position title, no significant differences could be determined. Refer to Table XXVI for means and groupings. Of the traditional dietetic titles, the consultant dietitian ($N = 28$, $\bar{X} = 15.36$) felt

less performance constraints than the general dietitians (N = 30, $\bar{X}$ = 12.36) or the clinical dietitians (N = 30, $\bar{X}$ = 12.33). Respondents with job experiences other than dietetics also seemed to give little insight to the PCM dimension.

TABLE XXV

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR PERFORMANCE CONSTRAINT MEASURE DIMENSION BY PERSONAL AND INSTITUTIONAL VARIABLES

Source	df	Mean Squares	F	p*
Income	7	27.51	2.67	.0132
Error	120	10.29		
Total	127			
Position Title	14	25.89	2.63	.0025
Error	112	9.85		
Total	126			
Other Types of Job	6	28.21	3.48	.0313
Error	12	8.10		
Total	18			
Employment Status	2	98.40	9.89	.0001
Error	125	9.95		
Total	127			
Number of People Supervised	3	65.92	6.34	.0006
Error	124	10.40		
Total	127			

*Only those significant at the .05 level are listed.

TABLE XXVI

DUNCAN MULTIPLE RANGE TEST FOR PERFORMANCE CONSTRAINTS[a] MEASURE SCORES AND PERSONAL AND INSTITUTIONAL VARIABLES

Variables	N	Mean	Grouping[b]
Income			
Over $45,000	3	17.00	A
Under $15,000	27	15.15	AB
$40,000-$44,999	4	13.50	BC
$30,000-$34,999	13	13.15	BC
$25,000-$29,999	26	13.000	BC
$20,000-$24,999	34	12.88	BC
$15,000-$19,999	16	12.19	BC
$35,000-$39,999	5	10.80	C
Position Title			
Student	1	19.00	A
Teacher	2	18.50	AB
Manager Patient Services	1	17.00	ABC
Assistant Director Hospital	1	17.00	ABC
Consultant Dietitian	28	15.36	ABC
Chief Nutrition Branch	3	15.33	ABC
Director Nutrition Counseling	2	15.00	ABC
Sales	2	14.50	ABC
Public Health Nutritionist	6	13.33	ABC
Home Economist	2	12.50	ABC
General Dietitian	25	12.36	ABC
Clinical Dietitian	30	12.33	ABC
Foodservice Supervisor	14	12.14	BC
Nutrition Coordinator	6	11.83	BC
Professor	4	10.75	C
Other Types of Jobs			
Financial Aid Manager	1	20.00	A
Teaching Research	5	15.90	AB
General Business	5	15.60	AB
Home Economist	1	14.00	ABC
Public Health	2	11.50	BC
Foodservice	4	10.25	BC
Food Scientist	1	8.00	C

TABLE XXVI (Continued)

Variables	N	Mean	Grouping[b]
Employment Status			
Under 20 hours/week	22	16.05	A
20-34 hours/week	16	13.50	B
35 or over hours/week	90	12.71	B
Number of People Supervised			
Zero	21	15.00	A
1-5	35	14.63	A
Over 10	42	12.36	B
6-10	30	12.17	B

[a]Data shown for significant findings only ($p \leq .05$).

[b]Means with the same letter are not significantly different at the .05 level.

Those employed less than 20 hours per week (N = 22) experienced fewer performance constraints ($\bar{X}$ = 16.05) than those employed over 35 hours per week (N = 16, $\bar{X}$ = 12.71) and 20-34 hours per week (N = 16, $\bar{X}$ = 13.50) (Table XXVI). Those working under 20 hours per week probably do not feel the constraints of a job.

Taylor (1984) found in her study with business dietitians just the opposite results. ODA dietitians who supervise five or fewer workers scored significantly higher on the PCM dimension than those who supervise over six workers (Table XXVI). It seems logical that dietitians who supervise more workers would feel more frustration with their performance.

Occupational Stress of ODA Dietitians

The occupational stress dependent variables were determined by the researchers of the National Women's Stress Survey (see Development of Instrument, Chapter III). The researchers reviewed the survey instrument and chose those questions which appeared to best describe the characteristics of occupational stress dimensions. The occupational stress dimensions chosen for study in this research included: Coping, Behavioral Strains, Physical Strain, and Mental Health.

The occupational stress scores are illustrated in Table XXVII. The maximum and minimum scores were those of survey respondents.

Occupational Stress: Coping

The occupational dimension, coping, dealt with the worker's system for releasing stress, controlling and discussing anger and problem solving on the job. Respondents answering items about coping (N = 179)

appeared to be able to cope very well with their job environment. The mean score of 26.05 of coping was very high with a maximum score of 36.

TABLE XXVII

OCCUPATIONAL STRESS DIMENSIONS SCORES AND MEANS

Dimensions	N[a]	Maximum Scores	Minimum Scores	Mean Scores
Coping	179	36	16	26.05 ± 3.21
Behavioral Strains	180	16	7	14.01 ± 1.40
Physical Strains	184	32	19	29.16 ± 2.80
Mental Health	178	24	12	20.02 ± 2.75

[a]Unequal N's due to nonresponse on some dimensions.

[b]Actual maximum and minimum scores of respondents.

[c]Standard deviation.

Of the 18 personal variables and nine institutional variables studied in this research, five variables significantly ($p \leq .05$) affected coping scores. The variables included: licensure ($p = .0028$) (Table XXVIII), B.S. degree ($p = .0449$), other type of jobs ($p = .0347$), employment status ($p = .0478$), and race ($p = .0176$) (Table XXIX).

ODA dietitians who were licensed ($N = 154$, $\bar{X} = 26.05$) scored significantly higher than did non-licensed ($N = 18$, $\bar{X} = 25.50$) on the coping dimension (Table XXVIII), with a significance level of 0.0028. Respondents who were licensed may seem a little more professional

about their work and may be able to cope better with their jobs. The mean scores are very close, so the statement is very general.

TABLE XXVIII

t-TEST PROCEDURE FOR COPING DIMENSION AND LICENSURE

Licensure	N	Mean	Standard Error	t	p*
Licensed	154	26.05	0.24	0.49	0.0028
Non-licensed	18	25.50	1.09		

*Significant (t-test) at the .05 level.

TABLE XXIX

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR COPING DIMENSION BY PERSONAL VARIABLES

Source	df	Mean Squares	F	p*
B.S. Degree	6	21.69	2.20	.0449
Error	170	9.84		
Total	176			
Other Types of Job	7	23.66	2.89	.0347
Error	17	8.18		
Total	24			
Employment Status	2	31.32	3.10	.0478
Error	173	10.18		
Total	175			
Race	4	30.40	3.08	.0176
Error	173	9.87		
Total	177			

*Only those significant at .05 level are listed.

ODA dietitians with B.S. degrees showed a significant relationship with coping but because of the small observations, no difference can be reported between the means. The interesting part of the results is that dietitians with a B.S. in foods and nutrition had the lowest mean score in the dimension of coping (Table XXX).

Respondents employed at least 35 hours per week (N = 124) had significantly ($\bar{X}$ = 26.31) higher coping scores than those employed 20-34 hours per week (N = 24, $\bar{X}$ = 24.54). Means of respondents employed under 20 hours per week (N = 28, $\bar{X}$ = 26.00) were not significantly different from either of the other two groups (Table XXX). The mean scores were so close it would be difficult to make a definite conclusion about the results.

Occupational Stress: Behavioral Strain

The occupational stress dimension, behavioral strain, dealt with the worker's behavioral reaction to anger, frustration or anxiety. When asked, "When you are angry, frustrated or anxious, how often are you likely to drink coffee or soda, smoke cigarettes, drink alcohol, use drugs, or take medicine?", the mean score of the respondents was 14.01 out of the maximum of 16 (Table XXVII). This means that the average dietitians answered never when asked if she used any stimulants when stressed. Consequently, only two variables significantly affected ($p < .05$) behavioral strain scores: years on job ($p = .0100$) and percentage of women work around ($p = .0112$) (Table XXXI).

The ANOVA determinations (Table XXXI) show years in job were significant ($p = .0100$) for behavioral strain scores, however, the Duncan Multiple Range Test (Table XXXII) did not show a true

TABLE XXX

DUNCAN MULTIPLE TEST FOR COPING SCORES AND PERSONAL VARIABLES[a]

Variables	N	Mean	Grouping[b]
B.S. Degree			
Zoology	1	32.00	A
English	1	28.00	AB
Foodservice Management	4	27.00	AB
General	54	26.72	B
Dietetic	49	26.25	B
Home Economics	16	25.44	B
Food and Nutrition	52	25.02	B
Other Types of Jobs			
Food Scientist	1	33.00	A
Secretary	1	30.00	AB
Public Health	2	29.50	AB
Financial Aid Manager	1	29.00	AB
Food Service	5	27.70	AB
General Business	5	24.20	B
Home Economist	1	24.00	B
Teaching Research	9	23.89	B
Employment Status			
35 or over hours/week	124	26.31	A
Under 20 hours/week	28	26.00	AB
20-34 hours/week	24	24.54	B
Race			
Hispanic	2	32.50	A
Black	3	28.33	AB
Asian	2	26.50	B
White	167	25.96	B
Native American	4	23.75	B

[a]Data shown for significant findings only ($p \leq .05$).

[b]Means with the same letter are not significantly different at the .05 level.

significant difference between the means of any of the five years groups. Since all the mean scores were very close, no conclusion can be made.

TABLE XXXI

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR BEHAVIORAL STRAINS DIMENSIONS BY PERSONAL AND INSTITUTIONAL VARIABLES

Source	df	Mean Square	F	p*
Years in Job	4	5.51	3.44	.0100
Error	163	1.60		
Total	167			
Percent of Women at Work	5	5.78	3.07	.0112
Error	170	1.88		
Total	175			

*Only those significant at the .05 level are listed.

Again the ANOVA presented a significance level of p = .0112 (Table XXXI) and the Duncan Multiple Range Test (Table XXXII) did not show a significant difference between the six categories of the percentage of women at work. Respondents who worked around a variety of percentage of women did not show a pattern of large or small with relationship to behavioral strain.

Occupational Stress: Physical Strain

The occupational stress dimension, physical strain, dealt with the worker's health problems or symptoms. The strain symptoms include:

eyestrain, headaches, colds, nausea, muscle pain, indigestion, skin rash, and chest pains. ODA dietitians seemed to have a lack of physical strain they incur (N = 184, $\bar{X}$ = 29.16). With a mean score of 29.16 out of a maximum score 32, respondents indicated never or rarely did they have the physical symptoms mentioned above (Table XXVII).

TABLE XXXII

DUNCAN MULTIPLE RANGE TEST FOR BEHAVIORAL STRAIN SCORES AND PERSONAL AND INSTITUTIONAL VARIABLES[a]

Variables	N	Mean	Grouping[b]
Years in Job			
Over 13 years	33	14.52	A
3-4 years	43	14.19	A
6-13 years	31	14.07	A
1-2 years	60	13.77	A
Zero year	1	11.00	B
Percentage of Women at Work			
65%	24	14.70	A
All women	41	14.39	A
35%	4	14.25	A
85%	89	13.71	A
50%	14	13.64	A
15%	4	13.50	A

[a]Data shown for significant findings only ($p \leq .05$).

[b]Means with the same letter are not significantly different at the .05 level.

The variables of type of facility ($p = .0414$), marital status ($p = .0023$), number of children ($p = .0181$), spouse's occupation ($p = .0297$), and percentage of women working around ($p = .0075$) did significantly ($p < .05$) affect the physical strain dimension (Table XXXIII).

TABLE XXXIII

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR PHYSICAL STRAIN JOB DIMENSION BY PERSONAL AND INSTITUTIONAL VARIABLES

Source	df	Mean Square	F	p*
Type of Facility	17	12.92	1.73	.0414
Error	161	7.45		
Total	178			
Marital Status	4	31.94	4.34	.0023
Error	176	7.37		
Total	180			
Number of Children	7	18.66	2.50	.0181
Error	167	7.46		
Total	174			
Spouse's Occupation	8	13.57	2.23	.0297
Error	116	6.08		
Total	124			
Percentage of Women as Work	5	24.41	3.28	.0075
Error	173	7.43		
Total	178			

*Only those significant at the .05 level are listed.

Widowed respondents (N = 10) scored higher ($\bar{X}$ = 30.40) on the physical strain dimension that did the single respondents (N = 19, $\bar{X}$ = 27.16) (Table XXXIV). But there were no significant differences between the mean scores of those married (N = 130, $\bar{X}$ = 29.48), separated (N = 5, $\bar{X}$ = 29.00), and divorced (N = 19, $\bar{X}$ = 28.05). The marital status of the ODA dietitians did not show a strong difference between groups of means scores.

Even though the ANOVA presents a significance level of p = .0181 (Table XXXIII), the Duncan Multiple Range Test (Table XXXIII) did not show a significant difference between the means of the different number of children ODA respondents had. Those who had more children seemed to have felt they had less physical strain on their jobs.

ODA dietitians who worked around 15 percent women (N = 4, $\bar{X}$ = 31.00), 65 percent women (N = 23, $\bar{X}$ = 30.04), and 35 percent women (N = 4, $\bar{X}$ = 29.75) felt less physical strain in general than did those who worked around 50 percent women (N = 14, $\bar{X}$ = 26.64) (Table XXXIV). There were no significant differences noted between the means of those who worked around 85 percent women (N = 93, $\bar{X}$ = 29.23) and all women (N = 41, $\bar{X}$ = 29.12).

Occupational Stress: Mental Health

The occupational stress dimension, mental health, dealt with the worker's mental health problems or symptoms they experienced on a regular basis. The mental health dimension includes: Anger, anxiety, signs of physical depression (exhaustion and trouble sleeping), and emotional depression. The mean score of the respondent (N = 178) was 20.02 out of maximum score of 24.00 (Table XXVII). The ODA dietitians

TABLE XXXIV

DUNCAN MULTIPLE RANGE TEST FOR PHYSICAL STRAIN SCORES AND PERSONAL AND INSTITUTIONAL VARIABLES[a]

Variables	N	Mean	Grouping[b]
Type of Facility			
Rehab Institute	1	32.00	A
Commercial Foodservice	1	32.00	A
College Foodservice	3	31.67	A
University Nursing School	1	31.00	A
Hospital and Nursing Home	3	30.33	AB
Community	3	30.33	AB
Health Science Center	2	30.00	AB
WCD Program	1	30.00	AB
Nursing Home	22	29.59	AB
Hospital	91	29.54	AB
Private Practice	4	29.00	AB
School Foodservice	5	28.80	AB
Clinic	8	28.50	AB
Private Agency	9	27.78	AB
County Health Department	13	27.39	AB
Sales	4	27.25	AB
Home Economics Department	6	26.50	AB
Institute for Mentally Retarded	2	25.00	B
Marital Status			
Widowed	10	30.40	A
Married	130	29.48	AB
Separated	3	29.00	AB
Divorced	19	28.05	AB
Single	19	27.16	B
Number of Children			
8	1	32.00	A
6	2	31.50	A
5	4	30.75	A
4	10	30.60	A
2	58	29.57	A
1	30	29.43	A
3	26	29.12	A
0	44	27.91	A

TABLE XXXIV (Continued)

Variables	N	Mean	Grouping[b]
Spouse's Occupation			
Service	1	31.00	A
Sales	7	30.86	A
Farmer/Rancher	3	30.33	A
Manager	24	29.58	AB
Professional/Technical	78	29.55	AB
Student	2	29.50	AB
Retired	5	29.20	AB
Clerical	1	29.00	AB
Blue Collar	4	24.75	B
Percentage of Women at Work			
15%	4	31.00	A
65%	23	30.04	A
35%	4	29.75	A
85%	93	29.23	AB
All Women	41	29.12	AB
50%	14	26.64	B

[a]Data shown for significant findings only ($p \leq .05$).

[b]Means with the same letter are not significantly different at the .05 level.

indicated that they never or rarely felt the symptoms of mental health on a monthly basis.

Only two variables were found to be significantly affect ($p < .05$) the mental health scores. They included sex of supervisor ($p = .0419$) (Table XXXV) and marital status ($p = .0096$) (Table XXXVI).

TABLE XXXV

t-TEST PROCEDURE FOR MENTAL HEALTH DIMENSION AND SUPERVISOR'S SEX

Sex	N	Mean	Standard Error	t	p*
Male	72	20.49	0.275	-2.5108	.0419
Female	91	19.49	0.309		

*Significant (t-test) at .05 level.

TABLE XXXVI

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR MENTAL HEALTH BY PERSONAL VARIABLE

Source	df	Mean Squares	F	p*
Marital Status	4	24.80	3.46	.0096
Error	170	7.17		
Total	174			

*Only significant at the .05 level.

Respondents with male supervisors (N = 72, $\bar{X}$ = 20.49) scored significantly higher than respondents with female supervisors (N = 91, $\bar{X}$ = 19.42) on the mental health dimension (Table XXXV) with a significance level of .0419. The results may indicate that dietitians may have some trouble taking supervision from females possibly because of resentment. Yet, they accept male supervision.

Widowed respondents (N = 10) seemed happier ($\bar{X}$ = 21.70) about their mental health than were single respondents (N = 17, $\bar{X}$ = 18.24) (Table XXXVII). But there were no significant differences between the mean scores of those married (N = 127, $\bar{X}$ = 20.20), separated (N = 3, $\bar{X}$ = 20.00), and divorced (N = 18, $\bar{X}$ = 19.17) with either widowed or single dietitians. It can be presumed that widowed dietitians had learned to better handle their anger and depression than single dietitians.

TABLE XXXVII

DUNCAN MULTIPLE RANGE TEST FOR MENTAL HEALTH SCORES AND PERSONAL VARIABLES[a]

Variables	N	Mean	Grouping[b]
Widowed	10	21.70	A
Married	127	20.20	AB
Separated	3	20.00	AB
Divorced	18	19.17	AB
Single	17	18.24	B

[a]Data down for significant ($p \leq .05$) finding only.

[b]Means with the same letter are not significantly different at the .05 level.

QWL of Dimensions ODA Dietitians in Associations with Occupational Stress Variables

This section of the results and discussion examined the correlation between QWL, as the dependent variable, and occupational stress, as the independent variable. The QWL dimensions were correlated with the occupational stress dimensions using Pearson Product-Moment Correlation (Appendix E). It was shown that coping and behavioral strain did not significantly ($p < .05$) affect any of the QWL dimensions, yet physical strain and mental health did affect several QWL dimensions.

In examining the QWL dimension with relationship to occupational stress dimension (Table XXXVIII) the most positive correlation seems to be with mental health and physical strain. There is a high positive correlation of 0.44 between mental health and the QWL dimension company or organization. There is also a small direct relationship between mental health and physical strain ($r = 0.11$), coping ($r = 0.08$), and behavioral strain ($r = -0.05$). It seems that respondents with the company dimension had a good positive association in terms of mental health, but a low positive or low negative association with the other occupational stress dimensions.

In response to AWPJ dimension, the relationship had a positive correlation with all the occupational stress dimensions (Table XXXVIII). Mental health ($r = .047$) and physical strain ($r = .029$) have good positive correlations while behavioral strain ($r = .014$) and coping ($r = .009$) had low positive correlations. The direct relationship between the degree of the four dimensions was significant. It seems that respondents felt positively about all aspects of stress on the present job, particularly mental health.

TABLE XXXVIII

PRODUCT-MOMENT CORRELATION BETWEEN OCCUPATIONAL STRESS DIMENSIONS AND QWL DIMENSIONS FOR ODA DIETITIANS

QWL Dimensions	Occupational Stress Dimensions			
	Coping	Behavioral Strain	Physical Strain	Mental Health
Company	.08	-.05	.11	.44
Actual Work on Present Job	.09	.14	.29	.47
Promotion	.03	.08	-.10	-.03
Supervision on Present Job	.15	.02	.13	.31
General Job Satisfaction	.01	.04	.21	.30
People on Your Present Job	.14	.10	.25	.44
Job in General	-.05	.11	.13	.12
Performance Constraint Measures	-.02	.14	.16	.31

ODA dietitians showed a weak relationship between the QWL dimension promotion and all four occupational stress dimensions (Table XXXVIII). In fact, physical strain (r = 0.10) and mental health (r = -0.03) both had low negative correlations and behavioral strain (r = 0.08) and coping (r = 0.03) had only positive correlations. There does seem to be little direct relationship between the four dimensions. The respondents did not feel strongly about or between any dimension of stress in respect to promotion.

Respondents had a positive correlation between all four dimensions of stress and supervision on present job (Table XXXVIII). Mental health (r = 0.31) showed the strongest positive correlation with supervision. It also showed a direct relationship between the degree of coping (r = 0.15) and physical strain (r = 0.13) and particularly behavioral strain (r = 0.02). It seems that respondents felt strongly about the mental health and supervision and little systematic relationship about behavioral strain.

General job satisfaction had a strong positive correlation with the occupational stress dimensions, mental health (r = 0.30) and physical strain (r = 0.21) and no systematic relationship with behavioral strain (r = 0.14) and coping (r = 0.01). However, there is a strong direct relationship between mental health and physical strain, behavioral strain and coping, and physical strain and behavioral strain and coping. The relationship between coping and behavioral strain is approximately the same. It may indicate, in general, that respondents felt strong association with their mental health and physical strain as an aspect of their general job satisfaction.

ODA dietitians indicated a very good relationship between the people on their present job and the mental health stress dimension (r = 0.44) (Table XXXVIII). In fact, the mental health dimension had a very direct relationship between physical strain (r = 0.25), and particularly coping (r = 0.14) and behavioral strain (r = 0.10). Physical strain also showed a strong direct relationship with coping and behavioral strain. The relationship between coping and behavioral strain is approximately the same.

The respondents to the QWL dimension job in general did not show a particularly strong relationship with any of the four occupational stress factors on present job (Table XXXVIII). The stress dimensions of mental health (r = 0.12), Physical strain (r = 0.13), and behavioral strain (r = 0.11) showed low positive correlation with JIG, and coping indicated no systematic relationship with job in general. In fact, the only strong direct relationship was between former three stress dimensions and the latter one.

Performance constraint measures of QWL dimension scored positively on three occupational stress dimensions and negatively on one (Table XXXVIII). Mental health (r = 0.31), again, had a strong positive correlation with PCM. Both physical strain (r = 0.16) and behavioral strain (r = 0.14) indicated a moderate level of correlation with performance constraints. Yet, coping (f = 0.02) showed no relationship with PCM. As shown in Table XXXVIII, there is a very strong direct relationship between coping and mental health and both physical and behavioral strains. The former relationship is much stronger than the latter. Also, there is a direct relationship between physical and

behavioral strain and coping, but relationship between physical strain and behavioral strain is approximately the same.

QWL of Respondents of the Women's Stress Survey

The QWL dependent variables in the analysis for Professional or Technical and Managerial Women of the National Women's Stress Survey were the same as those analyzed for ODA dietitians. Since both respondents used the same survey, the only difference in the data analysis was in the independent variables. The QWL dimensions in this research included: Company or Organization, Actual Work on Present Job (AWPJ), Promotion, Supervision on Present Job (SPJ), People on Your Present Job (POYPJ), General Job Satisfaction (GJS), Job in General (JIG), and Performance Constraint Measure (PCM).

The QWL scores are illustrated in Table XXXIX. The maximum and minimum scores were those of survey respondents. The dimensions of promotion and JIG have again low scores because types of questions used to score answer (see ODA dietitians).

Figure 12 illustrates the comparison of the mean scores for the ODA and stress survey respondents. The ODA dietitians had higher scores on all mean scores with the exception of PCM, $\bar{X}$ = 13.53 for stress respondents and $\bar{X}$ = 13.38 for ODA dietitians. Even though most of the mean scores were reasonably close in comparison, ODA dietitians seemed happier with most aspects of QWL dimensions than did the professional or technical and managerial women.

Since the QWL dimensions of the stress survey respondents were significantly affected ($p \leq .05$) by most of the independent variables, possibly because of the sample size (N = 2,843), the researcher decided

TABLE XXXIX

QWL DIMENSIONS SCORES AND MEANS OF RESPONDENTS OF WOMEN'S STRESS SURVEY

Dimensions	N[a]	Maximum Scores[b]	Minimum Scores[b]	Mean Scores[c]
Organization	2,678	20	4	14.02 ± 13.02
Actual Work on Present Job	2,732	39	11	26.36 + 3.95
Promotion	2,706	9	0	2.69 ± 2.17
Supervision on Present Job	2,701	32	9	24.74 ± 3.66
General Job Satisfaction	2,813	7	2	5.04 ± 0.95
People on Your Present Job	2,774	16	5	13.54 ± 1.98
Job in General	2,811	51	2	16.08 ± 7.13
Performance Constraint Measure	2,995	20	6	13.51 ± 3.42

[a]Unequal N's due to non-response on some dimensions.

[b]Actual maximum and minimum scores of respondents.

[c]Standard deviation.

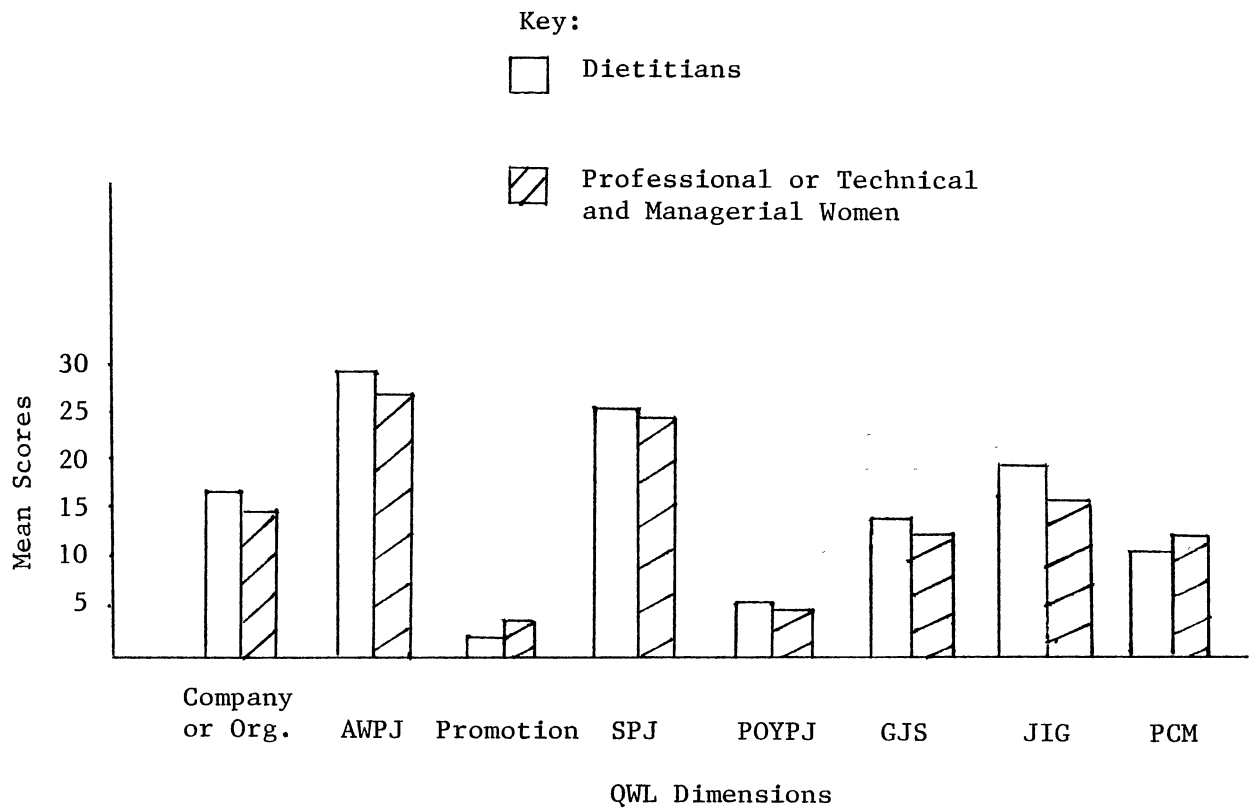


Figure 12. Comparison of Mean Scores of ODA Dietitians and Professional or Technical and Managerial Women of the National Women's Stress Survey on QWL Dimensions

to put the statistical analyses of Analysis of Variance (ANOVA), Duncan Multiple Range Test, and t-test results in the appendix for reference. Appendixes G through N will contain the QWL dimension of women's stress survey respondents. Appendix F includes a key to independent variables for reference.

QWL: Company

According to the 2,678 women who answered items concerning the company dimension, they were satisfied with the company they worked for. The mean score (Table XXXIX) 14.02 with a standard deviation of 3.02 was high with a maximum score of 20. Compared to ODA dietitians (Figure 12), they had a slightly lower mean score.

Of the 17 personal and institutional variables examined, 10 significantly ($p \leq .05$) affected company satisfaction. The variables were: number of people supervised ($p = .0010$), marital status ($p = .0166$), number of children ($p = .0359$), age ($p = .0016$), position title ($p = .0001$), income ($p = .0141$), industry ($p = .0010$), percent of same race worked around ($p = .0355$), number of people worked around ($p = .0040$), and percent of women worked around ($p = .0163$) (Appendix G).

Respondents who supervised (V7) six to 10 ($N = 314$, $\bar{X} = 14.64$) workers were significantly happier with the company they worked for (Appendix G) than those who supervised no workers ($N = 813$, $\bar{X} = 13.65$). Those who supervised over 10 workers ($N = 415$, $\bar{X} = 14.33$) and one to five workers ($N = 1,099$, $\bar{X} = 14.01$) were not significantly different from the other two groups, however. The mean scores indicated that women who supervised large numbers of workers tended to be happier with the company they worked for.

The ANOVA determinants (Appendix G) showed that marital status (V105) significantly affected ($p = .0166$) company scores. The Duncan Multiple Range Test, however, did not show a significant difference between the means of any of the five categories of marital status, because of uneven means. The highest mean scores belonged to women who were separated ($N = 87$, $\bar{X} = 14.51$), widowed ($N = 31$, $\bar{X} = 14.48$), and divorced ($N = 501$), $\bar{X} = 14.26$), and lowest scores were made by those who were married ($N = 1,144$, $\bar{X} = 14.07$) and single ($N = 909$, $\bar{X} = 13.78$). Since the mean scores were reasonably close together, it would be difficult to make any conclusion about the results.

Again, the ANOVA (Appendix G) showed a significant ($p = .0359$) relationship between number of children and the company one worked for, however, the Duncan Multiple Range Test did not show a significant difference between the mean scores. There was also no pattern between the mean scores and number of children.

Respondents who were over 60 years of age ($N = 9$, $\bar{X} = 12.56$) seemed to be significantly less happy with their company (Appendix G) than all other age groups except for women in the age grouping 26-30 ($N = 757$, $\bar{X} = 13.66$). The women in the age group 26-30 were not significantly different from either of the other groups. The reverse was true for ODA dietitians (Table VIII). The reason could possibly be that professional or technical and managerial women may be approaching the end of their careers at over 60 years, where dietitians may be still at the height of their careers.

Women who worked as manager ($N = 813$, $\bar{X} = 14.50$) were significantly happier with their companies than those who worked as nurses ($N = 141$, $\bar{X} = 13.19$) and teachers ($N = 172$, $\bar{X} = 13.07$) (Appendix G). All other

position titles were not significantly different from the other two groups. The results did indicate that managerial women seem to enjoy the company or organization they worked for more so than either professional or technical women. Maybe this is true because managers and supervisors have more control over some aspects of their organizations than do nurses or teachers.

Respondents whose income was between $40,000-$44,999 (N = 80, $\bar{X}$ = 14.99) were significantly happier with the QWL dimension company than were women with incomes of $15,000-$19,999 (N = 507, $\bar{X}$ = 13.86) and $25,000-$29,999 (N = 346, $\bar{X}$ = 13.86) (Appendix G). There were no significant differences between the mean scores of the other income groups and those of the first two groups. The three groups with high mean scores included those women who made over $35,000. As expected, professional or technical and managerial women who made more money were happier with their organizations.

When respondents were asked, "What is the industry of your employer?", those who worked in personal services (N = 54, $\bar{X}$ = 15.19) scored significantly higher on QWL dimension, company, than those women who worked in schools (N = 268, $\bar{X}$ = 13.30) (Appendix G). The women who worked for other industries were not significantly different on company from those who worked for personal services or schools. Because of the diverse industries listed (Appendix G), the results showed no apparent trend. Women who worked around all workers of the same race (N = 913, $\bar{X}$ = 14.14), 65 percent (N = 220, $\bar{X}$ = 14.12), and 85 percent (N = 943, $\bar{X}$ = 14.12) of the same race seemed significantly happier with their company than those who worked around 15 percent of workers of the same race (N = 187, $\bar{X}$ = 13.40) (Appendix G).

The other groups were not significantly different from those two groups. Not surprisingly, women who worked around 65 percent or more people of their same race seemed to enjoy their organizations.

Respondents who worked around all women (N = 268, $\bar{X}$ = 14.33), 50 percent women (N = 444, $\bar{X}$ = 14.30), and no other women (N = 92, $\bar{X}$ = 14.32) scored significantly higher on the QWL dimension, company, than those who worked around 15 percent women (N = 304, $\bar{X}$ = 13.70) (Appendix G). The other respondents who worked around 35 percent women (N = 283, $\bar{X}$ = 14.13), 65 percent women (N = 414, $\bar{X}$ = 14.08), or 85 percent women (N = 833, $\bar{X}$ = 13.83) were not significantly different than the other groups. The results are inconclusive. Although the group of women who worked around a number of other people was significantly (p = .0004) related to the QWL dimension, company, the Duncan Multiple Range Test did not show a significant difference between the six groups. It can be noted that those respondents who worked around smaller groups of people, less than 15, seemed to enjoy their organizations more than those women who worked around over 15 fellow workers.

QWL: Actual Work on Present Job

The 2,732 women who answered items concerning the QWL dimension, actual work on present job, felt they were satisfied with the work on their present jobs. The mean score (Table XXXIX) of 26.36 out of a possible 40 indicated their satisfaction with their jobs. As compared with ODA dietitians ($\bar{X}$ = 28.8) (Figure 12), however, the professional or technical and managerial women scored slightly lower in mean score.

Of the 17 personal and institutional variables examined, 12 significantly ($p \leq .05$) affected AWPJ scores. Those variables included:

number of children ($p = .0002$), marital status ($p = .0035$), number of children at home ($p = .0011$), age ($p = .0136$), employment status ($p = .0001$), position title ($p = .0001$), number of people supervised ($p = .0001$), percent of women worked around ($p = .0001$), education ($p = .0001$), industry ($p = .0001$), percent of people of same race worked around ($p = .0001$), and sex of immediate supervisor ($p = .0177$) (Appendix H).

One respondent who had nine children ($\bar{X} = 32.00$) was happier with her present job than those with either one child ($N = 367$, $\bar{X} = 26.11$) or no children ($N = 1,554$, $\bar{X} = 26.19$) (Appendix H). Respondents with between two and eight children were significantly different than those with large or small families. Again, it seemed that women (from the national stress survey of ODA dietitians, Table XII) with large families may enjoy their jobs more because they may want to get away from home, and also contribute to the family income. Respondents with children at home did not show a significant difference between mean scores on AWPJ (Appendix H). Number of children at home results showed no conclusive results.

The ANOVA determination (Appendix H) showed that marital status significantly affected ($p = .0035$) work on the job, however, the Duncan Multiple Range Test did not show a significant difference between means of any of the five categories. The highest mean scores belonged to widowed respondents ($\bar{X} = 27.06$) and the lowest to single women ($\bar{X} = 24.98$). The results were similar to the ODA dietitians with regards to a variety of QWL and occupational stress dimensions. Age, also, showed a significant effect ($p = .0136$) on AWPJ, but the Duncan Multiple Range Test did not show a difference between mean scores

for the eight categories, perhaps because of uneven means. The results did indicate that older working women (over 36 years) seemed to enjoy more the actual work on their present jobs than did women age 35 years or younger (Appendix H).

Those respondents who worked less than 20 hours per week (N = 48, $\bar{X}$ = 27.58) and 20 to 34 hours per week (N = 344, $\bar{X}$ = 27.49) were significantly happier with their work than those employed at least 35 hours per week (N = 2,350, $\bar{X}$ = 26.17) (Appendix H). These results were exactly similar to those of ODA dietitians. It seemed that those who worked less than full-time were more satisfied with their jobs compared to those who worked full-time.

Respondents who indicated that they were nurses (N = 150, $\bar{X}$ = 28.14) were the only category of position title not to be significantly different from the others (Appendix H). Teachers ($\bar{X}$ = 28.92), nurses ($\bar{X}$ = 28.14), and health workers ($\bar{X}$ = 27.31) seemed to enjoy the work on their present jobs more than did the other titled professional or technical and managerial workers.

Respondents who supervised large numbers of employees seemed happier with their work than those who supervised less workers. Those who supervised six to 10 people (N = 314, $\bar{X}$ = 27.09) or over 10 people (N = 417, $\bar{X}$ = 27.07) scored significantly higher on actual work on present job than those who supervised no employees (N = 853, $\bar{X}$ = 26.07) at all (Appendix H). An interesting point is that the results were the same for those respondents who were happy with their company. Also, respondents with advanced degrees (N = 1,144, $\bar{X}$ = 26.84) seemed significantly happier with their AWPJ than those with bachelor degrees (N = 1,373, $\bar{X}$ = 26.03) or less (N = 215, $\bar{X}$ = 25.89)

(Appendix H). The results may indicate a direct relationship between level of education and enjoyment of work on a job or something else that is correlated with education.

The survey respondents indicated that work environment significantly affected ($p \leq .05$) their work on the job. The percentage of women they worked around ($p = .0001$) significantly affected AWPJ. Those who worked around all women ($N = 275$, $\bar{X} = 27.70$) were happier than those who worked around either no other women ($N = 98$, $\bar{X} = 25.65$) or 15 percent women ($N = 313$, $\bar{X} = 25.30$) (Appendix H). The other percentage groups were not significantly different from the other groups. The mean scores of those respondents with high percentage of women who worked around them in general, seemed to enjoy AWPJ more. Also, those respondents who worked around 50 percent people of their own race ($N = 180$, $\bar{X} = 26.98$) scored higher on AWPJ than those who worked around 15 percent ($N = 193$, $\bar{X} = 24.94$) of their own race (Appendix H). Respondents in the other percentage groups were not significantly different from the 50 percent and 15 percent categories. Respondents with female supervisors ($N = 931$, $\bar{X} = 26.95$) scored significantly higher with QWL dimension, AWPJ, than did respondents with male supervisors ($N = 1,744$, $\bar{X} = 26.01$) (Appendix H). The results indicated that professional or technical and managerial women seemed to enjoy work better if they work around females of similar race, and with female supervisors.

The respondents who worked for schools ($N = 268$, $\bar{X} = 28.04$) and personal services ($N = 57$, $\bar{X} = 28.07$) were significantly happier with AWPJ than those who worked for trades ($N = 141$, $\bar{X} = 26.34$), "other" ($N = 180$, $\bar{X} = 26.26$), banks ($N = 126$, $\bar{X} = 25.39$), business services

(N = 390, $\bar{X}$ = 25.20), industries (N = 94, $\bar{X}$ = 25.13), communities (N = 155, $\bar{X}$ = 24.97), and manufacturing (N = 223, $\bar{X}$ = 24.76) (Appendix H). There were no significant differences between the means of women who worked in health care (N = 472, $\bar{X}$ = 27.29), university (N = 159, $\bar{X}$ = 27.05), and government (N = 390, $\bar{X}$ = 26.53) and the other index groups.

QWL: Promotion (V5)

The mean of the 2,706 respondents ($\bar{X}$ = 2.69) who answered the question on promotion was less than positive than previous QWL dimensions with a maximum score of 9 (Table XXXIX). The reason dealt with the number of times a person was promoted which made the score seem less positive. Yet, the professional or technical and managerial women scored higher on mean score than ODA dietitians (Figure 12).

Similar to ODA dietitians, most institutional and personal variables significantly affected ($p \leq .05$) the QWL dimension, promotion scores of professional or technical and managerial women. The variables included: race (p = .0383), marital status (p = .0001), number of children (p = .0015), spouse's occupation (p = .0015), position title (p = .0001), age (p = .0001), employment status (p = .0001), number of people supervised (p = .0001), income (p = .0001), education (p = .0001), number of people worked around (p = .0001), percent of women worked around (p = .0001), percent of same race worked around (p = .0001), sex of supervisor (p = .0046), and industry (p = .0001) (Appendix I).

Respondents who said their race was "other" (N = 11, $\bar{X}$ = 3.27) was the only category of race which was not significantly different

from the other groups (Appendix I). The women who said they were native American (N = 16, $\bar{X}$ = 4.44) scored higher on promotion than the other race categories. Widowed respondents (N = 31) were happier with promotion ($\bar{X}$ = 3.52) than were single respondents (N = 930, $\bar{X}$ = 2.34) (Appendix I). But there were no significant differences between scores of those divorced, separated, or married and either widowed or single women. The results were exactly the same as those of ODA dietitians.

Respondents who had eight children (N = 2, $\bar{X}$ = 6.00) scored significantly higher on the QWL dimension promotion than did women who had either one child (N = 371, $\bar{X}$ = 2.68) or no children (N = 1,552, $\bar{X}$ = 2.50) (Appendix I). Again, women with more children enjoyed the QWL dimension, promotion, more so than those with fewer children. Also, women whose spouses worked in service (N = 37, $\bar{X}$ = 3.14), "other" (N = 48, $\bar{X}$ = 3.14), or were retired (N = 18, $\bar{X}$ = 3.72) were significantly happier with the dimension, promotion, than those whose spouses were students (N = 28, $\bar{X}$ = 1.36) (Appendix I). All other occupations were not significantly different. The results were inconclusive.

The professional or technical and managerial women whose position titles were manager (N = 815, $\bar{X}$ = 3.39) were significantly happier with promotion than were teachers (N = 169, $\bar{X}$ = 1.38). In fact, the former and latter were significantly different from "others" (N = 707, $\bar{X}$ = 2.57), professional workers (N = 568, $\bar{X}$ = 2.48), and health care workers (N = 83, $\bar{X}$ = 2.00). In relationship to mean scores, the managerial women scored higher than the professional women on promotion Respondents 56-60 years (N = 35, $\bar{X}$ = 4.46) were significantly happier with promotion than those in the age groups, 51-55 (N = 62, $\bar{X}$ = 3.61),

41-45 (N = 197, $\bar{X}$ = 3.42), 46-50 (N = 144, $\bar{X}$ = 3.39), over 60 (N = 11, $\bar{X}$ = 3.27), and 36-40 (N = 389, $\bar{X}$ = 3.24) (Appendix I). Women under 25 years (N = 445, $\bar{X}$ = 1.77) were different from the other two groups. Similar to the ODA dietitians results, older women were happier about promotion than younger workers.

Respondents who worked over 35 hours per week (N = 2,342, $\bar{X}$ = 2.81) scored higher on promotion than those who worked either less than 20 hours per week (N = 46, $\bar{X}$ = 2.09) or 20-34 hours per week (N = 318, $\bar{X}$ = 1.91) (Appendix I). Perhaps the long hours one works, the more available the opportunities for promotion. Women who supervised six to 10 workers (N = 312, $\bar{X}$ = 3.27) and over 10 workers (N = 410, $\bar{X}$ = 3.13) scored significantly higher on promotion that did those respondents who supervised no workers (N = 858, $\bar{X}$ = 2.08). Those who supervised one to five people (N = 1,091, $\bar{X}$ = 28.61) were also significantly different from the other two groups. Again, supervising large numbers of people, which could mean more responsibilities, had a positive effect on scores on the QWL dimension, promotion.

Respondents who had incomes of over $45,000 (N = 92, $\bar{X}$ = 4.91), $40,000-$45,000 (N = 79, $\bar{X}$ = 4.08), and $35,000-$39,999 (N = 122, $\bar{X}$ = 3.59) were significantly happier with promotion than those who had incomes of $25,000-$29,999 (N = 341, $\bar{X}$ = 3.07), $20,000-$24,999 (N = 475, $\bar{X}$ = 2.47), and under $15,000 (N = 565, $\bar{X}$ = 1.98) (Appendix I). The six groups mentioned above were also significantly different from each other. The results of mean scores indicated a direct relationship between high income and satisfaction with QWL dimension of promotion. ODA dietitians showed similar results. Respondents with less than 12 years of education (N = 212, $\bar{X}$ = 3.06) and 13-16 years of

education (N = 1,375, $\bar{X}$ = 2.85) were significantly happier with promotion than those with over 16 years of education (N = 119, $\bar{X}$ = 2.43) (Appendix I). It seemed inconsistent that women who felt high income was related to promotion would also feel low education is also related to high scores on promotion.

Promotion was also affected significantly ($p \leq .05$) by work environment. The respondents were affected by number of people they worked around with (p = .0001), percent of women they worked around (p = .0001), percent of the same race they worked around (p = .0001), and the sex of their immediate supervisor (p = .0046). Women who worked around over 30 people (N = 481, $\bar{X}$ = 3.26) were significantly happier about promotion than those who worked around six to 10 people (N = 714, $\bar{X}$ = 2.51), or no people (N = 250, $\bar{X}$ = 2.24) (Appendix I). It seemed that respondents who worked around large numbers of people felt good about the QWL dimension, promotion.

Respondents who worked around 15 percent women (N = 311, $\bar{X}$ = 3.08) scored significantly higher on promotion than those who worked around either 85 percent women (N = 837, $\bar{X}$ = 2.54) or all women (N = 275, $\bar{X}$ = 1.96) (Appendix I). All other percentage groups were not significantly different. Women whose race was 50 percent (N = 175, $\bar{X}$ = 3.03), 65 percent (N = 228, $\bar{X}$ = 2.98), and 15 percent (N = 1.95, $\bar{X}$ = 2.96) the same race as those at work were significantly happier with the QWL dimension, promotion, than those who worked around all people of the same race (N = 976, $\bar{X}$ = 2.39) (Appendix I). The others were not significantly different. The results did not indicate any particular trend. Respondents who had male supervisors (N = 1,173, $\bar{X}$ = 2.89) scored significantly higher on promotion than those who had female

supervisors (N = 927, $\bar{X}$ = 2.33) (Appendix I), which is opposite the results with AWPJ.

Professional or technical and managerial women who worked in an industrial setting (N = 96, $\bar{X}$ = 3.50) were significantly happier with promotion than those who worked for schools (N = 253, $\bar{X}$ = 1.75) (Appendix I). There were no significant differences between the means of women with the QWL dimension, promotion, in other industry categories (Appendix H).

QWL: Supervision on Present Job (SPJ)

The professional or technical and managerial women seemed happy with the supervision they received (N = 2,701, $\bar{X}$ = 24.74) (Table XXXIX). With a maximum score of 32, a mean score of 24.74 reflected positive feelings toward supervision on present job. The mean score was, however, slightly below the mean score of ODA dietitians (Figure 12).

The women's responses indicated that most institutional and personal variables significantly affected ($p \leq .05$) the QWL dimension, supervision on present job. The 11 variables included age (p = .0001), title (p = .0001), number of children (p = .0017), number of people supervised (p = .0001), income (p = .0001), industry (p = .0001), percent of women worked around (p = .0255), percent of same race worked around (p = .0001), and race of supervisor (p = .0038) (Appendix J).

Respondents who were in the age group 51-55 (N = 64, $\bar{X}$ = 26.33) were significantly happier with supervision they received than those who were 31-35 (N = 656, $\bar{X}$ = 24.84), over 60 (N = 11, $\bar{X}$ = 24.73), under 25 (N = 446, $\bar{X}$ = 24.56), 56-60 (N = 36, $\bar{X}$ = 24.47), and 26-30

age group (N = 765, $\bar{X}$ = 24.16) (Appendix J). The other group (see Appendix J) was not significantly different from the first two. No trend was indicated.

Women who were managers (N = 804, $\bar{X}$ = 26.00) and supervisors (N = 132, $\bar{X}$ = 25.05) were significantly happier with SPJ than nurses (N = 150, $\bar{X}$ = 23.61), teachers (N = 180, $\bar{X}$ = 23.55), and health care workers (N = 82, $\bar{X}$ = 23.35). The other groups were not significantly different (Appendix J). Results indicated that respondents who managed people seemed to feel stronger about supervision than professional and technical respondents.

Although the ANOVA presented a significant level of p = .0001, the Duncan Multiple Range Test did not show a significant difference between the means of the six categories of race. The mean scores did not indicate any trends either. Also, marital status showed a significance effect of (p = .0003) on SPJ scores. It did show, again, that widowed women (N = 31, $\bar{X}$ = 25.32) were happier with QWL dimension, supervision, than single women (Appendix J). The significance effect (p = .0107) of number of children on SPJ did not, however, show a significant difference among mean scores. Since the number of children was scattered with a variety of high and low mean scores, no conclusions could be made on the results.

Respondents who supervised six to 10 people (N = 321, $\bar{X}$ = 25.83) were happier with their supervision than those who supervised no one (N = 837, $\bar{X}$ = 23.48) (Appendix J). Also, those supervising over 10 people (N = 409, $\bar{X}$ = 25.37) or one to five people (N = 1,099, $\bar{X}$ = 25.17) were significantly different from the other two groups. The results indicated that women who supervised large numbers of people

seemed to better enjoy supervision themselves. Again, ODA dietitians had very similar results.

Respondents who made over $45,000 (N = 91, $\bar{X}$ = 26.42) and $40,000-$45,000 (N = 80, $\bar{X}$ = 26.34) were significantly happier with supervision on their present job than those who made $20,000-$24,999 (N = 473, $\bar{X}$ = 24.29), and under $15,000 (N = 559, $\bar{X}$ = 24.27) (Appendix J). The other income groups were not significantly different from the other two groups. It seemed that level of income may affect the way respondents feel about supervision. The results approximate those of the ODA dietitians with the exception of those who made under $15,000 ($\bar{X}$ = 26.29) (Table XIII).

Professional or technical and managerial women who worked for personal services (N = 54, $\bar{X}$ = 25.89) scored significantly higher on the QWL dimension, SPJ, than those women who worked in schools (N = 269, $\bar{X}$ = 24.08) and community agencies (N = 146, $\bar{X}$ = 24.08). The other industries did not significant affect the other two (Appendix J). No trend on the results was indicated. Respondents who worked around 35 percent women (N = 278, $\bar{X}$ = 25.19) were significantly happier with SPJ than those who worked around 85 percent women (N = 833, $\bar{X}$ = 24.44) (Appendix J). Those who worked around the other percent of women categories were not significantly different from the 35 percent category and 85 percent category. The other percent groups showed no definite trend that affected supervision.

Respondents who worked around all people of their same race (N = 919, $\bar{X}$ = 25.10) scored significantly higher on supervision that did the women who worked around 15 percent of their same race (N = 187, $\bar{X}$ = 23.40) (Appendix J). The other group of 85 percent to no one else of the same race at work were not significantly different than all people and 15

percent. The mean scores did indicate that the larger the group of same race the respondents worked around, the better they enjoyed their supervision. Also, respondents with supervisors that were Hispanics ($\bar{X}$ = 25.00), Asian ($\bar{X}$ = 24.92), and white ($\bar{X}$ = 24.78) scored better SPJ mean scores than those that had supervisors who were native Americans ($\bar{X}$ = 24.49), black ($\bar{X}$ = 23.71), or "other" ($\bar{X}$ = 23.20) (Appendix J).

QWL: General Job Satisfaction (GJS)

The professional or technical and managerial women were happy with their jobs in general (N = 2,813, $\bar{X}$ = 5.04) with a maximum possible score of seven and a mean score of 5.04. The respondents scored slightly lower than the mean score ($\bar{X}$ = 5.45) of ODA dietitians (Figure 12).

Of the personal and institutional variables tested, nine significantly affected ($p \leq .05$) GJS scores. These variables included: marital status (p = .0001), number of children (p = .0001), number of children at home (p = .0045), position title (p = .0001), age (p = .0031), employment status (p = .0001), education (p = .0001), industry (p = .0001), and sex of supervisor (p = .0282).

Respondents who were widowed (N = 30, $\bar{X}$ = 5.43) were significantly contented with their job satisfaction than the other categories of marital status (Appendix K). Again, widowed respondents had higher mean scores than single women ($\bar{X}$ = 4.92) on GJS. These results reinforced the ODA dietitians' results that widowed and married women (who may need to work) may have higher general job satisfaction. Also, the variable, having children, significantly affected (p = .0001) GJS (Appendix K). Even though the ANOVA indicated a significant result,

the Duncan Multiple Range Test did not show a significant difference between number of children means. Yet, women with large families, again, were more satisfied with their jobs than those with smaller familier or no children. The results did not indicate any particular trend, however. Respondents who worked as teachers (N = 185, $\bar{X}$ = 5.36) were significantly happier with their jobs than those who worked as administrators (N = 83, $\bar{X}$ = 4.80). There was no significant difference between the mean GJS scores, the other grouping, and teachers and administrators. The mean scores did not show any particular trend.

The women over 60 years old (N = 10, $\bar{X}$ = 5.60) were significantly satisfied with their jobs than those aged 51-55 (N = 67, $\bar{X}$ = 5.13), and those who were 40 and under (Appendix K). Those in the age groups 56-60 (N = 38, $\bar{X}$ = 5.26) and 46-50 (N = 150, $\bar{X}$ = 5.23) were not significantly different, however, than the other groups. Again, older women seemed to enjoy their jobs more than younger women. Respondents employed 20-34 hours per week (N = 340, $\bar{X}$ = 5.27) and under 20 hours per week (N = 53, $\bar{X}$ = 5.25) were significantly happier with general job satisfaction than those who worked 35 hours or over per week (N = 2,420, $\bar{X}$ = 5.00) (Appendix K). Respondents who worked under 35 hours per week, similar to ODA dietitians, may also not need to work, hence they tended to enjoy their jobs more.

Respondents who have over 16 years of education (N = 1,181, $\bar{X}$ = 5.18) scored higher on GJS than those who had 13-16 years (N = 1,411, $\bar{X}$ = 4.95) and under 12 years (N = 221, $\bar{X}$ = 4.84). Possibly advanced education in these respondents was related to general job satisfaction and its allied measures, pay and promotion. Also, respondents who worked for schools (N = 275, $\bar{X}$ = 5.35) and universities (N = 165, $\bar{X}$ =

5.30) were significantly happier with GJS than those who worked in industrial complexes (Appendix K). The other industries were not significantly different than the schools, universities, and industrial complex. It seems that working for a non-profit organization is more satisfying for respondents than working for an organization that has the stress of making a profit.

Respondents with female supervisors (N = 950, $\bar{X}$ = 5.10) scored higher on GJS scores than those who had male supervisors (N = 1,784, $\bar{X}$ = 4.00) (Appendix K). The results were consistent with the results of other QWL dimensions of females being happier with female supervisors.

QWL: People on Your Present Job (POYPJ)

The professional or technical and managerial women seemed happy with people on their present job (N = 2,774, $\bar{X}$ = 13.54) (Table XXXIX). With a maximum possible score of 16 and a mean score of 13.54, the women were almost as happy with POYPJ dimension as the ODA dietitians ($\bar{X}$ = 14.39) (Figure 12).

Of the personal and institutional variables studied, 13 were found to significantly affect the POYPJ scores (Appendix L). The independent variables included: number of children (p = .0140), age (p = .0001), marital status (p = .0001), race (p = .0001), position title (p = .0003), number of people supervised (p = .0002), industry (p = .0001), number of people worked around (p = .0122), percent of women worked around (p = .0001) percent of same race worked around (p = .0001), sex of supervisor (p = .0352), race of supervisor (p = .0053), and sole support (p = .0009) (Appendix L).

The ANOVA determination showed that number of children significantly affected people on their present job scores. The Duncan Multiple Range Test did not, however, show a significant difference between the means (Appendix L). There was no evident trend with large or small numbers of children and mean scores. Yet, respondents 51-55 years old (N = 66, $\bar{X}$ = 14.29) were significantly happier with the people at work than those who were 26-30 years old (N = 785, $\bar{X}$ = 13.27) (Appendix L). The other age groups were not significantly different than those 51-55 or 26-30 years old. The mean scores indicated that older women in general, enjoyed their co-workers more so than younger women. The ODA results were not as clear as these results (Table XXI).

Separated (N = 86, $\bar{X}$ = 14.04) and widowed (N = 32, $\bar{X}$ = 13.88) respondents were happier with co-workers than were single women (N = 947, X = 13.26), married (N = 1,186, $\bar{X}$ = 13.68), and divorced (N = 516, $\bar{X}$ = 13.63) respondents. Mean scores were not, however, significantly different from the other two groups. Although the ANOVA determination was significant (p = .0001) for POYPJ, no significant difference was indicated by the Duncan Multiple Range Test. Yet, "other" (N = 11, $\bar{X}$ = 14.00), native America (N = 16, $\bar{X}$ = 13.94), and white (N = 2,258, $\bar{X}$ = 13.67) scored higher on co-worker mean scores than did Hispanics (N = 28, $\bar{X}$ = 13.64), Asians (N = 21, $\bar{X}$ = 13.24), and blacks (N = 438, $\bar{X}$ = 12.89) (Appendix L).

Managers (N = 830, $\bar{X}$ = 13.87) scored significantly higher on POYPJ scores than did nurses (N = 153, $\bar{X}$ = 13.16). All other position titles were not significantly different than managers and nurses (Appendix L). The mean scores did indicate a difference between professional, technical or managerial workers in satisfaction with co-workers.

Respondents who worked for personal services (N = 55, $\bar{X}$ = 14.02) scored significantly higher on QWL dimension, POYPJ, than did those who worked for manufacturing companies (N = 225, $\bar{X}$ = 13.10) and community organizations (N = 155, $\bar{X}$ = 13.08) (Appendix L). The other types of industries were not significantly different between the mean scores of the other two groups. The industry mean results did not show any particular trend.

Not surprisingly, respondents indicated that many work environment variables significantly affected ($p \leq .05$) people on their present job. Professional or technical and managerial women who supervised six to 10 people (N = 325, $\bar{X}$ = 13.78) scored significantly higher on POYPJ dimension than did those who supervised no people (N = 851, $\bar{X}$ = 13.32) (Appendix L). Respondents who supervised one to five people (N = 1,129, $\bar{X}$ = 13.67) and over 10 people (N = 428, $\bar{X}$ = 13.49) were not significantly different from the other groups. The mean scores did not indicate any pattern.

Even though the ANOVA presented a significance level of p = .0122 the Duncan Multiple Range Test did not show a significant difference between the means of number of people the respondents worked around (Appendix L). The mean score results did reveal that respondents who worked around less than 15 people seemed to enjoy their co-workers more than those who worked around more than 15 people. Also, respondents who worked around all women (N = 282, $\bar{X}$ = 13.87) scored higher on POYPJ dimension than those who worked around no other women (N = 96, $\bar{X}$ = 13.11) and 15 percent women (N = 317, $\bar{X}$ = 12.95) (Appendix L). The mean scores for percent groups were not significantly different than the other groups' mean scores. The results did show that respondents who

worked around large percentages of women seemed to be happier with their co-workers.

Yet, those respondents who worked around 35 percent (N = 87, $\bar{X}$ = 13.00) people of their own race were the only group with AWPJ mean scores who were significantly different from the other groups (Appendix L). The mean scores did reveal that respondents with a low percentage of people of their same race at work were happier with their co-workers than those who worked around high percentages of people of the same race.

Respondents with female supervisors (N = 950, $\bar{X}$ = 13.09) scored significantly higher than did respondents with male supervisors (N = 1,772, $\bar{X}$ = 13.44) on the people on present job dimension with a significance level of p = .0352. Also, for the first time, respondents who said no to sale support of family (N = 1,491, $\bar{X}$ = 13.66) scored significantly higher on POYPJ dimension than those who indicated yes (N = 1,254, $\bar{X}$ = 13.40) (Appendix L). Women who were not the major wage earners in their families tended to feel more positive towards people on their present job dimension than those who were major wage earners.

QWL: Job in General

The professional or technical and managerial women seemed happy with their jobs in general. The maximum score was 16.08 compared with a frequency mean score of 13.80. Of the personal and institutional variables studied, 15 were found to significantly affect the score of QWL dimension JIG. The independent variables included: age (p = .0001), position title (p = .0001), marital status (p = .0001), number of children (p = .0001), number of children at home (p = .0001), spouse's

occupation ($p = .0001$), number of people supervised ($p = .0001$), income ($p = .0001$), education ($p = .0001$), industry ($p = .0001$), number of people worked around ($p = .0001$), percent of women worked around ($p = .0183$), percent of same race worked around ($p = .0003$), race of supervisor ($p = .0272$), and sole support ($p = .0133$) (Appendix M).

Respondents in the age category of job in general dimension had mean scores in nine groups. The groups were significantly different from each other (Appendix M). The mean scores showed a nearly perfect straight line from low of young respondents to high of older respondents. Similar to the ODA dietitians, the older respondents seemed happier with JIG, possibly because they have been in the profession a long time and may no longer have to "establish" themselves in their profession. Those with a position title of supervisor ($N = 39$, $\bar{X} = 17.86$) were significantly happier with JIG than those who were professional workers ($N = 588$, $\bar{X} = 15.04$), "other" ($N = 746$, $\bar{X} = 14.92$), and health care workers ($N = 85$, $\bar{X} = 14.75$) (Appendix M). The other categories of position titles were not significantly different from the other groups. It seemed that respondents who managed other people enjoyed their jobs in general more than those who were general workers.

Widowed respondents ($N = 31$) were happier ($\bar{X} = 23.32$) with QWL dimension status groups (Appendix M), than particularly the single respondents ($N = 759$, $\bar{X} = 13.35$). In fact, separated ($N = 87$, $\bar{X} = 19.39$) and divorced ($N = 522$, $\bar{X} = 19.04$) respondents were significantly different from married ($N = 1,215$, $\bar{X} = 16.56$) respondents as they are from the other two groups. The results follow the trend of widows with highest mean scores and singles with lowest. Women with children and children living at home have significantly different ($p \leq .05$) JIG scores than

those without children or with no children living at home. Those respondents with seven or more children seemed happier with their jobs than whose who had no children (N = 1,603, $\bar{X}$ = 14.04) (Appendix M). The other children groups are not significantly different from each other. Also, exactly as the results of dietitians, the results indicated that the mean scores decreased as the number of children decreased. Also, those respondents with five children at home (N = 5, $\bar{X}$ = 24.00) scored higher on JIG scores than those respondents with two (N = 332, $\bar{X}$ = 17.79), one (N = 464, $\bar{X}$ = 17.53), or no (N = 1,652, $\bar{X}$ = 15.29) children at home. Those with four or six children at home were significantly different from the other groups. The mean scores indicated that larger numbers of children at home affected JIG scores.

Respondents whose spouses were retired (N = 17, $\bar{X}$ = 30.24) scored higher on JIG score than those whose spouses were in the other occupation groups (Appendix M). The second highest mean score was for spouses who worked as homemakers. The results were difficult to interpret. Respondents earning an income over $45,000 (N = 98, $\bar{X}$ = 22.00) and $40,000-$45,000 (N = 82, $\bar{X}$ = 21.37) were significantly happier on the JIG dimension than those earning under $15,000 (N = 579, $\bar{X}$ = 13.18) and $15,000-$19,999 (N = 529, $\bar{X}$ = 12.17) (Appendix M). The other three mean score groups were not significantly different from the other groups. Again, as the ODA dietitians' results indicated, those who made over $30,000 scored higher on JIG scores than those who earned less than $30,000. Respondents with 12 or less years of education (N = 219, $\bar{X}$ = 17.09) and over 16 years of education (N = 1,181, $\bar{X}$ = 16.59) scored higher on JIG scores than those who had 10-16 years of education (N = 1,411, $\bar{X}$ = 15.50) (Appendix M).

Women who worked for schools (N = 274, $\bar{X}$ = 18.21) scored significantly higher on job in general scores than did respondents who worked for business services (N = 398, $\bar{X}$ = 14.95) and personal services (N = 56, $\bar{X}$ = 14.41) (Appendix M). The other industry categories were not significantly different from the other groups (Appendix M). Women who supervised over 10 people (N = 430, $\bar{X}$ = 18.60) were significantly happier with their jobs in general than those respondents who supervised either one to five (N = 1,130, $\bar{X}$ = 15.64) or no people (N = 886, $\bar{X}$ = 14.84) at all (Appendix M). The mean scores did indicate that respondents who supervised large groups of people seem to enjoy their jobs more than those respondents who supervised smaller groups of people. Respondents who worked around six to 10 people (N = 742, $\bar{X}$ = 15.47) were the only ones of the three groups not being significantly different from the others (Appendix M). The results were inconclusive.

The percentages of women and the race of the people respondents worked around significantly affected ($p < .05$) JIG scores. Those who worked around 65 percent women (N = 428, $\bar{X}$ = 16.94) scored significantly higher on JIG scores than those who worked around no other women (N = 101, $\bar{X}$ = 14.40) (Appendix M). The mean scores showed no trend. Also, respondents who worked around 15 percent people of their same race (N = 195, $\bar{X}$ = 17.41) scored significantly higher on job in general scores than those who worked around no one of the same race (N = 141, $\bar{X}$ = 14.77) (Appendix M). The rest of the percentage groupings were not significantly different than the other two groupings (Appendix M).

Even though the ANOVA suggested that race of supervisor significantly affected ($p = .0272$) JIG scores, the Duncan Multiple Range Test did not show a significant difference between the means of

race groups (Appendix M). The mean scores did show, however, that respondents with black (N = 172, $\bar{X}$ = 17.79) and Asian (N = 25, $\bar{X}$ = 17.16) supervisors scored higher than those respondents with white ($\bar{X}$ = 2,478, $\bar{X}$ = 15.90) or "other" (N = 20, $\bar{X}$ = 15.20) supervisors. Respondents who indicated that they were not the sole support of their family (N = 1,491, $\bar{X}$ = 13.66) scored higher on JIG scores than those indicating they were the sole support of their family (N = 1,254, $\bar{X}$ = 13.40) (Appendix M). It seemed that those who do not have to support a family may be able to enjoy their job in general more than those who are worried about income.

QWL: Performance Constraint Measure (PCM)

The professional or technical and managerial women seemed happy with the level of their performance constraint measures of frustration index. The mean score of the respondents was 13.51, compared to a maximum score of 20 (Table XXXIX). It did indicate that the stress survey women had less frustration on the QWL dimension than dietitians ($\bar{X}$ = 13.38). The respondents were basically not experiencing many performance constraints. Nine institutional and personal variables were found to significantly affect ($p \leq .05$) PCM scores. The independent variables included: age (p = .0001), employment status (p = .0001), number of people supervised (p = .0001), income (p = .0032), industry (p = .0014), number of people worked around (p = .0001), percent of women worked around (p = .0027), percent of same race worked around (p = .0001), and race of supervisor (p = .0289) (Appendix N).

Women over age 60 (N = 5, $\bar{X}$ = 11.00) were significantly more frustrated with PCM than all other age groups (Appendix N). These

results are inconsistent with the other QWL dimensions and age groups. Also, in general, the younger women seemed to have less frustration on the job. Even though the ANOVA suggested that employment status significantly affected ($p = .0001$) PCM scores, the Duncan Multiple Range Test did not show a significant difference between the means of employment status. It did show that women who work less than 35 hours per week have less frustration with performance constraints than those working over 35 hours per week, according to the mean scores. These results were very similar to the ODA dietitians in relationship to ranking of mean scores (Table XXVI).

Respondents who worked for personal services ($N = 46$, $\bar{X} = 15.41$) and trades ($N = 126$, $\bar{X} = 14.01$) scored significantly higher on PCM scores (for less frustrations) than those who worked for manufacturing companies ($N = 154$, $\bar{X} = 12.94$) (Appendix N). The other industry categories are not significantly different from the other two groups. Refer to Appendix N for difference in groupings. Also, income was significantly affected to PCM dimension and there were three groups in the Duncan Multiple Range Test results. Those respondents who had income under $15,000 ($N = 397$, $\bar{X} = 14.05$) and $15,000-$19,999 ($N = 366$, $\bar{X} = 13.79$) scored significantly higher on the PCM dimension that did those who had incomes of $30,000-$34,999 ($N = 182$, $\bar{X} = 12.85$) (Appendix N). Yet, there was no significant differences between the mean scores of those of incomes in the third group (Appendix N).

Again, work environment had a significant affect ($p < .05$) on the QWL dimension, PCM. Respondents who supervised zero people ($N = 258$, $\bar{X} = 14.33$) scored significantly higher on PCM scores (less frustration) than those who supervised over 10 people ($N = 388$, $\bar{X} =$

12.75). Those who supervised between one to 10 people were also significantly different from the other two groups. The results were just the opposite of other QWL dimensions and did coincide with those of ODA dietitians. Respondents who worked around one to five people ($N = 364$, $\bar{X} = 14.68$) and no people ($N = 8$, $\bar{X} = 14.38$) significantly scored higher on PCM dimensions than those who worked around over 30 people ($N = 387$, $\bar{X} = 12.70$) (Appendix N). The other number of people supervised groups were not significantly different than the other groups. The lower the number of people respondents worked around, the less frustrated they felt.

Respondents who worked around no other women ($N = 646$, $\bar{X} = 13.24$) seemed to be significantly less frustrated than those who worked around the women grouped in the other six categories (Appendix N). Yet, the mean scores did not reinforce this statement. The second highest mean score was for respondents who worked around all women ($N = 65$, $\bar{X} = 14.91$). Also, respondents who worked around all workers of the same race ($N = 684$, $\bar{X} = 14.18$) seemed to significantly score higher on the PCM dimension than those who worked around 35 percent people of the same race ($N = 61$, $\bar{X} = 12.49$) (Appendix N). The other groups of percentage categories were not significantly different from the other groups. The mean scores, again, indicated that the statement was inconsistent with high and low percent scores. The ANOVA suggested that race of supervisor significantly affected ($p = .0289$) PCM scores, but the Duncan Multiple Range Test did not show a significant difference between the means of the race categories (Appendix N).

Occupational Stress of Respondents of National Women's Stress Survey

The occupational stress dependent variables used in the research of the National Women's Stress Survey respondents was exactly the same as those used for ODA dietitians. The occupational stress dimensions included: Coping, Behavioral Strains, Physical Strain, and Mental Health. The occupational stress scores are illustrated in Table XL. The maximum and minimum scores were those of survey respondents.

TABLE XL

OCCUPATIONAL STRESS DIMENSIONS SCORES AND MEANS OF RESPONDENTS OF WOMEN'S STRESS SURVEY

Dimensions	N[a]	Maximum Score[b]	Minimum Score[b]	Mean Score[c]
Coping	2,780	40.00	14.00	26.54 ± 3.69
Behavioral Strains	2,792	16.00	4.00	12.83 ± 2.09
Physical Strains	2,814	32.00	8.00	27.70 ± 3.23
Mental Health	2,738	24.00	7.00	18.24 ± 3.29

[a]Unequal N's due to non-response on some dimensions.

[b]Actual maximum and minimum scores of respondents.

[c]Standard deviation.

Figure 13 illustrates the comparison of the mean scores of the two types of respondents included in the study. The ODA dietitians, again, scored slightly higher on all dimensions with the exception of coping.

Even though most mean scores were close in comparison, ODA dietitians seemed able to control occupational stress a little better than professional or technical and managerial women.

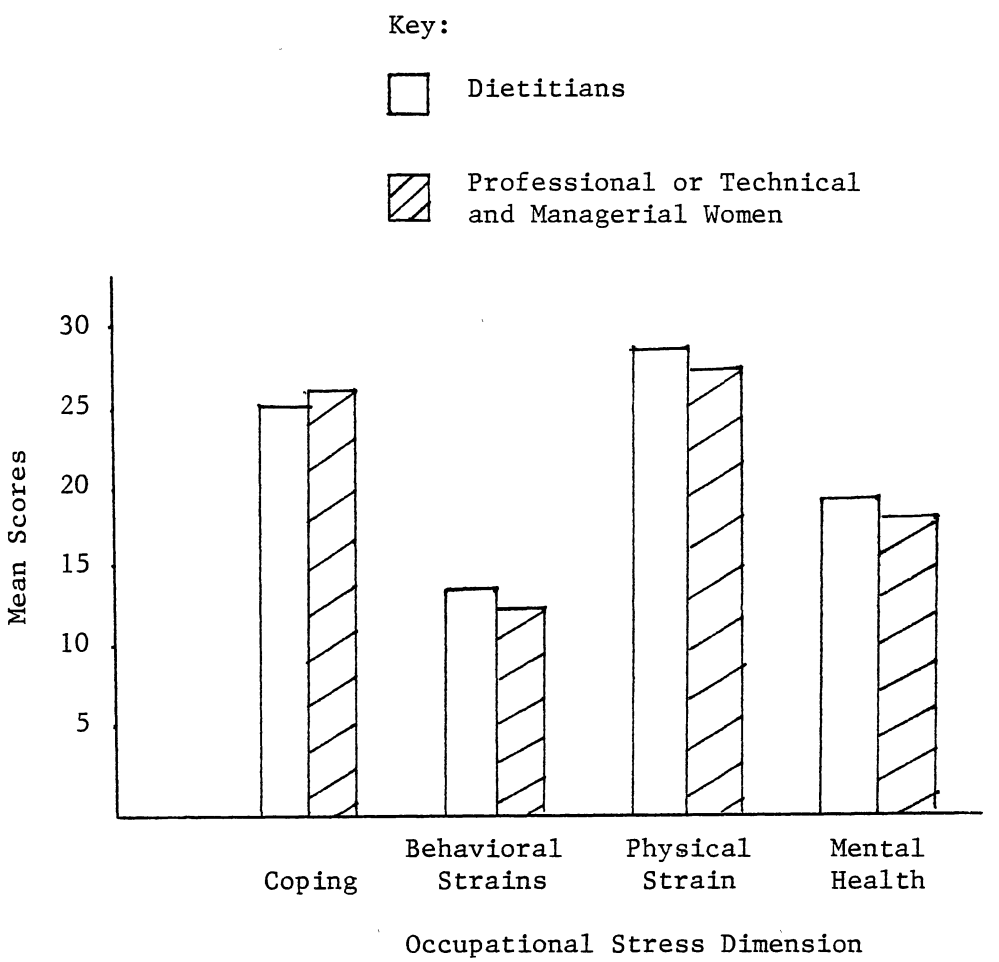


Figure 13. Comparison of Mean Scores of ODA Dietitians and Professional or Technical and Managerial Women of the National Women's Stress Survey on Occupational Stress Dimensions

Occupational Stress: Coping

Respondents answering items about coping (N = 2,780) appeared to be able to cope well with their job environment. The mean score of 26.54 (Table XL) on coping indicated this fact with a maximum score of 40. Of the personal and institutional variables studied in this research, only three personal variables significantly affected ($p \leq .05$) coping scores. The personal variables included spouse's occupation ($p = .0375$), education ($p = .005$), and type of industry ($p = .0371$).

Professional or technical and managerial women whose spouses worked in the clerical area ($N = 10$, $\bar{X} = 23.70$) were significantly less able to cope than those whose husbands worked in one of the other eight areas (Appendix O). Refer to Appendix O for the spouse's occupation. Respondents whose spouses worked as blue collar workers ($N = 110$, $\bar{X} = 25.44$) or as homemakers ($N = 4$, $\bar{X} = 25.50$) showed no significant differences between their mean scores with the means of the other two groups (Appendix O).

Respondents who had over 16 years of education ($N = 1,169$, $\bar{X} = 26.83$) scored significantly higher on the coping dimension than those who had less than 12 years of education ($N = 215$, $\bar{X} = 25.94$) (Appendix O). Those who had 13-16 years of education ($N = 1,396$, $\bar{X} = 26.40$) were not significantly different, however, from the other two groups. It seemed that those respondents with more education could cope with stress better. Women who worked for schools ($N = 247$, $\bar{X} = 27.12$) seemed to be able to cope significantly better than those who worked for banks ($N = 129$, $\bar{X} = 25.86$). All other categories of industries were not significantly different from those of schools or banks. The mean

scores seemed to indicate that respondents who worked for non-profit organizations may be able to cope with stress better than those who work for profit organizations.

Occupational Stress: Behavioral Strain

Professional or technical and managerial women who answered items about behavioral strain (N = 1,792) appeared to have little strain. The mean score of 12.83 (Table XL) scored high with a maximum score of 16. (The higher the score, the less strain.) When compared to dietitians, the respondents showed having a little more behavioral strain (Figure 13). Of the personal and institutional variables studied, eight were found to significantly affect ($p \leq .05$) behavioral strain. Those included: position title ($p = .0016$), marital status ($p = .0001$), employment status ($p = .0090$), number of people supervised ($p = .0170$), income ($p = .0456$), education ($p = .0001$), industry ($p = .0017$), and sole support ($p = .0059$) (Appendix P).

Respondents who worked as health care workers ($N = 86$, $\bar{X} = 13.36$) scored significantly higher on behavioral strain than those who worked as nurses ($N = 153$, $\bar{X} = 12.69$), managers ($n = 823$, $\bar{X} = 12.65$), and administrators ($N = 80$, $\bar{X} = 12.61$) (Appendix P). The categories of position titles were not significantly different than the other two groups. The results of mean scores obviously did show a particular trends. Widowed respondents ($N = 32$, $\bar{X} = 13.41$) scored significantly better on handling behavioral strain than those who were separated ($N = 84$, $\bar{X} = 12.32$) (Appendix P). Those married ($N = 1,198$, $\bar{X} = 13.06$), single ($N = 957$, $\bar{X} = 12.75$), and divorced ($N = 515$, $\bar{X} = 12.49$) were not significantly different than the other two groups. It seemed natural

that separated or divorced respondents may have more behavioral strain than either the married, single, or widowed women.

Respondents who worked less than 20 hours per week (N = 52, $\bar{X}$ = 13.37) handled behavioral strain significantly better than those who worked over 35 hours per week (N = 2,390, $\bar{X}$ = 12.79) (Appendix P). Those who worked 20-34 hours per week (N = 341, $\bar{X}$ = 13.08) were not significantly different than the other two employment status groups. The results did indicate that there seemed to be a correlation between less hours worked and better ability to handle behavioral strain. Also, respondents that supervised no people (N = 874, $\bar{X}$ = 13.01) scored significantly higher (less strain) on behavioral strain dimension than those that supervised six to 10 people (N = 321, $\bar{X}$ = 12.63) (Appendix P). Those who supervised one to five people (N = 1,126, $\bar{X}$ = 12.79) and over 10 people (N = 428, $\bar{X}$ = 12.74) were significantly different from the other two groups. The mean score did indicate that those respondents who supervised under five employees seemed better able to handle behavioral strain than those who supervised over five employees.

Women who had an income of $35,000-$39,999 (N = 122, $\bar{X}$ = 13.21) scored significantly higher on stress dimension, behavioral strain, than those who had an income of $25,000-$29,999 (N = 358, $\bar{X}$ = 12.70), under $15,000 (N = 576, $\bar{X}$ = 12.65), over $45,000 (N = 96, $\bar{X}$ = 12.62), and $40,000-$45,000 (N = 83, $\bar{X}$ = 12.61) (Appendix P). The other income groups were not significantly different than the latter groups. The mean scores did not indicate an income trend for high or low dollars.

Women who had over 16 years of education (N = 1,167, $\bar{X}$ = 13.08) seemed to handle their behavioral strain better than those who had

under 12 years of education (N = 212, $\bar{X}$ = 12.28) (Appendix P). Those respondents who had 13-16 years of education (N = 1,413, $\bar{X}$ = 12.71) were also significantly different than the other two groups. The mean scores ranking seemed to indicate that there may be an inverse relationship between education (higher) and behavioral strain (less).

Respondents who worked for a university (N = 164, $\bar{X}$ = 13.26) scored significantly higher on behavioral strain than those who worked for a manufacturing firm (N = 225, $\bar{X}$ = 12.49) (Appendix P). Those who worked for one of the 10 other industries were not significantly different from those respondents who worked for a university or a manufacturing firm. Refer to the Appendix P for the other 10 types of industries. Again, the mean score results seemed to indicate that those respondents who worked for non-profit organizations scored better on the occupation stress dimension, behavioral strain.

Respondents who answered no (N = 1,503, $\bar{X}$ = 13.03) to the question "Are you the sole support of your household?", seemed to score significantly better on behavioral strain than those who answered yes (N = 1,260, $\bar{X}$ = 12.59) (Appendix P). It seemed natural that respondents who have the strain of being the sole support of their family would feel some behavioral stress.

Occupational Stress: Physical Strain

Professional or technical and managerial women respondents who answered the physical strain question (N = 28.14) appeared to be well able to handle the occupational stress dimension with a mean score of 27.70 out of a maximum score of 32. The higher the score, the less the strain. The results indicated that respondents rarely had symptoms

of physical strain. Of the personal and institutional variables studied, 10 significantly affect ($p \leq .05$) the occupational stress dimension, physical strain. Those independent variables included: number of children ($p = .0063$), number of children at home ($p = .0298$), position title ($p = .0449$), marital status ($p = .0009$), age ($p = .0001$), number of people supervised ($p = .0118$), income ($p = .0001$), education ($p = .0001$), percent of women worked around ($p = .0078$), and type of industry ($p = .0454$) (Appendix Q).

Even though the ANOVA presented a significance level of $p = .0063$ (Appendix Q), the Duncan Multiple Range Test did not show a significant difference between the means regarding the different number of children the respondents had. The results describing respondents and number of children did not show any particular trend. Also, those respondents with seven children at home ($N = 1$, $\bar{X} = 21.00$) seemed significantly less able to handle physical strain than those with the other number of children categories (Appendix Q). The results of number of children and physical strain were very close to those of ODA dietitians, except that dietitians had more of a direct rank order in mean scores.

Respondents with a position title of teacher ($N = 185$, $\bar{X} = 28.23$) scored significantly higher on physical strain dimension than those who were health care workers ($N = 87$, $\bar{X} = 27.30$) (Appendix Q). The other categories of position title were not significantly different from teacher and health care workers. The results were inconclusive since another type of health care worker, nurses, ranked high in mean scores ($\bar{X} = 27.86$). Widowed respondents ($N = 31$) scored higher ($\bar{X} = 28.68$) on the physical strain dimension than did the single respondents ($N = 956$, $\bar{X} = 27.37$) (Appendix Q). But there was no significant

difference between the mean scores of those separated (N = 87, $\bar{X}$ = 28.28), married (N = 1,214, $\bar{X}$ = 27.63), and divorced (N = 520, $\bar{X}$ = 27.37). As compared with ODA dietitians, widowed women had higher QWL job satisfaction and less occupational stress than single respondents.

Respondents between 56-60 years old (N = 38, $\bar{X}$ = 28.97) scored significantly higher on physical strain than those ages under 25 (N = 458, $\bar{X}$ = 27.04) and ages 26-30 (N = 789, $\bar{X}$ = 27.51) (Appendix Q). All other age groups were not significantly different from the former and latter age groups. Except for the initial mean scores, the results of mean scores were inconclusive. Women who supervised over 10 employees (N = 48, $\bar{X}$ = 28.05) seemed to significantly have less physical pain than those who either supervised six to 10 employees (N = 372, $\bar{X}$ = 27.54), or those who supervised no employees (N = 886, $\bar{X}$ = 27.48) (Appendix Q). Those who supervised one to five employees (N = 1,134, $\bar{X}$ = 27.79) were significantly different from the other two groups.

Respondents who had income of over $45,000 (N = 99, $\bar{X}$ = 28.68) scored higher on physical strain dimension than those who made under $15,000 (N = 582, $\bar{X}$ = 27.07) (Appendix Q). All other income categories were not significantly different from these two groups. The results of mean scores seemed unusual to this researcher in that respondents who made less money had more physical strain. However, those respondents with over 16 years of education (N = 1,182, $\bar{X}$ = 28.15) scored significantly higher on the occupational stress dimension, physical strain, than those who had less than 12 years of education (N = 220, $\bar{X}$ = 26.89) (Appendix Q). The respondents with between 13-16 years of education (N = 1,412, $\bar{X}$ = 27.45) were significantly different from the other two

levels of education. The results may reinforce the concept that lower paid, less educated respondents may have more physical strain.

Respondents who worked around 65 percent women (N = 433, $\bar{X}$ = 27.98), 50 percent women (N = 463, $\bar{X}$ = 27.95), and all women (N = 285, $\bar{X}$ = 27.94) scored significantly higher on physcial strain than those who worked around no other women (N = 100, $\bar{X}$ = 27.34) and 15 percent women (N = 320, $\bar{X}$ = 27.33) (Appendix Q). The other percentage groups were not significantly different from these other groups, however. Also, those respondents who worked for schools (N = 77, $\bar{X}$ = 28.09) seemed to be able to handle physical strain significantly better than those working for an industrial organization (N = 98, $\bar{X}$ = 27.13) (Appendix Q).

Occupational Stress: Mental Health

The respondents from the women's stress survey (N = 2,738) indicated they were able to handle mental health (anger, anxiety, and depression) in their lives. With a mean score of 18.24 out of a maximum of 24 (Table XL) women respondents scored lower ($\bar{X}$ = 20.02) than those ODA dietitians on the occupational dimension mental health (Figure 13). Of the personal and institutional variables studied, three personal variables, age (p = .0002), income (p = .0048), and education (p = .0001), were found to significantly affect ($p \leq .05$) mental health of respondents (Appendix R).

Even though the ANOVA presented a significance level of p = .0002, the Duncan Multiple Range Test did not show a significant difference between the means of the different groups of ages of women respondents. The mean score ranks did not show a strong pattern either for older or younger respondents. Those who had an income of $30,000$34,999 (N = 243,

$\bar{X}$ = 18.73), however, scored significantly higher on mental health scores than those who had incomes of under $15,000 (N = 566, $\bar{X}$ = 17.73) (Appendix R). The other income groups were not significantly different than the other two groups. The mean scores indicated no strong results. Finally, those respondents who had over 16 years of education (N = 1,147, $\bar{X}$ = 18.59) seemed to be able to handle mental health significantly better than those who had less than 12 years of education (N = 213, $\bar{X}$ = 17.41) (Appendix R). Those respondents who had between 13 and 16 years of education were significantly different from the other two levels of education. The results seemed to indicate that the more years of education, the better the worker can handle mental health.

QWL Dimensions of National Women's Stress Survey Respondents in Association with the Occupation Stress Variables

This section of the results and discussion examined the correlation between QWL dimension, as the dependent variable, and occupational stress, as the independent variable. The QWL dimensions were correlated with the occupational stress dimensions using Pearson Product-Moment Correlation (Appendix S). The results indicated that all the occupational dimensions, coping, behavioral strains, physical strains, and mental health, were significantly affected ($p \leq .05$) by almost all of the QWL dimensions.

In examining the QWL dimension, company, with relationship to occupational stress dimension, the results indicated that all stress scores were highly significant ($p < .03$) with company (Appendix S). There is a good positive correlation for mental health ($r = 0.29$) and

physical strain (r = 0.24) in relationship to QWL dimension, company. There is also a direct relationship between the two occupational stress dimensions and coping (r = 0.19). Also, behavioral strain (r = 0.07) is related to all three of the other dimensions. It seemed that respondents, in relationship with company dimension, had a very positive association in terms of mental health, physical strain, and behavioral strain, but a low positive association with coping.

In response to AWPJ dimension, the women had a very significantly positive correlation with all the occupational stress dimensions (Appendix S). Mental health (r = 0.40) and physical strain (r = 0.35) had strong positive correlations while behavioral strain (r = 0.18) and coping (r = 0.22) had somewhat good correlations with actual work on present job (Table XLI). The direct relationship between the degree of the four dimensions and AWPJ was strong. It seemed that respondents felt positively about all aspects of stress on their present job, particularly mental health and physical strain. The results were very similar to those of ODA dietitians.

Respondents showed a significantly weak relationship between the QWL dimension, promotion, and three occupational stress dimensions (Appendix S). Behavioral strain (r = -0.05) showed low negative correlation, while physical strain had no systematic relationship and was found not to be significantly (p = 0.54) related to promotion (Table XLI). Though mental health (r = 0.08) and coping (r = 0.06) had a positive correlation, there seemed to be little direct relationship between the four stress dimensions and promotion. The respondents did not feel strongly about or between any dimension of

TABLE XLI

PRODUCT-MOMENT CORRELATION BETWEEN OCCUPATIONAL STRESS DIMENSIONS AND QWL DIMENSION FOR RESPONDENTS OF THE NATIONAL WOMEN'S STRESS SURVEY

QWL Dimensions	Occupational Stress Dimensions			
	Coping	Behavioral Strain	Physical Strain	Mental Health
Company	.19	.07	.24	.29
Actual Work on Present Job	.22	.18	.35	.40
Promotion	.06	-.05	.01	.08
Supervision on Present Job	.15	.02	.17	.23
General Job Satisfaction	.14	.09	.20	.25
People on Your Present Job	.16	.09	.20	.25
Job in General	.00	.01	.07	.08
Performance Constraint Measures	.08	.08	.19	.20

stress in association with promotion. Again, the results were very similar to those of ODA dietitians.

Respondents showed a fairly significant relationship between the QWL dimension, supervision on present job, and three occupational stress dimensions (Appendix S). Behavioral strain ($r = 0.02$) showed no relationship with supervision. While coping ($r = 0.15$) and physical strain ($r = 0.17$) showed a fair correlation, they did have a direct relationship between each other. Mental health not only showed a good correlation with supervision, but also showed a strong direct relationship with behavioral strain. The result indicated that respondents felt positively about mental health, physical strain, and coping, but supervision showed little systematic relationship with behavioral strain. Again, the results were very similar to those of ODA dietitians.

General job satisfaction showed a good significant positive correlation with all occupational stress dimensions (Appendix S). The strongest correlation with job satisfaction was with mental health ($r = 0.25$) and physical strain ($r = 0.20$) (Table XLI). Less positive, yet still significant, was the correlation of satisfaction with both coping ($r = 0.14$) and behavioral strain ($r = 0.09$). The two groups of stress dimensions had a significant direct relationship between each other, but not particularly within the group. The strongest direct relationship was between mental health and behavioral strain. The results seemed to indicate that respondents have a positive relationship of occupational stress and general job satisfaction. The results of the QWL dimension, people on their present job, in

relationship to occupational stress showed almost the exact same conclusions as the relationship with GJS (Table XLI).

The respondents who answered the QWL dimension, job in general, did not show a particularly strong relationship with any of the four occupational stress dimensions, even though both mental health and physical strain were found to be significant ($p \leq .05$) (Appendix S). The stress dimensions of mental health ($r = 0.08$) and physical strain ($r = 0.07$) showed low positive correlation with JIG, while both behavioral strain ($r = 0.01$) and coping ($r = 0.00$) indicated no relationship with jobs in general (Table XLI). It seemed that respondents felt there was little or no positive relationship of jobs in general and occupational stress.

Performance constraint measures scored a significant positive relationship (Appendix S) with all occupational stress dimensions. Mental health ($r = 0.20$) and physical strain ($r = 0.19$) had a positive correlation with PCM as did both behavioral strain ($r = 0.08$) and coping ($r = 0.08$). Though both groups of occupational stress were positively correlated with PCM, there was not a direct relationship within the group, however, there was a direct relationship between the groups. The results did indicate that respondents felt a positive relationship between stress dimensions and frustration particularly with mental health and physical strain.

Testing of the Hypotheses

H_1: There will be no significant differences in the QWL: actual work related conditions on present job of Oklahoma dietitians based on selected personal variables. Based on results, H_1 was rejected.

H_2: There will be no significant differences in the QWL: actual work related conditions on present job of Oklahoma dietitians based on selected institutional variables. Based on results, H_2 was rejected.

H_3: There will be no significant differences in the work related stressors, mediators, and health effects of Oklahoma dietitians based on selected personal variables. Based on results, H_3 was rejected.

H_4: There will be no significant differences in the work related stressors, mediators, and health effects of Oklahoma dietitians based on selected institutional variables. Based on results, H_4 was rejected.

H_5: There will be no significant association between QWL: actual work related conditions on present job and work related stressoes, mediators, and health effects of Oklahoma dietitians. Based on results, H_5 was rejected.

H_6: There will be no significant differences between the QWL: actual work related conditions on present job of Oklahoma dietitians and professional or technical and managerial women in The 9 to 5 National Survey on Women and Stress based on selected personal variables. Based on results, H_6 was rejected.

H_7: There will be no significant differences between the QWL: actual work related conditions on present job of Oklahoma dietitians and professional or technical and managerial women in The 9 to 5 National Survey on Women and Stress based on selected institutional variables. Based on results, H_7 was rejected.

H_8: There will be no significant differences between the work related stressors, mediators, and health effects of Oklahoma dietitians and professional or technical and managerial women in The 9 to 5

National Survey on Women and Stress based on selected personal variables. Based on results, H_8 was rejected.

H_9: There will be no significant differences between the work related stressors, mediators, and health effects of Oklahoma dietitians and professional or technical and managerial women in The 9 to 5 National Survey on Women and Stress based on selected institutional variables. Based on results, H_9 was rejected.

H_{10}: There will be no significant association between the QWL: actual work related conditions on present job and work related stressors, mediators, and health effects of Oklahoma dietitians and professional or technical and managerial women in The 9 to 5 National Survey on Women and Stress. Based on results, H_{10} was rejected.

CHAPTER V

SUMMARY, RECOMMENDATIONS, AND IMPLICATIONS

The purpose of this study was to assess the quality of work life of professional or technical and managerial women. The two population groups included ODA dietitians and professional or technical and managerial respondents of the National Women's Stress Survey. Neither group of women had been studied in this context. The area of QWL studied included actual work conditions and occupational stress dimensions. Eight hypotheses were postulated to determine if selected personal and institutional variables affected either the QWL or occupational stress dimensions of both ODA dietitians and respondents of the National Women's Stress Survey.

The QWL literature abounds in today's publications. QWL and its surrogates, measures of job satisfaction and occupational stress, were the main thrust of the research conducted. Only two QWL studies of dietitians had been conducted (Leche, 1984 and Taylor, 1984), but there have been several studies analyzing job satisfaction of dietitians. The samples, research instruments used, and discussion of the findings of each of these studies were reviewed.

The sample used in this study was drawn from the list of ODA dietitians (N = 476). Data obtained from the 196 questionnaires usable for analysis were analyzed using frequencies, percentages,

t-test, ANOVA, Duncan Multiple Range Test, and Pearson Product-Moment Correlation.

Summary

Characteristics of ODA Respondents

Ninety-eight of the respondents were female. While 27 percent of the respondents were either under 30, 31-40 or 41-55 years old, 18 percent were older than 56. Seventy-two percent were married, 11 percent were single, and the remaining 17 percent were either divorced, separated, or widowed. Of 126 of the respondents that earned a bachelor degree, 30 percent did not list a major, 27 percent majored in dietetics, 29 percent majored in foods and nutrition, and 13 percent had other majors. Of the 70 respondents that had masters degrees, the most (46 percent) majored in foods and nutrition. Finally, only four dietitians had doctorate degrees.

One hundred ninety respondents (97 percent) were registered dietitians and 84 percent were licensed. Most (55 percent) chose the dietetic internship route to ADA membership. Thirty percent became members via the M.S. plus six months work experience or the CUP program. The last 15 percent either completed a traineeship, three years pre-planned work experience, or "other". The most popular of the 17 different position titles included consultant dietitians (24 percent), clinical dietitians (26 percent), generalist dietitians (16 percent), administrative dietitians (8 percent), and nutritionists (14 percent).

Fifty percent of the dietitians had an income of under $25,000 and only two percent made over $45,000. Also, 55 percent of the

respondents had been in their jobs less than four years. Twenty-one percent had been in their jobs five to 10 years, 21 percent 11-20 years, and two percent over 20 years. Sixty-five percent of the respondents once worked as a therapeutic dietitian. Of those, 72 percent worked less than five years in their area of dietetics. Also, 51 percent of the dietitians were once employed as an administrative dietitian. Of those dietitians, a majority worked for less than five years. Twenty-five percent of the respondents indicated they once worked in other areas of dietetics and 14 percent once had other types of jobs.

Most of the respondents (70 percent) were employed at least 35 hours per week, while 16 percent were employed 20 hours per week or less. Fourteen percent were employed 23-34 hours per week. Of the 138 married dietitians, 86 percent of their spouses had full-time jobs. Sixty-two percent were employed in the professional or technical areas and 19 percent as managers. Also, 94 percent of the respondents were white.

Those dietitians who had children (75 percent), 51 percent had two or less children, 23 percent had three to five children, and two percent had more than five children. In addition, 51 percent of the dietitians had no children living at home. Twenty percent had one child at home, 24 percent had two children at home, and five percent had three or more children at home. A large majority (70 percent) of the ODA respondents declared that they were not the sole support of their households. The results correlated with 72 percent of respondents who were married.

Characteristics of ODA Dietitians' Institutions

Close to one fourth (28 percent) of ODA dietitians worked in facilities with between 100-299 clients, and 48 percent worked in facilities with over 300 clients. Forty-three percent of the respondents worked in cities of over 150,000 and 28 percent worked in cities of 25,000-150,000. Twenty-nine percent worked in towns of under 25,000. Exactly one half (N = 92) of the ODA dietitians responded that they worked at a hospital. Thirteen percent were employed at a nursing home and the other 37 percent were employed at one of the other 17 types of facilities.

Over one third (38 percent) of the respondents did not supervise any employees. Thirty-eight percent supervised one to 10 employees and 24 percent supervised over 10 employees. Also, 43 percent of the respondents indicated they worked around more than 20 people on a regular basis. Three quarters (75 percent) of the respondents worked around over 85 percent women and 76 percent of the respondents worked around over 85 percent of the same race. Fifty-five percent of the dietitians had male supervisors and 90 percent had supervisors of the same race.

Characteristics of professional or Technical and Managerial Women of the National Women's Stress Survey

All respondents (2,843) were limited to female, of which 44 percent were under 30 years of age. Thirty-nine percent were ages 31-40 and 27 percent were over 40 years of age. This group was younger than ODA dieitians. Forty-three percent of the respondents were married and 34

percent were single. The frequencies were just the opposite of the ODA dietitians. While 51 percent of the respondents had between 13 and 16 years of education, 43 percent had over 16 years, and six percent had less than 12 years.

Thirty percent of the respondents indicated that they worked as managers. While 21 percent worked in professional work, 49 percent worked in a variety of other position titles. Sixty-four percent of the women indicated that they made less than $25,000 and only 490 made over $45,000. The comparison between the two data bases was very close in dollars earned. A little less than half the respondents (46 percent) have worked under 10 years since age 18, and only 11 percent have worked over 20 years.

Professional or technical and managerial women mainly worked over 35 hours per week (91 percent), as compared with ODA dietitians (70 percent) who worked over 35 hours per week. These results seemed to be a key characteristic of women workers--their willingness to work hard to succeed. Of the women who were married (N = 1,225), 49 percent had husbands employed in the professional or technical area. Another 42 percent worked as manager or in the other categories.

Eighty-two percent of the respondents were white, while 16 percent were black. Also, a large number (60 percent) of the respondents indicated they did not have children. Not surprisingly, 34 percent of the respondents were single. Thirty percent had one or two children and the rest (10 percent) had from three to nine children. Also, 65 percent of the respondents revealed they had no children at home. The 55 percent of the respondents who declared they were sole support of their household, correlated closely with 57 percent women who were

not married. The characteristics of marital status, number of children, and sole support were also key differences between the stress survey respondents and the ODA dietitians.

Characteristics of the Institutions of the Respondents from the Women's Stress Survey

Seventeen percent of the respondents worked in the health industry, 14 percent for the government, 14 percent for business service, 10 percent for school, and eight percent in manufacturing. In addition, over 68 percent of the respondents indicated that they supervised four or less people with 36 percent stating that they supervised no employees at all, while eight percent said they supervised over 20 employees. Just under 50 percent of the respondents worked around 10 or less people, and 18 percent worked around over 30 people. The comparison of respondents indicated that ODA dietitians supervised larger groups of people, but both data bases showed the respondents worked around approximately the same number of people.

The women respondents indicated that 74 percent worked around more than 50 percent women and 70 percent worked around 85 percent or more people or their same race. Sixty-five percent of the respondents said their immediate supervisors were male while 90 percent indicated that their supervisors were white.

QWL of ODA Dietitians and National Women's Stress Survey Respondents

The QWL dimension studied in this research included Company or Organization, Actual Work on Present Job (AWPJ), Promotion, Supervision

on Present Job (SPJ), People on Your Present Job (POYPJ), General Job Satisfaction (GJS), Job in General (JIG), and Performance Constraint measures (PCM). Both groups of respondents used the same survey, the only difference was in the types of independent variables used.

It seems that both groups of respondents scored high on the mean scores of all the QWL dimensions. The indications are ODA dietitians and respondents of the stress survey were happy with QWL on the job. ODA dietitians did, however, score slightly higher in all the QWL dimensions, with the exception of performance constraints. The mean scores for eight dimensions are in Table VI and Table XXXIX.

ODA dietitians appeared to be satisfied with the company they worked for. The variables of age, size of facility, and race of supervisor affected company scores significantly. Dietitians over 60 years were happier with their company than those under 25 years. The other age groups were not definite. Those who worked in facilities with under 100 participants were happier with their company than those who worked in facilities with over 300 participants.

The women of the stress survey also seemed happy with the QWL dimension, company. Ten institutional and personal variables affected company scores significantly, yet not all results were useful. Women who supervised large numbers of workers seemed to be happier with their company than those who supervised fewer numbers. Marital status and number of children scores were significant but showed no trend. The age variable was just the opposite of the ODA dieitians with over 60 year old dietitians less happy than the younger group.

Women who worked as managers seemed happier with their organization than those who were nurses or teachers. It indicated those

women who were considered professional or technical enjoyed their organizations less than those considered managers. Women who made more money indicated they were happier with their companies. Also, women who worked around 65 percent or more people of their own race were happier and seemed to enjoy their organizations. Those who worked around smaller groups of people, less than 15, scored better on their organization dimension.

Overall, the ODA dietitians were satisfied with their actual work on present job. Five institutional and personal variables significantly affected AWPJ scores. Those working at profit-making organizations seemed happier with their work than those working at non-profit companies. Also, dietitians who were not sole support of their household, were happer with their jobs. Those who did not have management types of positions, consultants, teachers and sales workers, had higher mean scores than those who were considered to be in management positions.

Dietitians who worked in either large institutions (over 1,000 participants) or small institutions (under 100 participants) seemed to be happier with their jobs than those who worked in medium size institutions (100-999 participants). Those employed less than 35 hours per week were happier with their jobs. Also, dietitians with larger families enjoyed their jobs better than those with smaller or no families.

Women of the stress survey were satisfied with their actual work on present job. Twelve institutional and personal variables significantly affected AWPJ scores. Women with large families again showed more enjoyment from their jobs than those with smaller families. Widowed

women and older women (over 35) seemed to enjoy their jobs better than those who were younger (under 35) or single.

Again, women who worked less than 35 hours per week were happier with their jobs. Also, women who supervised large numbers of employees seemed happier with their work than those who supervised smaller numbers. These results were very similar to those of the company dimension. Respondents with more education were happier with work than those with less education. Respondents who worked around large percentages of females of the same race with female supervisors enjoyed their jobs better.

ODA dietitians seemed happier with the QWL dimension, promotion. Seven variables significantly affected the scores. Respondents who were sole supports of their families scored higher than dietitians who were not sole supports of their family. Age affected promotion with dietitians over 40 years old scoring higher. Also, those with higher incomes (over $30,000) seemed to have a positive feeling about promotion.

Dietitians who worked over four years outside the traditional dietetic area scored significantly higher on the QWL dimension, promotion. Again, widowed respondents enjoyed the QWL promotion better than single respondents.

Professional or technical and managerial women seemed to enjoy the promotion dimension with their organization. Twelve institutional and personal variables significantly affected promotion. Similar to the dietitian widows, the respondent widows said they were happier with promotion than were the singles. Again, women with more children enjoyed promotion more than those with fewer children.

Respondents with position titles which were managerial scored higher on promotion than those with titles of professional or technical nature. Similar to the ODA dietitians older women were happier about promotion than younger women. Respondents who worked over 35 hours per week and supervised large numbers of people (over six) were positive on the QWL dimension, promotion. The respondents indicated there was a direct relationship between higher income and satisfaction with promotion. The results were similar to those of dietitians. However, those with under 12 years of education scored higher on promotion scores.

Women who worked around large numbers of people felt good about promotion. Also, women who worked around 15 percent women scored higher than those who worked around over 85 percent women and those who worked around 50 percent people of the same race scored higher than those who worked around all people of the same race. Finally, respondents with male supervisors scored better on promotion than those with female supervisors.

ODA dietitians seemed very happy with the supervision they received on their present job. Five personal and institutional variables studied significantly affected SPJ scores. Respondents with incomes of over $35,000 seemed to enjoy their supervision. Those with position titles of management seemed to score better on supervision. Those who had non-dietetic jobs over four years felt positive about their SPJ. Even though the route to ADA membership significantly affected supervision, no conclusions could be drawn. Finally, respondents who supervised larger numbers of people (over six) scored higher on SPJ.

Also, professional or technical and managerial women felt good about their supervision they received on their jobs. The age variable did not show a particular trend, but women with position titles of management jobs scored better on SPJ than those with position titles of professional or technical. Again, widows scored better than singles on the QWL dimension, SPJ.

Similar to the dietitians' results, women who supervised large numbers of people seemed to better enjoy supervision themselves. The results of income groupings approximated those of ODA dietitians, where higher income correlated with feeling better about supervision.

Respondents who worked around a certain percent of women did not show a trend in mean scores, but those who worked around a large percentage of people of the same race better enjoyed their supervision. However, race of the supervisor did not result in positive information.

ODA dietitians overall seemed to experience general job satisfaction. They scored significantly on three variables. Position title showed no conclusions that generalized from the results other than the fact that consultant dietitians seemed more generally satisfied with their jobs than clinical or general dietitians. Respondents who worked less than 35 hours per week scored higher on job satisfaction. Also, again widows seemed happier about their jobs than singles.

Professional or technical and managerial women also appeared to be happy with their general job satisfaction. Nine institutional and personal variables significantly affected GJS. Similarly again, widows scored better on GJS than singles. Also, women with large families were more satisfied with their jobs than those with smaller families or no

children. Children at home and position titles did not indicate any particular conclusions.

Older respondents, in general, seemed to enjoy their jobs more than younger respondents. Respondents who worked under 35 hours per week, similar to ODA dietitians, seemed happier with the GJS. Women who had over 16 years of education seemed happier with their jobs than those with under 16 years of education. Also, respondents with female supervisors scored higher on GJS scores than those with male supervisors.

Overall, both the ODA dietitians and the professional or technical and managerial women appeared to be happy with the people on their present jobs. The dietitians only had two variables significantly affecting POYPJ scores. Dietitians with M.S. degrees in dietetics, institutional administration, and foods and nutrition scored lower on POYPJ scores than those with degrees in home economics, M.P.H., and a general M.S. degree. Also, widowed respondents were happier with co-workers than single, separated, and divorced respondents.

Professional or technical and managerial women scored significantly on 13 personal and institutional variables studied. Though number of children was significant, the mean scores did not indicate any trends. On the other hand, older respondents, in general, enjoyed their co-workers more than younger women. Also, separated and widowed women were happier with co-workers than were the single, married, or divored women.

It seemed that respondents who answered questions about their race, number of people supervised, position title, and type of industries they worked for showed significance but the results did not indicate a particularly strong conclusion. Also, women who worked

around large numbers of people (over 15) and large percentages of women seemed to be happier with their co-workers. Yet, those who worked around low percentages of people of their own race were happier with their co-workers than those who worked around high percentages of people of their same race. Finally, respondents who had female supervisors and were not sole support of their households scored higher on POYPJ.

Respondents from both survey groups were also happy with their jobs in general. Of the personal and institutional variables tested, the ODA dietitians scored significantly on 14 variables in relationship to JIG scores. Also, older dietitians seemed happier with their jobs in general. Respondents with a higher income level (over $30,000) were happier with their jobs than those who had less income.

B.S. degrees and route to ADA membership were found to be significant with JIG scores, but the results were inconclusive. However, dietitians who worked over four years on their present job seemed to be happier than those who worked under four years. This is also true for dietitians who worked in the administrative area of dietetics and on other types of jobs. It seemed that the longer they worked in these areas, the happier they were with their jobs in general.

Respondents who worked in facilities with over 500 participants scored higher on JIG scores than those who worked in smaller facilities. Again, it seemed that widowed dietitians significantly outscored single dietitians in relationship to their jobs. And finally, the respondents with children seemed to enjoy their jobs in general more than those

without children. This is also true for those who had four or more children at home.

Professional or technical and managerial women showed a nearly perfect straight line of young to old respondents in relationship to job in general scores. The results are similar to the ODA dietitians who felt that older women enjoyed their jobs more than younger women. Again, women with position titles of management scored significantly higher on the QWL dimension, JIG, than those who were just general workers.

Widowed respondents were again happier with their jobs in general than those who were single. Also, exactly as the results of the dietitians, those married respondents with larger families and large numbers of children at home scored higher on the job dimension than those with either no children or no children at home. Respondents earning more than $40,000 were significantly happier on the JIG dimension than those with income under $20,000. These results also correspond with those of the ODA dietitians. Surprisingly, respondents with 12 or less years of education and over 16 years of education scored better on the JIG scores than those with between 12 and 16 years of education.

Variables of type of industries worked for and number of people supervised, though significant, did not show any conclusive results. The same was true for both percentage of women and people of the same race respondents worked around. Also, respondents who indicated they were not the sole support of their families scored higher on JIG than those who were sole supports.

Both ODA dietitians and professional or technical and managerial women were not experiencing performance constraints in relationship to their jobs. The dietitians had six independent variables that significantly affected PCM scores. Dietitians with incomes over $45,000 scored better on performance constraints than those with incomes between $35,000 and $39,999. Unfortunately, the mean scores did not indicate strong enough results to make a conclusion. Also, position titles, though significant, did not show a particular trend with the exception of categories of dietitians. The results did indicate that consultant dietitians felt less performance constraints on their jobs than the general dietitians or the clinical dietitians. Again, it seemed that respondents who were employed less than 35 hours per week enjoyed their jobs more, felt less frustration, than those who worked over 35 hours per week. Also, dietitians who supervised less than five people felt less frustration on the job than those who supervised larger numbers of people.

The stress survey respondents indicated that nine institutional and personal variables were found to significantly affect the PCM scores. Women over 60 years old were significantly more frustrated with their jobs than all other age groups. In fact, in general, younger women who worked less than 35 hours per week seemed to have less frustration with the performance constraints on the job.

Respondents whose incomes were under $20,000 scored higher on the PCM dimension than those who had incomes between $30,000 and $35,000. Women who either worked around or supervised small numbers of people (under 10) scored higher on the PCM dimension than those who supervised larger numbers. The lower number of people respondents

worked around or supervised, the less frustration they felt. Also, respondents who worked around no other women or all workers of the same race scored higher on the PCM dimension than the other percentage categories within the groupings. Unfortunately, the mean scores were inconsistent to draw a general conclusion. And finally, the race of the supervisor significantly affected the frustration level of the respondents, but no particular results were conclusive.

Occupational Stress of ODA Dietitians and National Women's Stress Survey Respondents

The occupational stress dimensions studied in this research included: Coping, Behavioral Strain, Physical Strain, and Mental Health. Again, both groups of respondents used the same survey and the only difference was in the types of independent variables tested. As illustrated in Figure 13, overall both groups of respondents scored high on the mean scores of all the occupational stress dimensions. The ODA dietitians indicated they could possibly control occupational stress on the job better than the women from the stress survey on three out of four dimensions. The professional or technical and managerial women scored higher only on coping.

As indicated above, respondents answering items about coping appeared to be able to cope very well with their job environments. The ODA dietitians indicated that five variables significantly affected the coping scores. Respondents who were licensed scored higher on the ability to cope with their jobs than those who were not licensed. Dietitians who indicated one of the seven B.S. degree categories showed

no significant conclusion between degree and coping. This was also true for dietitians who worked in other types of jobs. Again, respondents who worked over 35 hours per week seemed to be able to cope better than those who worked under 35 hours per week. And finally, for some unknown reason, Hispanics scored higher on the coping dimension than did Asians, whites, or native Americans.

Professional or technical and managerial women showed significance in only three personal variables in relationship to coping scores. Spouse's occupation, though significant, did not show a particular trend towards coping. However, respondents who had over 16 years of education scored significantly higher on the coping dimension than those who had less than 12 years of education. In fact, it seemed that those respondents with more education could better cope with stress. Women who worked for different types of industries indicated that those who worked for non-profit organizations may be able to cope with stress better than those who worked for profit organizations.

Overall, both groups of respondents were able to control behavioral strain in relationship to their lives and their jobs. In fact, only two variables were found to significantly affect behavioral strain scores by ODA dietitians. Though the years in job were found to be significantly related to the coping dimension, all the mean scores were so close, no conslusions could be made. This was also true for the respondents who answered the questions about the percentage of women at work.

However, the professional or technical and managerial women found eight variables to significantly affect behavioral strain. Widows scored significantly better on handling behavioral strain than those

who were separated. Also, respondents who worked less hours (under 35 hours) were also better able to handle behavioral strains.

The mean scores on number of people supervised did indicate those respondents who supervised under five employees were better able to handle behavioral strain than those who supervised over five employees. Also, women who had incomes of between $35,000-$39,999 scored higher on the stress dimension behavioral strain, than those who had income categories of $29,999, under $15,000 over $45,000 and $40,000-$45,000. The mean scores did not indicate a trend.

Women with over 16 years of education seemed to handle the behavioral strain better than those who had under 12 years of education. The mean scores seemed to indicate that there is a direct relationship between higher education and less behavioral strain. Again, those respondents who indicated they worked for a non-profit organization seemed to score better on behavioral strains. Finally, women who were not the sole support of their household had less behavioral strain than those who were the sole support of their household.

Occupational stress dimension, physical strain, was overall accepted as a positive dimension by both the dietitians and the stress survey respondents. Of the institutional and personal variables studied by the ODA dietitians, five were found to significantly affect physical strain. Respondents who worked in a variety of facilities showed results that were significant but no conclusive. Again, widows felt they could handle the physical strain better than the single respondents. Also, dietitians who had larger numbers of children were better able to control the stress of physical strain than those who had smaller families. Dietitians whose spouses worked in either the

service area, sales, or farmer or rancher scored higher on physical strain than those who worked as blue collar workers. And finally, those dietitians who worked around 15 percent women, 65 percent women, and 35 percent women felt less physical strain in general than those who worked around 50 percent women.

Women in the stress survey found 10 institutional and personal variables that significantly affected physical strain. Women with nine children scored higher on the mean scores than those with no children. Yet, the correlation was not a direct line response, but was very similar to the ODA dietitians. Respondents with a position title of teacher scored higher on the physical strain dimension than those who were health care workers. The results were too inconclusive to generalize a particular trend.

Again, widowed respondents indicated they felt less physical strain than single respondents, and respondents between the ages of 56-60 years old scored higher on physical strain than those who were under 30 years old. Except for these initial mean scores, the results of the means were inconclusive. Women who supervised over 10 employees seemed to have less physical strain than those who either supervised six to 10 employees or those who supervised no employees at all.

Respondents with incomes over $45,000 scored higher on physical strain than those who made under $15,000. The results of the mean scores indicated that those with less money had more physical strain. Also, respondents with over 16 years of education scored higher on physical strain than those with less than 12 years of education. And finally, respondents who worked around over 50 percent women seemed

to have less physical strain than respondents who worked around less than 50 percent women.

The occupational stress dimension, mental health, was also a positive area for both respondent groups. In fact, the ODA dietitians only found two variables to significantly affect the dimension scores, and the professional or technical and managerial women found three variables that significantly affected the scores on mental health. The dietitians with male supervisors scored significantly higher on mental health than those with female supervisors. And, once again, widowed respondents seemed happier about their mental health than single respondents.

The older professional or technical and managerial women seemed to rank higher on mean scores than younger respondents in reference to mental health. However, respondents with income of $30,000-$39,999 scored higher on mental health than those under $15,000. Yet, the total mean scores indicated no strong results. Finally, those respondents who had over 16 years of education seemed to handle mental stress better than those with under 12 years of education. The results seemed to indicate that more years of education may prepare women to better handle mental health.

Recommendations

The results of this research were encouraging. Yet, the strengths and weaknesses emerged and will serve as a firm basis for future investgations. Based on this study, this researcher offers the following observations and recommendations.

1. In order to continue the validation process of the instrument used in this study, the research should be replicated with a variety of types of respondents.

2. Since this is only the third study dealing with the QWL of dietitians, other studies should be conducted with a research tool specifically designed for dietitians.

3. Specific recommendations for the revision of the survey instrument are as follows:

    a. Less personal and institutional variables should be used in the demographic category.

    b. Categories in the personal and institutional variables used should be collapsed for easier analysis.

    c. Areas not analyzed in the survey should be deleted from the instrument. Examples are use of office equipment and stress related to diseases.

    d. Revision of questions to include all practice groups of ODA members.

4. Better analysis of QWL dimensions.

5. Recommendations for further research:

    a. More emphasis on family life variables. Examples include number of children, spouse's job, and sole support.

    b. More emphasis on occupational stress dimensions.

Implications

Since the quality of work life is a term with many definitions and is rarely used in non-industrial organizations, an on-going longitudinal research pattern should be developed to enable managers to better

understand and motivate their employees. The results of this survey showed that many surrogate measures of quality of work life seem to have an important impact not only to dietitians but also professional or technical and managerial women. No longer is the job environment the only consideration for employers. They must be personally involved with an employee's work environment, mental and physical health, and consideration for family life. In other words, studies are needed to see a balance between work and family life. Hopefully, this research is just the beginning in the development of quality of life and occupational stress dimensions, will provide insights for other researchers to define QWL, and to study their impact on all types of professional groups of women and men as well.

BIBLIOGRAPHY

Agriesti-Johnson, C. and Broski, D. Job satisfaction of dietitians in the United States. Journal of the American Dietetic Association, 1982, 81, 555-559.

Argyris, C. Personality and organization theory revisited. Administrative Science Quarterly, 1973, 18, 147-167.

Best, J. W. Research in Education. Englewood Cliffs, New Jersey: Prentice-Hall, 1981.

Blood, M. R. Work values and job satisfaction. Journal of Applied Psychology, 1969, 53, 456-459.

Bohlander, G. W. Implementing quality-of-work programs: recognizing the barriers. MSU Business Topics, 1979, 27, 33-40.

Bowditch, J. L. and Buono, A. F. Quality of Work Life Assessment: A Survey-Based Approach. Boston: Auburn House, 1982.

Brief, A. D. and Aldag, R. J. The job characteristics inventory: An examination. Academy of Management Journal, 1978, 21, 659-670.

Broski, D. C. and Cook, S. The job satisfiaction of allied health professionals. Journal of Allied Health, 1978, 7, 281-287.

Buck, V. E. Working Under Pressure. New York: Crane, Russack and Company, Inc., 1972.

Burke, R. J. Occupational stresses and job satisfaction. The Journal of Social Psychology, 1976, 100, 235-244.

Calbeck, D. C., Vaden, A. G., and Vaden, R. E. Work-related values and satisfactions. Journal of the American Dietetic Association, 1979, 75, 434-440.

Cooper, C. L. and Marshall, J. Occupational sources of stress: A review of the literature relating to coronary heart disease and mental health. Journal of Occupational Psychology, 1976, 49, 11-28.

Fargen, D., Vaden, A. G., and Vaden, R. E. I. Hospital dietitians in mid-career. Journal of the American Dietetic Association, 1982, 81, 41-46.

Form, W. and Geschwender, J. Social reference bias of job satisfaction: The case of manual workers. American Sociological Review, 1962, 27, 228-237.

Fox, D. J. The Research Process. New York: Holt, Tinehart and Winston, 1969.

French, J. R. P., Cobb, S., Caplan, R. D., Van Harrison, R., and Pinneau, S. R. Job Demands and Worker Health. Symposium presented at the 84th Annual Convention of the American Psychological Association, September, 1976.

Glaser, E. M. State-of-the-art questions about quality of work life. Personnel, 1976, 53, 39-47.

Goodman, P. S. Panel session III. Realities of improving the quality of work life: Quality of work life projects in the 1980's. Labor Law Journal, 1980, 31, 487-494.

Hackman, J. R. and Lawler, E. E. III. Employee reactions to job characteristics. Journal of Applied Psychology Monograph 55, 1971.

Hackman, J. R. and Oldham, G. R. Development of Job Diagnostic Survey. Journal of Applied Psychology, 1975, 60, 159-170.

Hackman, J. R. and Oldham, G. R. Work Redesign. Reading, MA: Addison-Wesley, 1980.

Hall, D. T. and Lawler, E. E. III. Job pressures and research performance. American Scientist, 1971, 59, 64-73.

Helwig, J. SAS. Users Guide. Cary, North Carolina: SAS Institute, 1979.

Herzberg, F., Mausner, B., and Snyderman, B. The Motivation to Work. 2nd ed. New York: Wiley, 1959.

Hopkins, A. H. Work and Job Satisfaction in the Public Sector. Totowa, New Jersey: Rowman and Allanheld, 1983.

Hopkins, D. E., Vaden, A. G., and Vaden, R. E. Some determinants of work performance in foodservice systems. Journal of the American Dietetic Association, 1979, 75, 640-647.

House, R. J. and Rizzo, J. R. Role conflict and ambiguity as critical variables in a model of Organizational Behavior. Organizational Behavior and Human Performance, 1972, 7, 467-505.

Hulin, C. Sources of variation in job and life satisfaction. Journal of Applied Psychology, 1968, 52, 122-126.

Indik, B., Seashore, S. E., and Sleninger, J. Demographic correlates of psychological strain. Journal of Abnormal and Social Psychology, 1964, 69, 26-38.

Kahn, R. L. The meaning of work: Interpretation and proposals for measurement. The Human Meaning of Social Change, eds. A. Campbell and P. E. Converse, 1972, 159-203. New York: Russell Sage Foundation.

Kahn, R. L., Wolfe, D. J., Wuinn, R. P., Snoek, J. D., and Rosenthal, R. A. Organizational Stress: Studies in Role Conflict and Ambiguity. New Yotk: John Wiley and Sons, Inc., 1964.

Kalleberg, A. L. A casual approach to the measurement of job satisfaction. Social Science Research, 1974, 3, 299-322.

Katz, D. and Kahn, R. L. The Social Psychology of Organizations. 2nd ed., New York: Wiley, 1978.

Kerr, W. A. On the validity and reliability of the job satisfaction tear ballot. Journal of Applied Psychology, 1948, 32, 275-281.

Kilpatrick, R. P., Cummings, M. C., and Jennings, M. K. The Image of Federal Service. Washington, D.C.: Brookings Institute, 1964.

Konar, E. Explaining racial differences in job satisfaction: A reexamination of the data. Journal of Applied Psychology, 1981, 66, 522-524.

Joseph, M. L. and Joseph, W. D. Research Fundamentals in Home Economics. Rendono Beach, California: Piton Press, 1979.

Lanz, S. J. Introduction to the Profession of Dietetics. Philadelphia: Lea and Febinger, 1983.

Lawler, E. E. III. Job design and employee motivation. Personnel Psychology, 1969, 22, 426, 435.

Lawler, E. E. III. and Mirvis, P. H. Measuring quality of work life. . . How graphic controls assesses the human side of the corporation. Management Review, 1981, 70, 54-63.

Lawler, E. E. III. and Ozley, L. Winning union-management corporation of quality of work life projects. Management Review, 1979, 68, 19-24.

Lazarus, R. S. Psychological Stress and the Coping Process. New York: McGraw-Hill Book Company, 1966.

Leche, D. K. Quality of work life of dietitians with management responsibilities in health care delivery systems. (Unpub. Master's Thesis, Oklahoma State University, 1984.)

Likert, R. The Human Organization: Its Management and Value. New York: McGraw-Hill, 1967.

Lippitt, G. L. Quality of work life: Organization renewal in action. Training and Development Journal, 1978, 32, 4-10.

Litterer, J. A. The Analysis of Organizations. New York: John Wiley and Sons, Inc., 1965.

Locke, E. A. What is job satisfaction? Organizational Behavior and Human Performance, 1969, 4, 309-336.

Maslow, A. H. Motivation and Personality. New York: Harper, 1954.

McGregor, D. The Human Side of Enterprise. New York: McGraw-Hill, 1960.

Miller, R. W. Increasing employee productivity: How can organizations optimzie effective human resource management? Proceedings, 1980 Spring Annual Conference, A. I. I. E., Atlanta, May, 1980, 551-562.

Morris, J. H. and Steers, R. M. Structural influences on organizational commitment. Working paper, Graduate School of Management, University of Oregon, Eugene, 1979.

Myrtle, R. C. Problems and job satisfaction of administrative and clinical dietitians. Journal of the American Dietetic Association, 1978, 72, 295-298.

Nadler, L. Quality of work life, productivity, and . . . Training and Development Journal, 1981, 72, 295-298.

Oldham, G. R. and Hackman, J. R. Relationships between organizational structure and employee reactions: Comparing alternative frameworks. Administrative Science Quarterly, 1981, 36, 66-83.

Porter, L. W. A study of perceived need satisfaction in bottom and middle management jobs. Journal of Applied Psychology, 1961, 45, 1-10.

Position paper on recommended salaries and employment practices for members of The American Dietetic Association. Journal of the American Dietetic Association, 1981, 78, 62-68.

Rambo, W. Work and Organizational Behavior. New York: Holt, Rinehart, and Winston, 1982.

Roberts, K. H. and Glick, W. The job characteristics approach to task design: A critical review. Journal of Applied Psychology, 1981, 66, 193-217.

Roberts, K. H. and Savage, F. Twenty questions: Utilizing job satisfaction measures. California Management Review, 1973, 15, 82-90.

Ronan, W. W. Individual and situational variables relating to job satisfaction. Journal of Applied Psychology, 1970, 54, 1-31.

Rosow, J. M. Human dignity in the public-sector workplace. Public Personnel Management, 1979, 8, 7-14.

Rosow, J. M. Quality of work life issues for the 1980s. Training and Development Journal, 1981, 35, 33-52.

Ross, I. C. and Zander, A. Need satisfaction and employee turnover. Personnel Psychology, 1957, 10, 327-338.

Rousseau, D. M. Characteristics of departments, positions, and individuals: Contexts for attitudes and behavior. Administrative Science Quarterly, 1978, 23, 521-540.

Salancik, G. R. and Pfeffer, J. An examination of the need-satisfaction model of job attitudes. Administrative Science Quarterly, 1977, 22, 427-456.

Seashore, S. E. and Taber, T. D. Job satisfaction indicators and their correlates. American Behavioral Scientist, 1975, 18, 333-378.

Selye, H. The Stress of Life. New York: McGraw-Hill Book Company, 1967.

Shontz, F. C. The Psychological Aspects of Physical Illness and Disability. New York: MacMillian Publishing Company, Inc., 1975.

Sims, H. P., Szilaqyi, A. D., and Keller, R. T. The measurement of job characteristics. Academy of Management Journal, 1976, 19, 195-212.

Smith, P. C., Kendall, L., and Hulin, C. The Measurement of Satisfaction in Work and Retirement: A Strategy for the Study of Attitudes. Chicago: Rand McNally and Co., 1969.

Smith, P. C., Smith, O. W., and Rollo, J. Factor structure for blacks and whites of the job descriptive and its discrimination of job satisfaction. Journal of Applied Psychology, 1975, 74, 99-100.

Steele, D. and Torrie, J. H. Principles and Procedures of Statistics. 2nd ed., New York: McGraw-Hill, 1980.

Stone, P. K., Vaden, A. G., and Vaden, R. E. II. Correlates of career motivation and satisfaction. Journal of the American Dietetic Association, 1981, 79, 37-44.

Sqartz, R. L. and Vaden, A. G. Behavioral science research in hospital foodservice: Work values of foodservice employees in urban and rural hospitals. Journal of the American Dietetic Association, 1978, 73, 120.

Tansiongkun, V. and Ostenso, G. L. Job satisfaction in hospital dietetics. Journal of the American Dietetic Association, 1968, 53, 202-210.

Taylor, M. Quality of work life of dietitians in business and industry. (Unpub. Master's Thesis, Oklahoma State University, 1984.)

Terry, W. R. and Dar-El, E. M. QWL & IE = Productivity. Proceedings, 1980 Annual Conference, A. I. I. E., Atlanta, May, 1980, 461-464.

Tung, R. L. Comparative analysis of the occupational stress profiles of male versus female administrators. Journal of Vocational Behavior, 1980, 17, 344-355.

Turner, A. N. and Lawrence, P. R. Industrial Jobs and the Worker. Cambridge: Harvard Graduate School of Business Administration, 1965.

Vermeersch, J. A., Feeney, M. J., Wesner, K. M., and Dahl, T. Productivity improvement and job satisfaction among publis health nutritionists. Journal of the American Dietetic Association, 1979, 75, 637-640.

Vredenbargh, D. S. and Trinkaus, R. K. An analysis of role stress among hospital nurses. Journal of Vocational Behavior, 1983, 23, 82-95.

Vroom, V. Work and Motivation. New York: Wiley, 1964.

Walton, R. E. Improving the quality of work life. Harvard Business Review, 1974, 52, 12.

Wanous, J. P. and Lawler, E. E. III. Measurement and meaning of job satisfaction. Journal of Applied Psychology, 1972, 56, 95-105.

Weaver, C. N. Job satisfaction in the United States in the 1970s. Journal of Applied Psychology, 1980, 65, 364-367.

Webb, W. B. and Hollanger, B. P. Comparison of three morale measures: A survey, pooled group judgments, and self evaluations. Journal of Applied Psychology, 1956, 40, 17-20.

APPENDIXES

APPENDIX A

NATIONAL WOMEN AND STRESS SURVEY

NATIONAL WOMEN AND STRESS SURVEY
9 to 5, National Association of Working Women

SECTION I. *(Please ignore numbers in parentheses; they are for tabulation only.)*

1. What is your current occupation? *Please check one answer only*

- ☐ Manager/Official/Officer (5-1)
- ☐ Professional/Technical (2)
- ☐ Sales (3)
- ☐ Clerical (4)
- ☐ Service (5)
- ☐ Blue Collar (6)
- ☐ Homemaker Fulltime* (7)
- ☐ Student* (8)
- ☐ Unemployed* (9)
- ☐ Retired* (0)
- ☐ Other (X)

**If you are not employed, please go directly to SECTION II and complete the rest of the survey.*

2. If you are currently employed, how would you rate your job overall?

- ☐ very stressful (6-1)
- ☐ somewhat stressful (2)
- ☐ not at all stressful (3)

3 Since age 18, how many years have you worked for pay? (If none, put 0.)

_____ years. (7,8)

4. How many times have you ever been promoted?

_____ times. (9)

5. How likely is it that in the next 5 to 10 years, your job will be eliminated, done by a computer or other machine, or given to a different type of worker?

- ☐ not likely at all (10-1)
- ☐ somewhat likely (2)
- ☐ very likely (3)
- ☐ will definitely occur (4)

6. How many people do you generally supervise at any given time? (If none, put 0.)

_____ people. (11,12)

7. How much influence do you have at work?

- ☐ a great deal (13-1)
- ☐ some influence (2)
- ☐ very little (3)
- ☐ none (4)

8. *How often* does each of the following statements describe your job?

The job requires that I work very fast.
☐ never (14-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

My work requires that I pay very close attention to details.
☐ never (15-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

My work involves meeting deadlines and/or strict time schedules.
☐ never (16-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

I can decide how fast or slow to do my work.
☐ never (17-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

I make decisions on my own, such as *how* to do my work, in what order, etc.
☐ never (18-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

I have a lot of pressure or responsibility without enough clout or authority to make decisions.
☐ never (19-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

I do the same thing over and over; the work is repetitious and monotonous.
☐ never (20-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

I use my skills and knowledge from my previous experience, training and/or schooling, in my job.
☐ never (21-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

I have some say or input into decisions or policies that affect my work.
☐ never (22-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

My workload is too heavy, I have too much to do.
☐ never (23-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

I find my work interesting and challenging.
☐ never (24-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

I am required to complete a certain amount of work per hour or per day, eg., a certain number of keystrokes, forms or items to process.
☐ never (25-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

I do or decide things when mistakes could be costly.
☐ never (26-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

9. *How often* are the following statements *true* about your job?

I feel lonely or isolated at work.
☐ never (27-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

The people in my work group get along well together.
☐ never (28-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

The management treats office employees with respect and dignity
☐ never (29-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

The management treats minority and/or older employees in an unfair or discriminatory manner.
☐ never (30-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

There is too much supervision or excessive monitoring of my work.
☐ never (31-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

My supervisor is angry, hostile or takes things out on me or co-workers.
☐ never (32-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

If you supervise people: How often do you have problems with them?
☐ never (33-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

There is an effective procedure for handling problems or grievances.
☐ never (34-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

I have a clear job description which reflects my responsibilities.
☐ never (35-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

I am subject to unwanted sexual remarks or demands
☐ never (36-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

I am subject to racial or ethnic slurs, jokes or harassment.
☐ never (37-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

I can count on my co-workers for help or support when I need it
☐ never (38-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

When I make a decision, I can count on support from my superior(s).
☐ never (39-1) ☐ often (3)
☐ sometimes (2) ☐ almost always (4)

10. How many people do you work around on a regular basis?

_____ people. (40,41)

11. Of the people you work around regularly, about what percentage are women?

- ☐ all women (42-1)
- ☐ 85% (2)
- ☐ 65% (3)
- ☐ half/50% (4)
- ☐ 35% (5)
- ☐ 15% (6)
- ☐ no other women (7)

12. Of the people you work around regularly, about what percentage are the same race as you?

- ☐ **all (43-1)**
- ☐ **85% (2)**
- ☐ **65% (3)**
- ☐ **50% (4)**
- ☐ **35% (5)**
- ☐ **15% (6)**
- ☐ **no one else (7)**

13. Is your immediate supervisor:

- ☐ female (44-1)
- ☐ male (2)

14. What is your immediate supervisor's race?

☐ White (45-1) ☐ Asian (4)
☐ Black (2) ☐ Native American (5)
☐ Hispanic (3) ☐ other (6)

15 Do you feel that you are under extra pressure to prove yourself on the job because of your sex, or race, or both? *(Please check one answer only.)*

- ☐ Yes, because of my sex (46-1)
- ☐ Yes, because of my race (2)
- ☐ Yes, because of both my sex & race (3)
- ☐ No (4)

16. If any of these changes have occured within the past year where you work, please indicate the effect of the change.

Reduction in the workforce, by staff cuts or by non-replacement of employees who have left.
☐ less stressful (47-1) ☐ more stressful (3)
☐ made no difference (2) ☐ did not occur (4)

Freeze on salaries, raises, or promotions.
☐ less stressful (48-1) ☐ more stressful (3)
☐ made no difference (2) ☐ did not occur (4)

Introduction of automated equipment or computers.
☐ less stressful (49-1) ☐ more stressful (3)
☐ made no difference (2) ☐ did not occur (4)

Increase in the amount of work required. Speed up.
☐ less stressful (50-1) ☐ more stressful (3)
☐ made no difference (2) ☐ did not occur (4)

I have been promoted or given more responsibilities.

☐ heart disease (5)
☐ ulcer (6)
☐ colitis, inflamed colon or spastic colon (7)
☐ cataracts (8)

5. If you are employed: In the past year, have any of the problems above caused you to lose time from work?
☐ yes (31-1)
☐ no (2)

6. If you are employed: In the past year, how often did you keep working when you were sick? (If never, put 0.)
_____ days. (32,33)

7. Do you smoke?
☐ yes (34-1)
☐ no (2)

8. Do you smoke at work, for example at your desk?
☐ yes (35-1)
☐ no (2)

9. In the past 2 years or at present, have you been or are you pregnant?
☐ yes (36-1)
☐ no (2)

10. If yes, what was the outcome of your pregnancy?
☐ currently pregnant (37-1)
☐ healthy normal birth (2)
☐ abortion for nonmedical reasons (elective) (3)
☐ abortion for medical reasons (therapeutic) (4)
☐ miscarriage (5)
☐ child born with birth defects (6)
☐ Other. Please note: (7) _____
_____

11. If you had any of the problems above with your pregnancy, has anyone else in your family had similar problems?
☐ yes (38-1)
☐ no (2)

12. What is your age?
_____ years old. (39,40)

13. Are you:
☐ female (41-1)
☐ male (2)

14. What is your racial or ethnic background?
☐ White (42-1)
☐ Black (2)
☐ Hispanic (3)
☐ Asian (4)
☐ Native American (5)
☐ Other (6)

15. Are you:
☐ single (never-married) (43-1)
☐ married (2)
☐ separated (3)
☐ divorced (4)
☐ widowed (5)

16. How many children do you have?
_____ (44)

17. How many children live with you?
_____ (45)

18. How many years of education have you completed (count college years as 13, 14, etc)? _____ years. (46,47)

19. If you are married: What is your spouse's occupation? *(Please check one answer only.)*
☐ Manager/Official/Officer (48-1)
☐ Professional/Technical (2)
☐ Sales (3)
☐ Clerical (4)
☐ Service (5)
☐ Blue Collar (6)
☐ Homemaker Fulltime (7)
☐ Student (8)
☐ Unemployed (9)
☐ Retired (0)
☐ Other (X)

20. How many hours in an average week do you spend on housework?
_____ hours per week. (49,50)

21. How many hours per average week do you spend taking care of your children?
_____ hours per week. (51,52)

22. Are you the sole support of your household?
☐ yes (53-1)
☐ no (2)

What is your total yearly *personal* income, before taxes? $_____ (thousand per year) (54-56)

24. What is your total yearly *household* income, before taxes? $_____ (thousand per year) (57-59)

25. What is your zip code? _____ **(60-64)**

Thank you for contributing to this important national survey. Although the deadline is September 30, 1983, please mail your completed questionaire right away, while you are thinking of it.

APPENDIX B

RESEARCH INSTRUMENT

OKLAHOMA STATE UNIVERSITY
Department of Food, Nutrition and Institution Administration

QUALITY OF WORK LIFE ASSESSMENT

Section I
General Information
Directions: Please check or fill in the appropriate answers.
It is important that you answer all the questions.

1. Sex: _____(1) Male _____(2) Female

2. Age group:
_____(1) 25 or under _____(4) 36-40 _____(7) 51-55
_____(2) 26-30 _____(5) 41-45 _____(8) 56-60
_____(3) 31-35 _____(6) 46-50 _____(9) Over 60

3. Degrees obtained and majors:
_____(1) B.S._____
_____(2) M.S._____
_____(3) Ph.D._____

4. _____(1) R.D. or _____(2) Non R.D.

5. In Oklahoma are you: _____(1) Licensed _____(2) Non-licensed

6. Route to ADA Membership:
_____(1) Internship (4) Three year's preplanned work experience
_____(2) CUP Program
_____(3) Traineeship (5) Master's and six months work experience

7. Position Title:_____

8. What is your total yearly personal income before taxes?
_____(1) Under $14,999 _____(5) $30,000-34,999
_____(2) $15,000-19,999 _____(6) $35,000-39,999
_____(3) $20,000-24,999 _____(7) $40,000-44,999
_____(4) $25,000-29,999 _____(8) Over 45,000

9. Indicate the number of full time equivalent years of experience you have had in each of the following areas:
(1) Present job_____
(2) Administrative dietetics_____
(3) Therapeutic dietetics_____
(4) Other areas of dietetics_____
Specify_____
(5) Other job_____
Specify_____

10. Facility or operation size: (beds, participants, clients, census, students)
_____(1) Fewer than 100 _____(4) 500-999
_____(2) 100-299 _____(5) Over 1,000
_____(3) 300-499

11. Financial goals of organization
_____(1) Profit-making
_____(2) Non-profit

12. Estimated population of city or town in which organization is located:
_____

13. Type of facility in which employed (check appropriate category):
_____(1) Hospital
_____(2) Nursing home
_____(3) College food service
_____(4) School food service
_____(5) Commercial food service
_____(6) Other (specify)
_____

14. Current employment status:
_____(1) Employed at least 35 hr/wk
_____(2) Employed 20-34 hr/wk
_____(3) Employed 20 hr/wk or less

15. Why did you leave your last dietetic job?
_____(1) Working conditions
_____(2) Didn't like the organization
_____(3) Too much stress
_____(4) For more responsibilities
_____(5) Wanted more power
_____(6) Wanted more room for advancement
_____(7) Wanted better job title
_____(8) Wanted more money
_____(9) Moved
_____(10) Other (specify)_____
_____

16. Marital status:
_____(1) Married _____(3) Separated _____(5) Widowed
_____(2) Single _____(4) Divorced

17. If married, does your spouse have a full time job?
_____(1) Yes _____(2) No

18. If you are married, what is your spouse's occupation? (please check one answer only)
_____(1) Manager/official/office
_____(2) Professional/technical
_____(3) Sales
_____(4) Blue collar
_____(5) Clerical
_____(6) Service
_____(7) Other (specify) _____

19. What is your racial or ethnic background?
_____(1) White
_____(2) Black
_____(3) Hispanic
_____(4) Asian
_____(5) Native American
_____(6) Other (specify) _____

20. How many children do you have? _____

21. How many children live with you? _____

22. Are you the sole support of your household?
_____(1) Yes _____(2) No

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1. If you are currently employed, how would you rate your job overall?
_____(1) Very stressful
_____(2) Somewhat stressful
_____(3) Not at all stressful

2. Since age 18, how many years have you worked for pay? (If none, put 0)
_____years.

3. How many times have you ever been promoted?
_____times

I am required to complete a certain amount of work per hour or per day, eg., a certain number of keystrokes, forms or items to process.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

I do or decide things when mistakes could be costly.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

8. How often are the following statements true about your job?

I feel lonely or isolated at work.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

The people in my work group get along well together.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

The management treats employees with respect and dignity.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

The management treats minority and/or older employees in an unfair or discriminatory manner.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

There is too much supervision or excessive monitoring of my work.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

9. How many people do you work around on a regular basis?
_____people

10. Of the people you work around regularly, about what percentage are women?
_____(1) All women
_____(2) 85%
_____(3) 65%
_____(4) half/50%
_____(5) 35%
_____(6) 15%
_____(7) no other women

11 Of the people you work around regularly, about what percentage are the same race as you?
_____(1) all
_____(2) 85%
_____(3) 65%
_____(4) 50%
_____(5) 35%
_____(6) 15%
_____(7) No one else

12 Is your immediate supervisor:
_____(1) Female
_____(2) Male

13. What is your immediate supervisor's race?
_____(1) White
_____(2) Black
_____(3) Hispanic
_____(4) Asian
_____(5) Native American
_____(6) Other

14. Do you feel that you are under extra pressure to prove yourself on the job because of your sex, or race, or both?
_____(1) Yes, because of my sex
_____(2) Yes, because of my race
_____(3) Yes, because of both my sex and race
_____(4) No

15. If any of these changes have occurred within the past year where you work, please indicate the effect of the change.

Reduction in the workforce, by staff cuts or by non-replacement of employees who have left.
_____(1) Less stressful
_____(2) Made no difference
_____(3) More stressful
_____(4) Did not occur

Freeze on salaries, raises, or promotions.
_____(1) Less stressful
_____(2) Made no difference
_____(3) More stressful
_____(4) Did not occur

Introduction of automated equipment or computers.
_____(1) Less stressful
_____(2) Made no difference
_____(3) More stressful
_____(4) Did not occur

Increase in the amount of work required. Speed up.
_____(1) Less stressful
_____(2) Made no difference
_____(3) More stressful
_____(4) Did not occur

16. Do you have "flexitime" (a policy of flexibe work hours) where you work?
_____(1) Yes
_____(2) No

17. How much of your work do you sit in the same position?
_____(1) less than 25%
_____(2) 25% up to 50%
_____(3) 50% up to 75%
_____(4) 75% or more

18. Can you take short breaks when you need to?
_____(1) Yes
_____(2) No

19. Are you represented by a labor union or staff association?
_____(1) Yes
_____(2) No

20. Which type of office automation equipment do you mainly use?
_____(1) None
_____(2) VDT or CRT
_____(3) Word processor
_____(4) Personal computer
_____(5) Other (specify)
_____

If you do not work with automated equipment, please go ahead to Section III and complete the rest of the survey.

21. How long have you been working with such equipment?
_____Years
_____Months

4. How likely is it that in the next 5 to 10 years your job will be eliminated, done by a computer or other machine, or given to a different type of worker?
_____(1) Not likely at all
_____(2) Somewhat likely
_____(3) Very likely
_____(4) Will definitely occur

5. How many people do you generally supervise at any given time? (If none put 0)
_____people

6. How much influence do you have at work?
_____(1) A great deal
_____(2) Some influence
_____(3) Very little
_____(4) None

7. How often does each of the following statements describe your job?
The job requires that I work very fast.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

My work requires that I pay very close attention to details.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

My work involves meeting deadlines and/or strict time schedules.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

I can decide how fast or slow to do my work
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

I make decisions on my own, such as how to do my work, in what order, etc.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

I have a lot of pressure or responsibility without enough clout or authority to make decisions.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

I do the same thing over and over, the work is repetitius and monotonous.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

I use my skills and knowledge from my previous experience training and/or schooling, in my job.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

I have some say or input into decisions or policies that affect my work.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

My supervisor is angry, hostile or takes things out on me or co-workers.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

If you supervise people. How often do you have problems with them?
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

There is an effective procedure for handling problems or grievances.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

I have a clear job description which reflects my responsibilities.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

I am subject to unwanted sexual remarks or demands.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

I am subject to racial or ethnic slurs, jokes or harassment.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

I can count on my co-workers for help or support when I need it.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

When I make a decision, I can count on support from my superior(s).
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

My workload is too heavy; I have too much to do.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

I find my work interesting and challenging.
_____(1) Never
_____(2) Sometimes
_____(3) Often
_____(4) Almost always

22. How much of your typical work week do you spend working with your machine?
_____(1) Less than 25% _____(3) 50% up to 75%
_____(2) 25% up to 50% _____(4) 75% or more

23. Overall, compared with the equipment you used before, do you feel that working with the VDT/CRT, word processor or personal computer makes your job:
_____(1) More interesting, more enjoyable
_____(2) Makes little or no difference
_____(3) More boring, more monotonous

24. Overall, compared with what the job was like before, does using automated equipment make your job:
_____(1) Less stressful, easier to do
_____(2) Makes little or no difference
_____(3) More stressful, more pressured

25. When you work with the automated equipment, how often does it go down or fail for 10 minutes or more?
_____(1) Almost never
_____(2) Less than once per week
_____(3) Once or twice per week
_____(4) 3 or more times per week

26. Is your work measured, monitored, "constantly watched" or "controlled" by machine or computer system?
_____(1) Yes
_____(2) No

27. Have you been given adequate training to use the automated equipment?
_____(1) Yes
_____(2) No

28. Are you able to influence workstation design, choice of new automated equipment and how it will be used?
_____(1) Yes
_____(2) No

1. In the past month, how often were you under a strain, stress or pressure?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

2. When you are angry, frustrated or anxious, how often are you likely to:
Exercise, walk, jog, dance or meditate?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

Engage in a hobby?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

Drink alcohol?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

Smoke cigarettes?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

Use drugs or take medicine?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

Drink more coffee or soda, eat more often?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

Take time to get away from it all?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

Try to act as though nothing much happened?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

Keep it to yourself?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

Apologize even though you were right?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

Take it out on others, blame someone else?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

Get it off your chest, blow off steam?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

Talk to a friend or relative as soon as you can?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

Take action to prevent the same situation from happening again?
_____(1) Never _____(3) Often
_____(2) Sometimes _____(4) Almost always

3. How often do you experience each of these health problems or symptoms?
Eyestrain or sore eyes
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Headaches
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Frequent colds or sore throats
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Nausea or dizziness
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Trouble sleeping
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Muscle strain or pain in your neck, back, arms or shoulders
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Exhaustion or severe fatigue at day's end
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Stomach pains or digestive problems; heartburn
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Skin rashes/irritation from chemicals
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Difficulty breathing, shortness of breath, or excessive coughing
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Tightness or pressure in your chest
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Tension, anxiety, "nerves"
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Periods of irritability or anger
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Loss of your usual sexual drive
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Depression
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

Other, please specify_____

_____
_____(1) Never or rarely/0-2x month
_____(2) Sometimes/3-4x month
_____(3) Often/2-3x week
_____(4) Every day

4. Within the past five years, have you been told by a doctor that you have, or have been treated for, any of the following? (Please check all that apply.)
_____(1) High blood pressure
_____(2) Gastritis, "nervous stomach"
_____(3) Psychological problems
_____(4) Vision problems
_____(5) Heart disease
_____(6) Ulcer
_____(7) Colitis, inflamed colon or spastic colon
_____(8) Cataracts

5. If you are employed: in the past year, have any of the problems above caused you to lose time from work?
_____(1) Yes
_____(2) No

6. If you are employed: in the past year, how often did you keep working when you were sick? (If never, put 0)
_____days

7. Do you smoke?
_____(1) Yes
_____(2) No

8. Do you smoke at work, for example at your desk?
_____(1) Yes
_____(2) No

9. In the past 2 years or at present, have you been or are you pregnant?
_____(1) Yes
_____(2) No

10. If yes, what was the outcome of your pregnancy?
_____(1) Currently pregnant
_____(2) Healthy normal birth
_____(3) Abortion for nonmedical reasons (elective)
_____(4) Abortion for medical reasons (therapeutic)
_____(5) Miscarriage
_____(6) Child born with birth defects
_____(7) Other. Please specify _____
_____

11. If you had any of the problems above with your pregnancy, has anyone else in your family had similar problems?
_____(1) Yes _____(2) No

Thank you for contributing to this important state survey.

APPENDIX C

COVER LETTER

Oklahoma State University

Department of Food, Nutrition and Institution Administration

425 HOME ECONOMICS WEST
STILLWATER, OKLAHOMA 74078
(405) 624-5039

April 1, 1985

Dear Colleague:

We would like your assistance on a research project we are conducting in the Department of Food, Nutrition and Institution Administration at Oklahoma State University. The study is concerned with assessing the quality of work life of dietitians in the state of Oklahoma.

This survey includes questions on the following quality of work life issues: job conditions, stressful working conditions, work related stressors and mediators, coping with stress, and health effects and medical conditions as related to stress. Information gained from this study can hopefully assist all dietitians in improving their quality of work life and reducing stress.

A summary of the findings will be shared with you in the SOONER DIETITIAN. The forms are coded for analysis only, composite results will be discussed and will not identify any person or institution in any way. After completing the questionnaire, please fold, staple and return it to us. Please return on or before April 15, 1985. This questionnaire takes approximately 15 minutes to complete. If you have any questions, please call us at (405) 624-5039. Thank you for your assistance!

Sincerely,

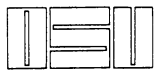
Earl R. Palan, M.S., R.D.
Assistant Professor

Lea Ebro, Ph.D., R.D.
Professor

CENTENNIAL DECADE
1980 • 1990

APPENDIX D

OKLAHOMA DIETETIC ASSOCIATION MEMO



Oklahoma State University

Department of Food, Nutrition and Institution Administration
STILLWATER, OKLAHOMA 74078 *(405) 624-5039*

May 6, 1985

Dear Colleague:

A time has now lapsed and I am beginning to analyse the data received from the survey. In order to accurately evaluate the data, I need as many returns as possible to support the findings and give the strongest possible credibility and validity to the conclusions.

I am enclosing a copy of the original survey in case you have not already returned yours. Please take 15-20 minutes out of your busy schedule to complete the survey. After completion, please fold, staple and mail. I would appreciate it if I could receive your results by May 23. Thank you for your cooperation.

Sincerely,

Earl R. Palan

Earl R. Palan, M.S., R.D.

APPENDIX E

CORRELATION OF QWL AND OCCUPATIONAL STRESS DIMENSIONS OF ODA DIETITIANS

CORRELATIONAL MATRIX OF QWL DIMENSION AND OCCUPATIONAL STRESS DIMENSIONS

CORRELATION COEFFICIENTS / PROB > |R| UNDER HO RHO=0 / NUMBER OF OBSERVATIONS

	COMPANY	AWPJ	Q3	SPJ	GJS	POYPJ	JIG	PCM	COPING	BEHAVSTR	PHYSSTR	MENTHLTH
COMPANY	1.00000 0.0000 171	0.49577 0.0001 168	0.05686 0.4737 161	0.63330 0.0001 166	0.39045 0.0001 165	0.59244 0.0001 166	0.10425 0.1813 166	0.42741 0.0001 128	0.07794 0.3197 165	-0.04929 0.5295 165	0.11392 0.1415 168	0.43542 0.0001 163
AWPJ		1.00000 0.0000 175	0.08465 0.2812 164	0.33648 0.0001 168	0.38857 0.0001 169	0.41120 0.0001 171	0.12832 0.0954 170	0.36172 0.0001 127	0.09314 0.2284 169	0.14373 0.0623 169	0.29337 0.0001 173	0.47365 0.0001 168
Q3			1.00000 0.0000 175	0.20525 0.0094 159	-0.03357 0.6677 166	-0.00299 0.9698 163	0.43395 0.0001 167	0.02327 0.8008 120	0.02517 0.7453 169	0.08146 0.2953 167	-0.10413 0.1766 170	-0.03051 0.6955 167
SPJ				1.00000 0.0000 170	0.37740 0.0001 164	0.47960 0.0001 166	0.21708 0.0051 165	0.27057 0.0022 126	0.14917 0.0566 164	0.01641 0.8348 164	0.13107 0.0913 167	0.31468 0.0001 163
GJS					1.00000 0.0000 177	0.36296 0.0001 168	0.10842 0.1544 174	0.38785 0.0001 124	0.01149 0.8817 170	0.04081 0.5961 171	0.21136 0.0051 174	0.30207 0.0001 169
POYPJ						1.00000 0.0000 175	0.14370 0.0623 169	0.29170 0.0009 126	0.14678 0.0576 168	0.10223 0.1873 168	0.25116 0.0009 172	0.43813 0.0001 166
JIG							1.00000 0.0000 177	0.02685 0.7654 126	0.05350 0.4870 171	0.10999 0.1509 172	0.13418 0.0775 174	0.11972 0.1341 169
PCM								1.00000 0.0000 130	-0.02142 0.8126 125	0.14155 0.1139 126	0.15761 0.0786 128	0.30656 0.0005 124
COPING									1.00000 0.0000 179	-0.01248 0.8691 177	0.18088 0.0160 177	0.22440 0.0029 174
BEHAVSTR										1.00000 0.0000 180	0.29219 0.0001 178	0.25428 0.0007 174
PHYSSTR											1.00000 0.0000 184	0.56845 0.0001 178
MENTHLTH												1.00000 0.0000 178

APPENDIX F

KEY TO INDEPENDENT VARIABLES

The purpose of this appendix was to describe the independent variables found in the Appendixes G through R, QWL and occupational stress dimension. The "U" indicates the variable number used on the SAS printout.

Source	SAS Number	Meaning of Number
Number of People Supervised (V7)	0	0 people
	1	1-5 people
	6	6-10 people
	11	Over 10 people
Number of People Worked Around (V35)	0	Zero people
	1	1-5 people
	6	6-10 people
	11	11-15 people
	16	16-30 people
	31	Over 30 people
Percent of Women Worked Around (V36)	1	All women
	2	85%
	3	65%
	4	50%
	5	35%
	6	15%
	7	No other women
Percent of Same Race Worked Around (V37)	1	All
	2	85%
	3	65%
	4	50%
	5	35%
	6	15%
	7	No one else
Sex of Supervisor (V38)	1	Female
	2	Male
Race of Supervisor (V39)	1	White
	2	Black
	3	Hispanic
	4	Asian
	5	Native American
	6	Other

Source	SAS Number	Meaning of Number
Position Title (V46)	1	Other
	3	Administration
	18	Health Care Worker
	24	Manager
	25	Nurse
	29	Professional Worker
	35	Supervisor
	36	Teacher
Industry (V47)	1	Banking
	2	Industrial
	3	Business Services
	4	Health
	5	Manufacturing
	6	Trade
	7	Personal Services
	8	University
	9	School
	0	Government
	X	Community
	Y	Other
Employment Status (V 48)	1	0-19 hours/week
	2	20-34 hours/week
	3	Over 35 hours/week
Age (V102)	1	Under 25 years
	2	26-30 years
	3	31-35 years
	4	36-40 years
	5	40-45 years
	6	46-50 years
	7	51-55 years
	8	56-60 years
	9	Over 60 years
Race (V104)	1	White
	2	Black
	3	Hispanic
	4	Asian
	5	Native American
	6	Other

Source	SAS Number	Meaning of Number
Marital Status (V105)	1	Single
	2	Married
	3	Separated
	4	Divorced
	5	Widowed
Number of Children (V106)	0	0
	1	1
	2	2
	3	3
	4	4
	5	5
	6	6
	7	7
	8	8
	9	9
Number of Children at Home (V107)	0	0
	1	1
	2	2
	3	3
	4	4
	5	5
	6	6
	7	7
	8	8
	9	9
Education (V108)	1	12 or less years
	2	13-16 years
	3	Over 16 years
Spouse's Occupation (V109)	1	Manager
	2	Professional/ Technical
	3	Sales
	4	Clerical
	5	Service
	6	Blue Collar
	7	Home Maker
	8	Student
	9	Unemployed
	0	Retired
	X	Other

Source	SAS Number	Meaning of Number
Sole Support (V110)	1	Yes
	2	No
Income (V111)	1	Under $15,000
	2	$15,000-$19,999
	3	$20,000-$24,999
	4	$25,000-$29,999
	5	$30,000-$34,999
	6	$35,000-$39,999
	7	$40,000-$44,999
	8	Over $45,000

APPENDIX G

STATISTICAL ANALYSIS FOR THE QWL DIMENSION: COMPANY

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: COMPANY

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	3	274.12139959	91 37379986	10 09	0 0001	0 011344	21 4622
ERROR	2637	23891 27882759	9 06002231		ROOT MSE		COMPANY MEAN
CORRECTED TOTAL	2640	24165 40022719			3 00998709		14 02461189

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V7	3	274 12139959	10 09	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: COMPANY
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2637 MSE=9 06002

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=517 178

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V7
A	14 643	314	6
A			
B A	14 337	415	11
B			
B C	14 005	1099	1
C			
C	13 652	813	0

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE COMPANY

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	4	110 31160689	27 57790172	3 03	0 0166	0 004526	21 5049
ERROR	2667	24261 00837814	9 09674105		ROOT MSE		COMPANY MEAN
CORRECTED TOTAL	2671	24371 31998503			3 01608041		14 02507485

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V105	4	110 31160689	3 03	0 0166

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. COMPANY
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2667 MSE=9 09674

WARNING· CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=104 772

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V105
A	14 506	87	3
A			
A	14 484	31	5
A			
A	14 259	501	4
A			
A	14 067	1144	2
A			
A	13 781	909	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE COMPANY

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	9	162 15107679	18 01678631	2 00	0 0359	0 007060	21 3716
ERROR	2527	22804 78861576	9 02445137		ROOT MSE		COMPANY MEAN
CORRECTED TOTAL	2536	22966 93969255			3 00407246		14 05636579

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V106	9	162 15107679	2 00	0 0359

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: COMPANY
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2527 MSE=9 02445

WARNING CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=5.26515

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V106
A	15 446	56	4
A			
A	15 000	1	9
A			
A	14 400	15	6
A			
A	14 261	161	3
A			
A	14.239	394	2
A			
A	14 211	19	5
A			
A	14 114	368	1
A			
A	14 000	2	8
A			
A	14 000	4	7
A			
A	13 916	1517	0

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE COMPANY

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	8	227 89000498	28 48625062	3 14	0 0016	0 009315	21 4902
ERROR	2669	24236 76570824	9 08084140		ROOT MSE		COMPANY MEAN
CORRECTED TOTAL	2677	24464 65571322			3 01344345		14 02240478

SOURCE	DF	ANOVA SS	F VALUE	PR > F
AGE	8	227 89000498	3 14	0 0016

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: COMPANY
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2669 MSE=9 08084

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=51 4727

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	AGE
A	14 723	65	7
A			
A	14 600	35	8
A			
A	14 557	194	5
A			
A	14 145	385	4
A			
A	14 122	441	1
A			
A	14 076	145	6
A			
A	14 049	647	3
A			
B A	13 662	757	2
B			
B	12 556	9	9

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: COMPANY

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	550 81392692	78 68770385	8 79	0 0001	0 022515	21 3426
ERROR	2670	23913 84178630	8 95649505		ROOT MSE		COMPANY MEAN
CORRECTED TOTAL	2677	24464 65571322			2 99274039		14 02240478

SOURCE	DF	ANOVA SS	F VALUE	PR > F
TITLE	7	550 81392692	8 79	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE COMPANY
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2670 MSE=8 9565

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=160 855

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	TITLE
A	14 503	813	24
A			
B A	14 200	130	35
B A			
B A	14 176	700	1
B			
B C	13 750	560	29
B C			
B C	13 494	81	18
B C			
B C	13 469	81	3
C			
C	13 191	141	25
C			
C	13 070	172	36

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: COMPANY

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	162 17813293	23 16830470	2 52	0 0141	0 007347	21 5951
ERROR	2381	21913 28607804	9 20339608		ROOT MSE		COMPANY MEAN
CORRECTED TOTAL	2388	22075 46421097			3 03370995		14 04813730

SOURCE	DF	ANOVA SS	F VALUE	PR > F
INCOME	7	162 17813293	2 52	0 0141

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: COMPANY
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2381 MSE=9.2034

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=178 375

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	INCOME
A	14 987	80	7
A			
B A	14 637	91	8
B A			
B A C	14 372	121	6
B C			
B C	14 165	534	1
B C			
B C	13 977	475	3
B C			
B C	13 949	235	5
C			
C	13 858	507	2
C			
C	13 827	346	4

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE COMPANY

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	11	574 40557181	52 21868835	5 83	0 0001	0 024161	21 3443
ERROR	2590	23199 34577331	8 95727636		ROOT MSE		COMPANY MEAN
CORRECTED TOTAL	2601	23773 75134512			2 99287092		14 02190623

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V47	11	574 40557181	5 83	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE· COMPANY
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2590 MSE=8 95728

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=152 393

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING			MEAN	N	V47
	A		15 185	54	7
	A				
B	A		14 849	152	8
B	A				
B	A		14 697	175	Y
B					
B	C		14 362	94	2
B	C				
B	C		14 270	381	O
B	C				
B	C		14 189	380	3
B	C				
B	C	D	14 134	142	6
	C	D			
E	C	D	13 898	128	1
E	C	D			
E	C	D	13 752	149	X
E	C	D			
E	C	D	13 741	460	4
E		D			
E		D	13 406	219	5
E					
E			13 302	268	9

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE COMPANY

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	122 78545047	20 46424174	2 26	0 0355	0 005087	21 4682
ERROR	2648	24014 20739322	9 06880944		ROOT MSE		COMPANY MEAN
CORRECTED TOTAL	2654	24136 99284369			3 01144640		14 02749529

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V37	6	122 78545047	2 26	0 0355

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. COMPANY
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2648 MSE=9 06881

WARNING· CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=189 064

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V37
A	14 139	913	1
A			
A	14 123	220	3
A			
A	14 119	943	2
A			
B A	13 962	131	7
B A			
B A	13 743	175	4
B A			
B A	13 651	86	5
B			
B	13 396	187	6

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE COMPANY

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	5	209 52989411	41 90597882	4 61	0 0004	0 008709	21 5146
ERROR	2624	23850 03056216	9 08918848		ROOT MSE		COMPANY MEAN
CORRECTED TOTAL	2629	24059 56045627			3 01482810		14 01292776

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V35	5	209 52989411	4 61	0 0004

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: COMPANY
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2624 MSE=9 08919

WARNING. CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=78 1646

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V35
A	14 465	499	1
A			
A	14 284	348	11
A			
A	14 133	15	0
A			
A	13 936	716	6
A			
A	13 863	490	31
A			
A	13 669	562	16

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE COMPANY

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	141.24813974	23 54135662	2 60	0 0163	0 005896	21 4344
ERROR	2631	23815 25830453	9 05178955		ROOT MSE		COMPANY MEAN
CORRECTED TOTAL	2637	23956 50644428			3 00861921		14 03639121

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V36	6	141 24813974	2 60	0 0163

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: COMPANY
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2631 MSE=9 05179

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=256 484

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V36
A	14 332	268	1
A			
A	14 320	444	4
A			
A	14 315	92	7
A			
B A	14 134	283	5
B A			
B A	14 082	414	3
B A			
B A	13 827	833	2
B			
B	13 697	304	6

APPENDIX H

STATISTICAL ANALYSIS FOR THE QWL DIMENSION: ACTUAL WORK ON PRESENT JOB (AWPJ)

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: AWPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	9	499 63863996	55.51540444	3 56	0 0002	0 012275	14 9750
ERROR	2580	40203 54437162	15 58276914		ROOT MSE		AWPJ MEAN
CORRECTED TOTAL	2589	40703 18301158			3 94750163		26 36061776

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V106	9	499 63863996	3 56	0 0002

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: AWPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2580 MSE=15.5828

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=5.41139

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V106
A	32 000	1	9
A			
B A	29 500	2	8
B A			
B A	28 000	5	7
B A			
B A	27 800	15	6
B A			
B A	27 593	59	4
B A			
B A	27 421	19	5
B A			
B A	26 977	396	2
B A			
B A	26 797	172	3
B			
B	26 193	367	1
B			
B	26 108	1554	0

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: AWPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	4	244 31490060	61 07872515	3 93	0 0035	0 005748	14 9556
ERROR	2720	42260.40069573	15 53691202		ROOT MSE		AWPJ MEAN
CORRECTED TOTAL	2724	42504 71559633			3 94168898		26 35596330

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V105	4	244 31490060	3 93	0 0035

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: AWPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2720 MSE=15 5369

WARNING CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=106 259

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V105
A	27 063	32	5
A			
A	26.905	84	3
A			
A	26 603	1170	2
A			
A	26 339	507	4
A			
A	25 981	932	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: AWPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	381 94175455	54 56310779	3 50	0 0011	0 009792	14 9794
ERROR	2477	38623 54959354	15 59287428		ROOT MSE		AWPJ MEAN
CORRECTED TOTAL	2484	39005 49134809			3 94878137		26 36136821

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V107	7	381 94175455	3 50	0 0011

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. AWPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2477 MSE=15 5929

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=5 04795

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V107
A	27 750	4	6
A			
A	27 598	82	3
A			
A	27.009	324	2
A			
A	26 342	448	1
A			
A	26 333	15	4
A			
A	26 180	1607	0
A			
A	26 000	1	7
A			
A	22 500	4	5

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE AWPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	8	300 40174674	37 55021834	2 41	0 0136	0 007037	14 9698
ERROR	2723	42385 48807757	15 56573194		ROOT MSE		AWPJ MEAN
CORRECTED TOTAL	2731	42685 88982430			3 94534307		26 35541728

SOURCE	DF	ANOVA SS	F VALUE	PR > F
AGE	8	300 40174674	2 41	0 0136

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE AWPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0.05 DF=2723 MSE=15 5657

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=58 7583

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	AGE
A	27 568	37	8
A	27 079	63	7
A	26 919	197	5
A	26 859	149	6
A	26 540	396	4
A	26 364	11	9
A	26 296	446	1
A	26 271	665	3
A	26 008	768	2

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE AWPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	2	582 17701928	291 08850964	18 87	0 0001	0 013639	14 9035
ERROR	2729	42103.71280503	15 42825680		ROOT MSE		AWPJ MEAN
CORRECTED TOTAL	2731	42685 88982430			3 92788197		26 35541728

SOURCE	DF	ANOVA SS	F VALUE	PR > F
EMPSTA	2	582 17701928	18 87	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: AWPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2729 MSE=15 4283

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=123 697

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	EMPSTA
A	27 583	48	1
A			
A	27 488	334	2
B	26 169	2350	3

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: AWPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	2115 27524162	302 18217737	20 29	0 0001	0 049554	14 6431
ERROR	2724	40570 61458268	14 89376453		ROOT MSE		AWPJ MEAN
CORRECTED TOTAL	2731	42685 88982430			3 85924404		26 35541728

SOURCE	DF	ANOVA SS	F VALUE	PR > F
TITLE	7	2115 27524162	20 29	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE AWPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2724 MSE=14 8938

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=165 794

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	TITLE
A	28 915	177	36
A			
B A	28 140	150	25
B			
B	27 310	84	18
C	26 242	815	24
C			
C	26 071	723	1
C			
C	25 955	134	35
C			
C	25 674	567	29
C			
C	25 598	82	3

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE AWPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	3	529 41730319	176 47243440	11 45	0 0001	0 012612	14 8969
ERROR	2689	41449 49766153	15 41446547		ROOT MSE		AWPJ MEAN
CORRECTED TOTAL	2692	41978 91496472			3 92612601		26 35536576

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V7	3	529 41730319	11 45	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. AWPJ
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2689 MSE=15 4145

WARNING. CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=523 044

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V7
A	27 089	315	6
A			
A	27 074	417	11
B	26 106	853	0
B			
B	26 069	1108	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE AWPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	793 20734601	132 20122434	8 64	0 0001	0 019006	14 8240
ERROR	2677	40941 87871956	15 29394050		ROOT MSE		AWPJ MEAN
CORRECTED TOTAL	2683	41735 08606557			3 91074680		26 38114754

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V36	6	793 20734601	8 64	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. AWPJ
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2677 MSE=15 2939

WARNING· CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=266 402

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V36
A	27 269	275	1
A			
B A	26 803	421	3
B			
B C	26 508	447	4
B C			
B C	26 471	839	2
C			
D C	25 883	291	5
D			
D	25 653	98	7
D			
D	25 304	313	6

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: AWPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	2	460 80723948	230 40361974	14 89	0 0001	0 010795	14 9250
ERROR	2729	42225 08258482	15 47273088		ROOT MSE		AWPJ MEAN
CORRECTED TOTAL	2731	42685 88982430			3 93353923		26 35541728

SOURCE	DF	ANOVA SS	F VALUE	PR > F
EDUC	2	460 80723948	14 89	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: AWPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2729 MSE=15 4727

WARNING. CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=479 722

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	EDUC
A	26 837	1144	3
B	26 027	1373	2
B			
B	25 888	215	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE AWPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	11	3061 36116333	278 30556030	19 23	0 0001	0 074104	14 4573
ERROR	2643	38250 28704759	14 47229930		ROOT MSE		AWPJ MEAN
CORRECTED TOTAL	2654	41311 64821092			3 80424753		26 31374765

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V47	11	3061 36116333	19 23	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: AWPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2643 MSE=14 4723

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=155 905

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V47
A	28 070	57	7
A			
A	28 026	268	9
A			
B A	27 294	472	4
B			
B C	27 050	159	8
B C			
B C	26 528	390	0
C			
C	26 340	141	6
C			
C	26 261	180	Y
D	25 389	126	1
D			
D	25 197	390	3
D			
D	25 128	94	2
D			
D	24 974	155	X
D			
D	24 762	223	5

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE AWPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	605 38726667	100 89787778	6 55	0 0001	0 014365	14 8833
ERROR	2695	41538 05314784	15 41300673		ROOT MSE		AWPJ MEAN
CORRECTED TOTAL	2701	42143 44041451			3 92594024		26 37823834

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V37	6	605 38726667	6 55	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: AWPJ
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2695 MSE=15 413

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=192 42

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V37
A	26 983	180	4
A			
B A	26 780	223	3
B A			
B A C	26 501	934	1
B A C			
B A C	26.475	951	2
B C			
B C	26 035	86	5
C			
D C	25 644	135	7
D			
D	24 943	193	6

VARIABLE: AWPJ

V38	N	MEAN	STD DEV	STD ERROR	MINIMUM	MAXIMUM	VARIANCES	T	DF	PROB > |T|
1	931	26 94736842	4 11114680	0 13473739	11 00000000	39 00000000	UNEQUAL	5 7572	1791 8	0 0001
2	1744	26 00802752	3 84271129	0 09201625	13 00000000	37 00000000	EQUAL	5 8764	2673 0	0 0001

FOR HO: VARIANCES ARE EQUAL, F'= 1 14 WITH 930 AND 1743 DF PROB > F'= 0 0177

APPENDIX I

STATISTICAL ANALYSIS FOR THE QWL DIMENSION:

PROMOTION (V5)

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	5	55 11703820	11 02340764	2 35	0 0383	0 004338	80 3621
ERROR	2698	12650 56195588	4 68886655		ROOT MSE		V5 MEAN
CORRECTED TOTAL	2703	12705 67899408			2 16537908		2 69452663

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V104	5	55 11703820	2 35	0 0383

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE· V5
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2698 MSE=4.68887

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=24 2688

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V104
A	4.4375	16	5
A			
B A	3 2727	11	6
B			
B	2 8421	19	4
B			
B	2 7692	26	3
B			
B	2 7364	440	2
B			
B	2 6683	2192	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	4	239 50378345	59 87594586	12 96	0 0001	0 018880	79 7969
ERROR	2694	12446 09532733	4 61993145		ROOT MSE		V5 MEAN
CORRECTED TOTAL	2698	12685.59911078			2 14940258		2 69359022

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V105	4	239 50378345	12 96	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: V5
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2694 MSE=4 61993

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=103 048

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V105
A	3 5161	31	5
A			
B A	3 1481	81	3
B A			
B A	3 1045	507	4
B			
B C	2 7409	1150	2
C			
C	2 3441	930	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	9	214 45249745	23 82805527	5 18	0 0001	0 017901	80 0936
ERROR	2557	11765 76020220	4 60139234		ROOT MSE		V5 MEAN
CORRECTED TOTAL	2566	11980 21269965			2 14508562		2 67822361

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V106	9	214 45249745	5 18	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: V5
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2557 MSE=4 60139

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=5 25306

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V106
A	6 0000	2	8
A			
B A	4 0000	1	9
B A			
B A	3 7719	57	4
B A			
B A	3 5000	14	6
B A			
B A	3 1053	19	5
B A			
B A	3.0339	383	2
B A			
B A	3.0000	4	7
B A			
B A	2.9573	164	3
B			
B	2 6765	371	1
B			
B	2 5026	1552	0

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	10	135 25968973	13 52596897	2 87	0 0015	0 024683	79 3155
ERROR	1134	5344 61279935	4 71306243		ROOT MSE		V5 MEAN
CORRECTED TOTAL	1144	5479 87248908			2 17095887		2 73711790

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V109	10	135 25968973	2 87	0 0015

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: V5
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=1134 MSE=4 71306

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=19 487

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V109
A	3 7222	18	0
A			
A	3 3958	48	X
A			
A	3 1351	37	5
A			
B A	2 9960	251	1
B A			
B A C	2 7619	105	6
B A C			
B A C	2.6667	9	4
B A C			
B A C	2 6282	554	2
B A C			
B A C	2 4839	31	9
B A C			
B A C	2 4167	60	3
B C			
B C	1 5000	4	7
C			
C	1 3571	28	8

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	927 30769199	132 47252743	30 31	0 0001	0 072900	77 6475
ERROR	2698	11792 88151718	4 37097165		ROOT MSE		V5 MEAN
CORRECTED TOTAL	2705	12720 18920916			2 09068689		2 69253511

SOURCE	DF	ANOVA SS	F VALUE	PR > F
TITLE	7	927 30769199	30 31	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: V5
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2698 MSE=4 37097

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=163 604

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	TITLE
A	3 3914	815	24
A			
B A	3.0752	133	35
B			
B C	2 8148	81	3
C			
C	2 5743	707	1
C			
C	2 4789	568	29
D	2 0000	83	18
D			
E D	1 7133	150	25
E			
E	1 3846	169	36

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	8	919 10960145	114 88870018	26 26	0 0001	0 072256	77 6889
ERROR	2697	11801 07960771	4 37563204		ROOT MSE		V5 MEAN
CORRECTED TOTAL	2705	12720 18920916			2 09180115		2 69253511

SOURCE	DF	ANOVA SS	F VALUE	PR > F
AGE	8	919.10960145	26 26	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: V5
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2697 MSE=4 37563

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=57 9624

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	AGE
A	4 4571	35	8
B	3 6129	62	7
B			
B	3 4162	197	5
B			
B	3 3889	144	6
B			
B	3 2727	11	9
B			
B	3 2442	389	4
B			
C B	2 8003	661	3
C			
C D	2 3714	762	2
D			
D	1 7730	445	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	2	243 17665413	121 58832707	26 34	0 0001	0 019117	79 7941
ERROR	2703	12477.01255503	4 61598689		ROOT MSE		V5 MEAN
CORRECTED TOTAL	2705	12720 18920916			2 14848479		2 69253511

SOURCE	DF	ANOVA SS	F VALUE	PR > F
EMPSTA	2	243 17665413	26 34	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: V5
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2703 MSE=4 61599

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=118 527

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	EMPSTA
A	2.8104	2342	3
B	2 0870	46	1
B			
B	1 9119	318	2

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	3	531 44104715	177 14701572	39 39	0 0001	0 042424	78 5985
ERROR	2667	11995 34068254	4 49769054		ROOT MSE		V5 MEAN
CORRECTED TOTAL	2670	12526 78172969			2 12077593		2 69824036

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V7	3	531 44104715	39 39	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. V5
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2667 MSE=4.49769

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=517 716

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V7
A	3 2692	312	6
A			
A	3 1268	410	11
B	2 8588	1091	1
C	2 0816	858	0

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	1293 95699116	184 85099874	44 01	0 0001	0 113265	76 6532
ERROR	2412	10130 15044686	4 19989654		ROOT MSE		V5 MEAN
CORRECTED TOTAL	2419	11424 10743802			2 04936491		2 67355372

SOURCE	DF	ANOVA SS	F VALUE	PR > F
INCOME	7	1293 95699116	44 01	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: V5
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2412 MSE=4 1999

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=179 124

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	INCOME
A	4 9130	92	8
B	4 0759	79	7
C	3.5902	122	6
C			
D C	3 3610	241	5
D			
D	3.0704	341	4
E	2.4674	475	3
E			
F E	2.2040	505	2
F			
F	1 9752	565	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	2	144 14280176	72 07140088	15 49	0 0001	0 011332	80 1102
ERROR	2703	12576 04640741	4 65262538		ROOT MSE		V5 MEAN
CORRECTED TOTAL	2705	12720 18920916			2 15699453		2 69253511

SOURCE	DF	ANOVA SS	F VALUE	PR > F
EDUC	2	144 14280176	15 49	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: V5
NOTE. THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0.05 DF=2703 MSE=4.65263

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=473 343

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	EDUC
A	3 0613	212	1
A			
A	2 8531	1375	2
B	2 4254	1119	3

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	5	293 58702809	58 71740562	12 82	0 0001	0 023608	79.6636
ERROR	2651	12142.25790981	4 58025572		ROOT MSE		V5 MEAN
CORRECTED TOTAL	2656	12435 84493790			2 14015320		2 68648852

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V35	5	293 58702809	12 82	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. V5
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2651 MSE=4 58026

WARNING· CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=123 78

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V35
A	3 2557	481	31
A			
B A	2 8187	353	11
B A			
B A	2 7691	563	16
B			
B	2 5070	714	6
B			
B	2 3462	26	0
B			
B	2 2442	520	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	265 75198668	44 29199778	9 67	O 0001	O 021440	79 6321
ERROR	2649	12129 24763682	4 57880243		ROOT MSE		V5 MEAN
CORRECTED TOTAL	2655	12394 99962349			2 13981364		2 68712349

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V36	6	265 75198668	9 67	O 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: V5
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=O 05 DF=2649 MSE=4 5788

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=264 519

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V36
A	3 0836	311	6
A			
B A	2 9553	447	4
B A			
B A C	2 9341	273	5
B A C			
B A C	2 7560	414	3
B C			
B C	2 5556	99	7
C			
C	2 5364	837	2
D	1 9600	275	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	153 11222208	25 51870368	5 46	0 0001	0 012136	80 1147
ERROR	2666	12463 45418271	4 67496406		ROOT MSE		V5 MEAN
CORRECTED TOTAL	2672	12616 56640479			2 16216652		2 69884025

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V37	6	153 11222208	5 46	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: V5
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2666 MSE=4 67496

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=189 174

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V37
A	3 0343	175	4
A			
A	2 9781	228	3
A			
A	2 9590	195	6
A			
B A	2 8266	934	2
B A			
B A	2 6988	83	5
B A			
B A	2 6288	132	7
B			
B	2 3931	926	1

VARIABLE V5

V38	N	MEAN	STD DEV	STD ERROR	MINIMUM	MAXIMUM	VARIANCES	T	DF	PROB > |T|
1	927	2 33333333	2 04062414	0 06702289	0	9 00000000	UNEQUAL	-6 5202	2033 8	0 0001
2	1723	2 89204875	2 21623210	0 05339156	0	9 00000000	EQUAL	-6 3608	2648 0	0 0001

FOR HO VARIANCES ARE EQUAL, F'= 1 18 WITH 1722 AND 926 DF PROB > F'= 0 0046

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE V5

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	11	681 75854441	61 97804949	13 86	0 0001	0 055041	78 0667
ERROR	2617	11704 63780401	4 47254024		ROOT MSE		V5 MEAN
CORRECTED TOTAL	2628	12386 39634842			2 11483811		2 70901483

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V47	11	681 75854441	13 86	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE V5
NOTE. THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0.05 DF=2617 MSE=4.47254

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=154 361

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V47
A	3 5000	96	2
A			
B A	3 3876	129	1
B A			
B A	3 3156	225	5
B A			
B A C	3 1811	392	0
B C			
B D C	2 9231	143	6
D C			
D C	2 7735	181	Y
D C			
D C	2 7419	155	X
D C			
D C	2 7112	374	3
D			
E D	2 6392	158	8
E D			
E D	2 3889	54	7
E			
E F	2 1471	469	4
F			
F	1 7549	253	9

APPENDIX J

STATISTICAL ANALYSIS FOR THE QWL DIMENSION: SUPERVISION ON PRESENT JOB (SPJ)

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: SPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	8	657 75096904	82 21887113	6 23	0 0001	0 018180	14 6814
ERROR	2692	35522 41711686	13 19554871		ROOT MSE		SPJ MEAN
CORRECTED TOTAL	2700	36180 16808589			3 63256778		24 74268789

SOURCE	DF	ANOVA SS	F VALUE	PR > F
AGE	8	657 75096904	6 23	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: SPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2692 MSE=13 1955

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=58 4176

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	AGE
A	26 328	64	7
A			
B A	25 444	189	5
B A			
B A	25 435	147	6
B A			
B A	25 101	387	4
B			
B	24 838	656	3
B			
B	24 727	11	9
B			
B	24 561	446	1
B			
B	24 472	36	8
B			
B	24 159	765	2

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE SPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	2177 59333966	311 08476281	24 64	0 0001	0 060187	14 3612
ERROR	2693	34002 57474623	12 62628100		ROOT MSE		SPJ MEAN
CORRECTED TOTAL	2700	36180 16808589			3 55334786		24 74268789

SOURCE	DF	ANOVA SS	F VALUE	PR > F
TITLE	7	2177 59333966	24 64	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE SPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2693 MSE=12 6263

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=164 064

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	TITLE
A	26 002	804	24
B	25 053	132	35
B			
C B	24 667	81	3
C B			
C B	24 479	702	1
C			
C D	24 105	570	29
D			
D	23 607	150	25
D			
D	23 550	180	36
D			
D	23 354	82	18

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: SPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	9	286 58675167	31 84297241	2 39	0 0107	0 008368	14 7258
ERROR	2554	33961 23852135	13 29727428		ROOT MSE		SPJ MEAN
CORRECTED TOTAL	2563	34247 82527301			3 64654279		24 76287051

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V106	9	286 58675167	2 39	0 0107

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: SPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2554 MSE=13 2973

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=5 40872

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V106
A	26 000	1	9
A			
A	25 825	57	4
A			
A	25 618	165	3
A			
A	25 500	2	8
A			
A	25 474	19	5
A			
A	25 200	15	6
A			
A	25 005	386	2
A			
A	24.614	1547	0
A			
A	24 545	367	1
A			
A	23 200	5	7

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: SPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	3	2071 19545895	690 39848632	54 52	0 0001	0 057884	14 3801
ERROR	2662	33710 90244053	12 66374998		ROOT MSE		SPJ MEAN
CORRECTED TOTAL	2665	35782 09789948			3 55861630		24 74681170

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V7	3	2071 19545895	54 52	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE SPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2662 MSE=12 6637

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=521 858

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V7
A	25 829	321	6
B	25 369	409	11
B			
B	25 165	1099	1
C	23 479	837	0

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE SPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	860 96102848	122 99443264	9 31	0 0001	0 026288	14 6785
ERROR	2413	31890 18230073	13 21598935		ROOT MSE		SPJ MEAN
CORRECTED TOTAL	2420	32751 14332920			3 63538022		24 76662536

SOURCE	DF	ANOVA SS	F VALUE	PR > F
INCOME	7	860 96102848	9 31	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: SPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2413 MSE=13 216

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=177 763

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	INCOME
A	26 418	91	8
A			
A	26 337	80	7
A			
B A	25 713	115	6
B			
B C	25 286	245	5
C			
D C	24 825	348	4
D C			
D C	24 706	510	2
D			
D	24 290	473	3
D			
D	24 274	559	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE SPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	11	675 39660420	61 39969129	4 65	0 0001	0 019200	14 6760
ERROR	2615	34501 29087201	13 19361028		ROOT MSE		SPJ MEAN
CORRECTED TOTAL	2626	35176 68747621			3 63230096		24 74990483

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V47	11	675 39660420	4 65	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE SPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2615 MSE=13 1936

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=153 225

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V47
A	25 889	54	7
A			
B A	25 425	160	8
B A			
B A	25 421	95	2
B A			
B A	25 398	176	Y
B A			
B A C	25 239	142	6
B A C			
B A C	25 220	127	1
B A C			
B A C	25 047	384	3
B C			
B D C	24 838	222	5
D C			
D C	24 402	381	0
D C			
D C	24 331	471	4
D			
D	24 082	269	9
D			
D	24 062	146	X

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE SPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	193 57816735	32 26302789	2 40	0 0255	0 005410	14 8072
ERROR	2652	35589 85018918	13 42000384		ROOT MSE		SPJ MEAN
CORRECTED TOTAL	2658	35783 42835653			3 66333234		24 74012787

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V36	6	193 57816735	2 40	0 0255

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: SPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2652 MSE=13 42

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=258.943

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V36
A	25 194	278	5
A			
B A	25 009	423	3
B A			
B A	24 935	93	7
B A			
B A	24 889	450	4
B A			
B A	24 730	274	1
B A			
B A	24 503	308	6
B			
B	24 441	833	2

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE SPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	559 72421712	93 28736952	7 04	0 0001	0 015570	14 7159
ERROR	2669	35389 44170217	13 25943863		ROOT MSE		SPJ MEAN
CORRECTED TOTAL	2675	35949 16591928			3 64135121		24 74439462

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V37	6	559 72421712	7 04	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE SPJ
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2669 MSE=13 2594

WARNING. CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=190 76

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V37
A	25 101	929	1
A			
B A	24 932	219	3
B A			
B A C	24 790	940	2
B A C			
B A C	24 610	182	4
B C			
B C	24 209	86	5
C			
D C	24 038	133	7
D			
D	23 401	187	6

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE SPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	5	233 81741826	46 76348365	3 52	O 0038	O 006540	14 7581
ERROR	2670	35515 77002568	13 30178653		ROOT MSE		SPJ MEAN
CORRECTED TOTAL	2675	35749 58744395			3 64716143		24 71300448

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V39	5	233 81741826	3 52	O 0038

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: SPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=O 05 DF=2670 MSE=13 3018

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=30 5415

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V39
A	25 000	37	3
A			
A	24 917	24	4
A			
A	24 789	2412	1
A			
A	24 786	14	5
A			
A	23 710	169	2
A			
A	23 200	20	6

APPENDIX K

STATISTICAL ANALYSIS FOR THE QWL DIMENSION:

GENERAL JOB SATISFACTION (GJS)

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE GJS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	4	26 15484573	6 53871143	7 27	O 0001	O 010274	18 8242
ERROR	2801	2519 68834742	O 89956742		ROOT MSE		GJS MEAN
CORRECTED TOTAL	2805	2545 84319316			O 94845528		5 03848895

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V105	4	26 15484573	7 27	O 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE GJS
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=O 05 DF=2801 MSE=O 899567

WARNING CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=102 85

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V105
A	5 4333	30	5
B	5 1116	1210	2
B			
B	5 0690	87	3
B			
B	5 0670	522	4
B			
B	4 9154	957	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: GJS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	9	34 75796852	3 86199650	4 32	0 0001	0 014436	18 7181
ERROR	2657	2372 90532357	0 89307690		ROOT MSE		GJS MEAN
CORRECTED TOTAL	2666	2407 66329209			0 94502746		5 04874391

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V106	9	34 75796852	4 32	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: GJS
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2657 MSE=0 893077

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=5 41235

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V106
A	6 0000	2	8
A			
A	6 0000	1	9
A			
A	5 8000	5	7
A			
A	5 2632	19	5
A			
A	5 2443	176	3
A			
A	5 2272	405	2
A			
A	5 2000	15	6
A			
A	5 1356	59	4
A			
A	5 0000	384	1
A			
A	4 9825	1601	0

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE GJS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	17 10574459	2 85095743	3 15	0 0045	0 007346	18 8797
ERROR	2552	2311 58593184	0 90579386		ROOT MSE		GJS MEAN
CORRECTED TOTAL	2558	2328.69167644			0 95173203		5 04103165

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V107	6	17 10574459	3 15	0 0045

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: GJS
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2552 MSE=0 905794

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=13 1006

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V107
A	5 7500	4	6
A			
B A	5 2500	84	3
B A			
B A	5 1940	335	2
B A			
B A	5 0325	462	1
B A			
B A	5 0030	1654	0
B			
B	4 8000	15	4
B			
B	4 8000	5	5

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: GJS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	43 20544608	6 17220658	6 89	0 0001	0 016897	18 7902
ERROR	2805	2513 72452192	0 89615847		ROOT MSE		GJS MEAN
CORRECTED TOTAL	2812	2556 92996801			0.94665647		5 03803768

SOURCE	DF	ANOVA SS	F VALUE	PR > F
TITLE	7	43 20544608	6 89	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: GJS
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2805 MSE=0 896158

WARNING CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=170 176

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	TITLE
A	5 3622	185	36
A			
B A	5 1948	154	25
B A			
B A	5 1512	86	18
B			
B C	5 0881	590	29
B C			
B C	5 0470	744	1
C			
D C	4 9281	139	35
D C			
D C	4 9243	832	24
D			
D	4 7952	83	3

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE GJS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	8	21 09429538	2 63678692	2 92	0 0031	0 008250	18 8760
ERROR	2804	2535 83567263	0 90436365		ROOT MSE		GJS MEAN
CORRECTED TOTAL	2812	2556 9299680 1			0 95098036		5 03803768

SOURCE	DF	ANOVA SS	F VALUE	PR > F
AGE	8	21 09429538	2 92	0 0031

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: GJS
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2804 MSE=0 904364

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=56 2016

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	AGE
A	5 6000	10	9
A			
B A	5 2632	38	8
B A			
B A	5 2267	150	6
B			
B	5 1618	204	5
B			
B	5 1343	67	7
B			
B	5 0544	680	3
B			
B	5 0437	412	4
B			
B	4 9848	790	2
B			
B	4 9394	462	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE GJS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	2	23 47824861	11 73912431	13 02	0 0001	0 009182	18 8470
ERROR	2810	2533 45171939	0 90158424		ROOT MSE		GJS MEAN
CORRECTED TOTAL	2812	2556 92996801			0 94951790		5 03803768

SOURCE	DF	ANOVA SS	F VALUE	PR > F
EMPSTA	2	23 47824861	13 02	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. GJS
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2810 MSE=0.901584

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=134 999

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	EMPSTA
A	5 2676	340	2
A			
A	5 2453	53	1
B	5 0012	2420	3

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE GJS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	2	41 19348821	20 59674410	23 01	0 0001	0 016111	18 7810
ERROR	2810	2515 73647980	0 89527989		ROOT MSE		GJS MEAN
CORRECTED TOTAL	2812	2556 92996801			0 94619231		5 03803768

SOURCE	DF	ANOVA SS	F VALUE	PR > F
EDUC	2	41 19348821	23 01	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: GJS
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2810 MSE=0 89528

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=493 393

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	EDUC
A	5 1761	1181	3
B	4 9532	1411	2
B			
B	4 8416	221	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE GJS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	11	85 09471655	7 73588332	8 77	0 0001	0 034304	18 6551
ERROR	2715	2395 52574549	0 88232992		ROOT MSE		GJS MEAN
CORRECTED TOTAL	2726	2480 62046205			0 93932419		5 03520352

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V47	11	85 09471655	8 77	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: GJS
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2715 MSE=0 88233

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=158 619

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V47
A	5 3455	275	9
A			
A	5 3030	165	8
A			
B A	5.1837	490	4
B			
B C	5 0684	190	Y
B C			
B C	5 0000	56	7
B C			
B C	4 9724	399	3
B C			
B C	4.9524	399	0
C			
D C	4 8682	129	1
D C			
D C	4.8584	226	5
D C			
D C	4 8571	147	6
D C			
D C	4 8506	154	X
D			
D	4 7010	97	2

VARIABLE GJS

V38	N	MEAN	STD DEV	STD ERROR	MINIMUM	MAXIMUM	VARIANCES	T	DF	PROB > |T|
1	958	5 09812109	0.91702612	0 02962777	2 00000000	7 00000000	UNEQUAL	2 6707	2066 0	0 0076
2	1784	4 99775785	0 97644468	0 02311800	2 00000000	7 00000000	EQUAL	2 6207	2740 0	0 0088

FOR HO VARIANCES ARE EQUAL, F'= 1 13 WITH 1783 AND 957 DF PROB > F'= 0 0282

APPENDIX L

STATISTICAL ANALYSIS FOR THE QWL DIMENSION: PEOPLE ON YOUR PRESENT JOB (POYPJ)

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE POYPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	9	80 88596164	8 98732907	2 31	0 0140	0 007878	14 5623
ERROR	2618	10186 63458631	3 89099870		ROOT MSE		POYPJ MEAN
CORRECTED TOTAL	2627	10267 52054795			1 97256146		13 54566210

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V106	9	80 88596164	2 31	0 0140

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: POYPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2618 MSE=3 891

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=5 4115

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V106
A	14 800	5	7
A			
A	14 407	59	4
A			
A	14 000	1	9
A			
A	13 842	19	5
A			
A	13 741	170	3
A			
A	13 690	400	2
A			
A	13 475	377	1
A			
A	13 467	1580	0
A			
A	13 400	15	6
A			
A	13 000	2	8

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE POYPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	8	129 34506895	16 16813362	4 17	0 0001	0 011916	14 5448
ERROR	2765	10725 46999954	3 87901266		ROOT MSE		POYPJ MEAN
CORRECTED TOTAL	2773	10854 81506849			1 96952092		13 54109589

SOURCE	DF	ANOVA SS	F VALUE	PR > F
AGE	8	129 34506895	4 17	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. POYPJ
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0.05 DF=2765 MSE=3 87901

WARNING. CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=52 1591

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	AGE
A	14 288	66	7
A			
B A	14 054	37	8
B A			
B A	13 811	148	6
B A			
B A	13 778	9	9
B A			
B A	13 766	197	5
B A			
B A	13 635	405	4
B A			
B A	13 603	456	1
B A			
B A	13 525	671	3
B			
B	13.274	785	2

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: POYPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	4	127 70674474	31 92668619	8 25	0 0001	0 011811	14 5246
ERROR	2762	10685 22205902	3 86865390		ROOT MSE		POYPJ MEAN
CORRECTED TOTAL	2766	10812 92880376			1 96688940		13 54174196

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V105	4	127 70674474	8 25	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE POYPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2762 MSE=3 86865

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=107 032

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V105
A	14 035	86	3
A			
A	13 875	32	5
A			
B A	13 684	1186	2
B A			
B A	13 630	516	4
B			
B	13 260	947	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE POYPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	5	229 87727568	45 97545514	11 99	0 0001	0 021214	14 4607
ERROR	2766	10606 35180079	3 83454512		ROOT MSE		POYPJ MEAN
CORRECTED TOTAL	2771	10836 22907648			1 95819946		13 54148629

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V104	5	229 87727568	11 99	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: POYPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE.

ALPHA=0.05 DF=2766 MSE=3 83455

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=25 0555

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V104
A	14 000	11	6
A			
A	13 938	16	5
A			
A	13 665	2258	1
A			
A	13 643	28	3
A			
A	13 238	21	4
A			
A	12 886	438	2

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE POYPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	108 09822805	15 44260401	3 97	0 0003	0 009959	14 5565
ERROR	2766	10746 71684044	3 88529170		ROOT MSE		POYPJ MEAN
CORRECTED TOTAL	2773	10854 81506849			1 97111433		13 54109589

SOURCE	DF	ANOVA SS	F VALUE	PR > F
TITLE	7	108 09822805	3 97	0 0003

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: POYPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2766 MSE=3 88529

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=167 168

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	TITLE
A	13 822	830	24
A			
B A	13 524	82	18
B A			
B A	13 507	138	35
B A			
B A	13 506	83	3
B A			
B A	13 467	728	1
B A			
B A	13 399	579	29
B A			
B A	13 376	181	36
B			
B	13 163	153	25

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE POYPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	3	79 91863863	26 63954621	6 82	0 0002	0 007441	14 5920
ERROR	2729	10659 92987948	3 90616705		ROOT MSE		POYPJ MEAN
CORRECTED TOTAL	2732	10739 84851811			1 97640255		13 54445664

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V7	3	79 91863863	6 82	0 0002

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE POYPJ
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2729 MSE=3 90617

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=535 174

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V7
A	13 782	325	6
A			
B A	13 667	1129	1
B			
B C	13 491	428	11
C			
C	13 318	851	0

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: POYPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	11	150 08331352	13 64393759	3 52	0 0001	0 014226	14 5441
ERROR	2683	10399 99312433	3 87625536		ROOT MSE		POYPJ MEAN
CORRECTED TOTAL	2694	10550 07643785			1 96882080		13 53692022

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V47	11	150 08331352	3 52	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: POYPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2683 MSE=3 87626

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=157 117

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V47
A	14 018	55	7
A			
B A	13 854	96	2
B A			
B A	13.794	165	8
B A			
B A	13 756	131	1
B A			
B A	13 734	391	3
B A			
B A	13 705	183	Y
B A			
B A	13 697	145	6
B A			
B A C	13 520	485	4
B C			
B C	13 462	275	9
B C			
B C	13 380	389	O
C			
C	13 102	225	5
C			
C	13 077	155	X

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE POYPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	5	57 31720669	11 46344134	2 93	0 0122	0 005365	14 6106
ERROR	2716	10625 36060374	3 91213572		ROOT MSE		POYPJ MEAN
CORRECTED TOTAL	2721	10682 67781043			1 97791196		13 53747245

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V35	5	57 31720669	2 93	0 0122

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: POYPJ
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2716 MSE=3 91214

WARNING· CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=87 485

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V35
A	13 714	528	1
A			
A	13 610	738	6
A			
A	13.596	359	11
A			
A	13.588	17	0
A			
A	13 468	581	16
A			
A	13 281	499	31

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: POYPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	190 50023223	31 75003871	8 27	0 0001	0 017882	14 4679
ERROR	2724	10462 48255795	3 84085263		ROOT MSE		POYPJ MEAN
CORRECTED TOTAL	2730	10652 98279019			1 95980933		13 54595386

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V36	6	190 50023223	8 27	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: POYPJ
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2724 MSE=3 84085

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=265 721

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V36
A	13 865	282	1
A			
B A	13 787	427	3
B A			
B A	13 601	859	2
B A			
B A	13 585	460	4
B			
B	13 454	291	5
C	13 105	95	7
C			
C	12 950	317	6

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE POYPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	297 46191715	49 57698619	13 01	0 0001	0 027666	14 4139
ERROR	2743	10454 62571921	3 81138378		ROOT MSE		POYPJ MEAN
CORRECTED TOTAL	2749	10752 08763636			1 95227656		13 54436364

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V37	6	297 46191715	13 01	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: POYPJ
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2743 MSE=3 81138

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=193 496

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V37
A	13 811	958	1
A			
A	13 672	229	3
A			
A	13 557	968	2
A			
A	13 531	179	4
B	13 045	132	7
B			
C B	13 000	87	5
C			
C	12 624	197	6

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE POYPJ

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	5	65 46724877	13 09344975	3 35	0 0053	0 006106	14 6169
ERROR	2724	10656 32359372	3 91201307		ROOT MSE		POYPJ MEAN
CORRECTED TOTAL	2729	10721 79084249			1 97788095		13 53150183

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V39	5	65 46724877	3 35	0 0053

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: POYPJ
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0.05 DF=2724 MSE=3 91201

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=31 2598

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V39
A	14 435	23	4
A			
B A	14 067	15	5
B A			
B A	13 600	20	6
B A			
B A	13 556	2459	1
B A			
B A	13 385	39	3
B			
B	13 052	174	2

VARIABLE POYPJ

V38	N	MEAN	STD DEV	STD ERROR	MINIMUM	MAXIMUM	VARIANCES	T	DF	PROB > |T|
1	950	13 69052632	1 90197466	0 06170821	6 00000000	16 00000000	UNEQUAL	3 2167	2043 9	0 0013
2	1772	13 43905192	2.02056307	0.04799992	5 00000000	16.00000000	EQUAL	3 1585	2720 0	0 0016

FOR HO: VARIANCES ARE EQUAL, F'= 1 13 WITH 1771 AND 949 DF PROB > F'= 0 0352

VARIABLE· POYPJ

V110	N	MEAN	STD DEV	STD ERROR	MINIMUM	MAXIMUM	VARIANCES	T	DF	PROB > |T|
1	1254	13 39712919	2 06946980	0 05844002	5 00000000	16 00000000	UNEQUAL	-3.5078	2567 1	0 0005
2	1491	13 66465459	1 89211137	0 04900133	5 00000000	16 00000000	EQUAL	-3 5350	2743 0	0 0004

FOR HO VARIANCES ARE EQUAL, F'= 1 20 WITH 1253 AND 1490 DF PROB > F'= 0 0009

APPENDIX M

STATISTICAL ANALYSIS FOR THE QWL DIMENSION:

JOB IN GENERAL (JIG)

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	8	91971 31154343	11496 41394293	632 53	O 0001	O 643612	26 5115
ERROR	2802	50927 35725771	18 17535948		ROOT MSE		JIG MEAN
CORRECTED TOTAL	2810	142898 66880114			4 26325691		16 08075418

SOURCE	DF	ANOVA SS	F VALUE	PR > F
AGE	8	91971 31154343	632 53	O 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE· JIG
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=O 05 DF=2802 MSE=18 1754

WARNING· CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=59 1936

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	AGE
A	35 189	37	8
B	33 000	11	9
C	28 485	66	7
D	26 195	149	6
E	23 314	204	5
F	19 645	409	4
G	16 312	683	3
H	12 054	791	2
I	9 302	461	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE· JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	4024 41442186	574 91634598	11 60	0 0001	0 028163	43 7716
ERROR	2803	138874 25437928	49 54486421		ROOT MSE		JIG MEAN
CORRECTED TOTAL	2810	142898 66880114			7 03881128		16 08075418

SOURCE	DF	ANOVA SS	F VALUE	PR > F
TITLE	7	4024 41442186	11 60	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. JIG
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERPOR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2803 MSE=49 5449

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=169 783

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	TITLE
A	17 856	139	35
A			
B A	17 418	833	24
B A			
B A	17 262	84	3
B A			
B A	17 049	184	36
B			
B C	15 776	152	25
C			
C	15 037	588	29
C			
C	14 921	746	1
C			
C	14 753	85	18

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	4	14592 35932280	3648 08983070	79 72	0 0001	0 102271	42 0600
ERROR	2799	128090 94559874	45 76311025		ROOT MSE		JIG MEAN
CORRECTED TOTAL	2803	142683 30492154			6 76484370		16 08380884

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V105	4	14592 35932280	79 72	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: JIG
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2799 MSE=45 7631

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=105 173

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V105
A	23 323	31	5
B	19 391	87	3
B			
B	19 044	522	4
C	16 554	1205	2
D	13 348	959	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	9	21880 87095992	2431 20788444	58 03	0 0001	0 164418	40 1002
ERROR	2654	111199 49390494	41 89882966		ROOT MSE		JIG MEAN
CORRECTED TOTAL	2663	133080 36486486			6 47293053		16 14189189

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V106	9	21880 87095992	58 03	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: JIG
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2654 MSE=41.8988

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=5 40289

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V106
A	25 200	5	7
A			
A	25 000	15	6
A			
A	24 500	18	5
A			
A	24.000	2	8
A			
A	23.000	1	9
A			
B A	22 448	58	4
B A			
B A	21 028	176	3
B A			
B A	19 629	402	2
B A			
B A	17 154	384	1
B			
B	14 041	1603	0

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE· JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	3748 70701590	624 78450265	12 88	O 0001	O 029427	43 1126
ERROR	2548	123642 72781776	48 52540338		ROOT MSE		JIG MEAN
CORRECTED TOTAL	2554	127391 43483366			6 96601776		16 15772994

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V107	6	3748 70701590	12 88	O 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE· JIG
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=O 05 DF=2548 MSE=48 5254

WARNING· CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=12 9845

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V107
A	24 000	5	5
A			
B A	18 571	14	4
B A			
B A	18.500	4	6
B A			
B A	18 167	84	3
B			
B	17 786	332	2
B			
B	17 534	464	1
B			
B	15 292	1652	O

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE· JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	10	3811 91537520	381 19153752	8 55	0 0001	0 067072	40 3451
ERROR	1189	53020 88129147	44 59283540		ROOT MSE		JIG MEAN
CORRECTED TOTAL	1199	56832 79666667			6 67778671		16 55166667

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V109	10	3811 91537520	8 55	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE· JIG
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=1189 MSE=44.5928

WARNING· CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=20 1155

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V109
A	30 235	17	0
B	17 500	4	7
B			
B	16 981	259	1
B			
B	16 940	50	X
B			
B	16 921	38	5
B			
B	16 505	109	6
B			
B	16 484	31	9
B			
B	16 188	585	2
B			
B	16 161	62	3
B			
B	15 700	10	4
B			
B	12 886	35	8

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE· JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	3	5200 10046998	1733 36682333	35 34	0 0001	0 036911	43 5380
ERROR	2766	135681 10530619	49 05318341		ROOT MSE		JIG MEAN
CORRECTED TOTAL	2769	140881 20577617			7 00379778		16 08664260

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V7	3	5200 10046998	35 34	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE· JIG
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE.

ALPHA=0 05 DF=2766 MSE=49 0532

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=538.675

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V7
A	18 598	430	11
B	17 731	324	6
C	15 641	1130	1
C			
C	14 835	886	0

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	16995 19820252	2427 88545750	53 77	0 0001	0 130630	41 8638
ERROR	2505	113106 28209990	45 15220842		ROOT MSE		JIG MEAN
CORRECTED TOTAL	2512	130101 48030243			6 71953930		16 05093514

SOURCE	DF	ANOVA SS	F VALUE	PR > F
INCOME	7	16995 19820252	53 77	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE JIG
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2505 MSE=45 1522

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=186 499

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	INCOME
A	22 000	98	8
A			
A	21 366	82	7
B	19 694	124	6
B			
B	18 956	250	5
C	17 539	360	4
D	15 898	491	3
E	14 172	529	2
E			
E	13 178	579	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	2	1011 29959005	505 64979503	10 01	0 0001	0 007077	44 2045
ERROR	2808	141887 36921109	50 52968989		ROOT MSE		JIG MEAN
CORRECTED TOTAL	2810	142898 66880114			7 10842387		16 08075418

SOURCE	DF	ANOVA SS	F VALUE	PR > F
EDUC	2	1011 29959005	10 01	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: JIG
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2808 MSE=50 5297

WARNING CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=490 063

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	EDUC
A	17 087	219	1
A			
A	16 592	1181	3
B	15 497	1411	2

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V.
MODEL	11	2781 41452591	252 85586599	5 06	0 0001	0 020092	43 8998
ERROR	2712	135654 32519509	50 02003141		ROOT MSE		JIG MEAN
CORRECTED TOTAL	2723	138435 73972100			7 07248410		16 11049927

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V47	11	2781 41452591	5 06	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: JIG
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2712 MSE=50 02

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=158 673

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V47
A	18 208	274	9
A			
B A	17 275	167	8
B A			
B A C	16 932	398	0
B A C			
B A C	16 823	96	2
B C			
B D C	16.004	228	5
B D C			
B D C	15 779	190	Y
B D C			
B D C	15 744	156	X
B D C			
B D C	15.609	128	1
B D C			
B D C	15 536	485	4
D C			
D C	15 291	148	6
D			
D	14 952	398	3
D			
D	14 411	56	7

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	5	6165 40444887	1233 08088977	25 63	0 0001	0 044533	43 2063
ERROR	2750	132281 07160338	48 10220786		ROOT MSE		JIG MEAN
CORRECTED TOTAL	2755	138446 47605225			6 93557552		16 05224964

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V35	5	6165 40444887	25 63	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: JIG
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0.05 DF=2750 MSE=48 1022

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=135 852

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V35
A	18 806	500	31
B	16 294	586	16
B			
B	16 207	29	0
B			
B	15 964	361	11
B			
C B	15 470	742	6
C			
C	14 084	538	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	774 56808135	129 09468023	2 55	0 0183	0 005543	44 2595
ERROR	2745	138959 71098841	50 62284553		ROOT MSE		JIG MEAN
CORRECTED TOTAL	2751	139734 27906977			7 11497333		16 07558140

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V36	6	774 56808135	2 55	0 0183

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE JIG
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2745 MSE=50.6228

WARNING. CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=272 934

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V36
A	16 935	428	3
A			
B A	16 223	466	4
B A			
B A	16 135	864	2
B A			
B A	16 017	293	5
B A			
B A	15 683	319	6
B			
B C	15 448	281	1
C			
C	14 396	101	7

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	1281.48007048	213 58001175	4 22	0 0003	0 009080	44 2593
ERROR	2765	139854 35939561	50 58023848		ROOT MSE		JIG MEAN
CORRECTED TOTAL	2771	141135 83946609			7 11197852		16 06890332

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V37	6	1281 48007048	4 22	0 0003

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: JIG
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2765 MSE=50 5802

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=195 65

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V37
A	17 410	195	6
A			
B A	16 906	180	4
B A			
B A	16 591	232	3
B A			
B A	16 381	972	2
B			
B C	15 663	86	5
B C			
B C	15 429	966	1
C			
C	14 773	141	7

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: JIG

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	5	641.12743042	128 22548608	2 53	0 0272	0 004584	44 4249
ERROR	2743	139210 30727311	50.75111457		ROOT MSE		JIG MEAN
CORRECTED TOTAL	2748	139851 43470353			7 12398165		16 03601310

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V39	5	641 12743042	2 53	0 0272

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: JIG
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2743 MSE=50 7511

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=31 826

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V39
A	17.791	172	2
A			
A	17 160	25	4
A			
A	16 733	15	5
A			
A	16 564	39	3
A			
A	15 897	2478	1
A			
A	15 200	20	6

TTEST PROCEDURE

VARIABLE. JIG

V110	N	MEAN	STD DEV	STD ERROR	MINIMUM	MAXIMUM	VARIANCES	T	DF	PROB > |T|
1	1268	16 51656151	7 35537496	0 20655951	3 00000000	51 00000000	UNEQUAL	2 8565	2624 5	0 0043
2	1514	15 73976222	6 88204203	0 17687008	2 00000000	49 00000000	EQUAL	2 8734	2780 0	0 0041

FOR HO VARIANCES ARE EQUAL, F'= 1 14 WITH 1267 AND 1513 DF PROB > F'= 0 0133

APPENDIX N

STATISTICAL ANALYSIS FOR THE QWL DIMENSION: PERFORMANCE CONSTRAINT MEASURES (PCM)

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: PCM

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	8	373 73182331	46 71647791	4 03	0 0001	0 015979	25 1971
ERROR	1986	23014 80752506	11 58852343		ROOT MSE		PCM MEAN
CORRECTED TOTAL	1994	23388 53934837			3 40419204		13 51027569

SOURCE	DF	ANOVA SS	F VALUE	PR > F
AGE	8	373 73182331	4 03	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: PCM
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=1986 MSE=11 5885

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=32 3095

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	AGE
A	14.343	297	1
A			
A	13 664	548	2
A			
A	13 440	298	4
A			
A	13 412	148	5
A			
A	13 287	115	6
A			
A	13 078	502	3
A			
A	13 067	30	8
A			
A	12 981	52	7
B	11 000	5	9

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE PCM

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	2	270 06304512	135 03152256	11 63	0 0001	0 011547	25 2157
ERROR	1992	23118 47630325	11 60566079		ROOT MSE		PCM MEAN
CORRECTED TOTAL	1994	23388 53934837			3 40670821		13 51027569

SOURCE	DF	ANOVA SS	F VALUE	PR > F
EMPSTA	2	270 06304512	11 63	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: PCM
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0.05 DF=1992 MSE=11 6057

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=76 0204

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	EMPSTA
A	14 480	227	2
A			
A	14 379	29	1
A			
A	13 369	1739	3

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE PCM

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	3	442 58623222	147 52874407	12 77	0 0001	0 019120	25 1670
ERROR	1965	22705 57120811	11 55499807		ROOT MSE		PCM MEAN
CORRECTED TOTAL	1968	23148 15744033			3 39926434		13 50685627

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V7	3	442 58623222	12 77	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE· PCM
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0.05 DF=1965 MSE=11 555

WARNING· CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=371 253

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V7
A	14 333	258	0
B	13 658	1024	1
B			
B	13 264	299	6
C	12 745	388	11

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE PCM

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	257 63609521	36 80515646	3 09	0 0032	0 012052	25 4730
ERROR	1775	21119 08403940	11 89807552		POOT MSE		PCM MEAN
CORRECTED TOTAL	1782	21376 72013460			3 44935871		13 54122266

SOURCE	DF	ANOVA SS	F VALUE	PR > F
INCOME	7	257 63609521	3 09	0 0032

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE· PCM
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=O 05 DF=1775 MSE=11 8981

WARNING: CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=145.085

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	INCOME
A	14 053	397	1
A			
A	13 787	366	2
A			
B A	13 522	69	7
B A			
B A	13 476	82	8
B A			
B A	13 396	336	3
B A			
B A	13 259	259	4
B A			
B A	13 130	92	6
B			
B	12 846	182	5

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE PCM

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	11	355 60209500	32 32746318	2 78	0 0014	0 015598	25 2581
ERROR	1930	22441 89739007	11 62792611		ROOT MSE		PCM MEAN
CORRECTED TOTAL	1941	22797 49948507			3 40997450		13 50051493

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V47	11	355 60209500	2 78	0 0014

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE· PCM
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=1930 MSE=11 6279

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=116 919

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V47
A	15 413	46	7
B	14 008	126	6
B			
C B	13 762	282	3
C B			
C B	13 681	351	4
C B			
C B	13 608	102	X
C B			
C B	13 507	136	Y
C B			
C B	13 500	64	2
C B			
C B	13 327	202	9
C B			
C B	13 168	101	1
C B			
C B	13 145	262	0
C B			
C B	13 052	116	8
C			
C	12 935	154	5

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE PCM

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	5	778 73762315	155 74752463	13 69	0 0001	0 033847	24 9547
ERROR	1954	22228 77207072	11 37603484		ROOT MSE		PCM MEAN
CORRECTED TOTAL	1959	23007 50969388			3 37283780		13 51581633

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V35	5	778 73762315	13 69	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: PCM
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=1954 MSE=11 376

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=43 3445

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V35
A	14 676	364	1
A			
A	14 375	8	0
A			
B A	13 534	500	6
B A			
B A	13.439	262	11
B A			
B A	13 282	439	16
B			
B	12 700	387	31

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE. PCM

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	236 20289032	39 36714839	3 36	O 0027	O 010206	25 3553
ERROR	1956	22906 52558650	11 71090265		ROOT MSE		PCM MEAN
CORRECTED TOTAL	1962	23142 72847682			3 42211961		13 49668874

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V36	6	236 20289032	3 36	O 0027

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE PCM
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=O 05 DF=1956 MSE=11.7109

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=184 74

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V36
A	14 908	65	7
B	13 959	196	1
B			
B	13.683	334	4
B			
B	13 463	205	5
B			
B	13 385	304	3
B			
B	13 319	213	6
B			
B	13.240	646	2

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE PCM

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	547 98710554	91.33118426	7 94	0 0001	0 023631	25 1162
ERROR	1968	22641 71719825	11 50493760		ROOT MSE		PCM MEAN
CORRECTED TOTAL	1974	23189.70430380			3 39189292		13 50481013

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V37	6	547 98710554	7 94	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: PCM
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=1968 MSE=11 5049

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=134 932

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V37
A	14 177	684	1
A			
B A	13 839	87	7
B			
B C	13 180	712	2
B C			
B C	13 145	166	3
B C			
B C	13 031	130	6
B C			
B C	12 956	135	4
C			
C	12 492	61	5

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE. PCM

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	5	144 98813182	28 99762636	2 50	0 0289	0 006340	25 2853
ERROR	1956	22722 69637378	11 61692044		ROOT MSE		PCM MEAN
CORRECTED TOTAL	1961	22867 68450561			3 40836037		13 47961264

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V39	5	144 98813182	2 50	0 0289

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE· PCM
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=1956 MSE=11 6169

WARNING CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=21 3414

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V39
A	14 833	18	4
A			
A	13 540	1767	1
A			
A	13 429	14	6
A			
A	13 000	9	5
A			
A	12 793	29	3
A			
A	12 632	125	2

APPENDIX O

STATISTICAL ANALYSIS FOR THE OCCUPATIONAL STRESS DIMENSION: COPING

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE COPING

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	10	258.85701730	25 88570173	1 93	0 0375	0 016080	13 8025
ERROR	1182	15838 84792822	13 40004055		ROOT MSE		COPING MEAN
CORRECTED TOTAL	1192	16097 70494552			3 66060658		26 52137469

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V109	10	258 85701730	1 93	0 0375

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE COPING
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=1182 MSE=13 4

WARNING, CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=20 161

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V109
A	27 118	34	8
A			
A	26 800	255	1
A			
A	26 780	50	X
A			
A	26 730	63	3
A			
A	26 608	582	2
A			
A	26 361	36	5
A			
A	26 323	31	9
A			
A	26 278	18	0
A			
B A	25 500	4	7
B A			
B A	25 436	110	6
B			
B	23 700	10	4

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE COPING

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	2	204 59733232	102 29866616	7 55	O 0005	O 005407	13 8694
ERROR	2777	37635 22281156	13 55247491		ROOT MSE		COPING MEAN
CORRECTED TOTAL	2779	37839 82014389			3 68136862		26 54316547

SOURCE	DF	ANOVA SS	F VALUE	PR > F
EDUC	2	204 59733232	7 55	O 0005

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE COPING
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=O O5 DF=2777 MSE=13 5525

WARNING· CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=482 O88

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	EDUC
A	26 829	1169	3
A			
B A	26 398	1396	2
B			
B	25 935	215	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE COPING

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	11	279 97627408	25 45238855	1 88	0 0371	0 007651	13 8508
ERROR	2684	36311 67802859	13 52894114		ROOT MSE		COPING MEAN
CORRECTED TOTAL	2695	36591 65430267			3 67817090		26 55563798

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V47	11	279 97627408	1 88	0 0371

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE COPING
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2684 MSE=13 5289

WARNING· CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=158 423

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V47
A	27 124	274	9
A			
B A	26 945	164	8
B A			
B A C	26 804	184	Y
B A C			
B A C	26 717	480	4
B A C			
B A C	26 584	394	O
B A C			
B A C	26 561	57	7
B A C			
B A C	26 411	146	6
B A C			
B A C	26 373	225	5
B A C			
B A C	26 309	392	3
B A C			
B A C	26 227	97	2
B C			
B C	26 078	154	X
C			
C	25 860	129	1

APPENDIX P

STATISTICAL ANALYSIS FOR THE OCCUPATIONAL STRESS DIMENSION: BEHAVIORAL STRAIN (BEHAVSTR)

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE BEHAVSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	107 75660310	15 39380044	3 53	0 0010	0 008806	16 2653
ERROR	2784	12129 13129089	4 35672819		ROOT MSE		BEHAVSTR MEAN
CORRECTED TOTAL	2791	12236 88789398			2 08727770		12 83273639

SOURCE	DF	ANOVA SS	F VALUE	PR > F
TITLE	7	107 75660310	3 53	0 0010

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: BEHAVSTR
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2784 MSE=4 35673

WARNING CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=167 579

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	TITLE
A	13 360	86	18
A			
B A	13 224	183	36
B A			
B A C	13 017	592	29
B C			
B C	12 816	136	35
B C			
B C	12 785	739	1
C			
C	12 693	153	25
C			
C	12 651	823	24
C			
C	12 612	80	3

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE BEHAVSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	4	162 84660200	40 71165050	9 39	0 0001	0 013325	16 2289
ERROR	2781	12058 52633411	4 33603967		ROOT MSE		BEHAVSTR MEAN
CORRECTED TOTAL	2785	12221 37293611			2 08231594		12 83094042

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V105	4	162 84660200	9 39	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: BEHAVSTR
NOTE. THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2781 MSE=4 33604

WARNING CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=106 437

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V105
A	13 406	32	5
A			
B A	13 061	1198	2
B			
B C	12 754	957	1
B C			
B C	12 485	515	4
C			
C	12 321	84	3

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE BEHAVSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	2	41 25687506	20 62843753	4 72	0 0090	0 003372	16 2952
ERROR	2789	12195 63101893	4 37276121		ROOT MSE		BEHAVSTR MEAN
CORRECTED TOTAL	2791	12236 88789398			2 09111483		12 83273639

SOURCE	DF	ANOVA SS	F VALUE	PR > F
EMPSTA	2	41 25687506	4 72	0 0090

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE· BEHAVSTR
NOTE. THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=O 05 DF=2789 MSE=4 37276

WARNING. CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=132 86

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	EMPSTA
A	13 365	52	1
A			
B A	13 O82	341	2
B			
B	12 786	2399	3

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE BEHAVSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	3	44 70359529	14 90119843	3 40	0 0170	0 003702	16 3141
ERROR	2745	12031 65726320	4 38311740		ROOT MSE		BEHAVSTR MEAN
CORRECTED TOTAL	2748	12076 36085849			2 09358960		12 83303019

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V7	3	44 70359529	3 40	0 0170

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE BEHAVSTR
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2745 MSE=4 38312

WARNING CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=534 475

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V7
A	13 006	874	0
A			
B A	12 792	1126	1
B A			
B A	12 738	428	11
B			
B	12 632	321	6

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE BEHAVSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	63 24529928	9 03504275	2 05	0 0456	0 005732	16 3811
ERROR	2487	10969 67093318	4 41080456		ROOT MSE		BEHAVSTR MEAN
CORRECTED TOTAL	2494	11032 91623246			2 10019155		12 82084168

SOURCE	DF	ANOVA SS	F VALUE	PR > F
INCOME	7	63 24529928	2 05	0 0456

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. BEHAVSTR
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2487 MSE=4 4108

WARNING. CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=184 745

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	INCOME
A	13 213	122	6
A			
B A	12 938	531	2
B A			
B A	12 936	483	3
B A			
B A	12 879	247	5
B			
B	12 698	358	4
B			
B	12 648	576	1
B			
B	12 621	95	8
B			
B	12 614	83	7

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE BEHAVSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	2	158 42832962	79 21416481	18 29	0 0001	0 012947	16 2167
ERROR	2789	12078 45956436	4 33074922		ROOT MSE		BEHAVSTR MEAN
CORRECTED TOTAL	2791	12236 88789398			2 08104522		12 83273639

SOURCE	DF	ANOVA SS	F VALUE	PR > F
EDUC	2	158 42832962	18 29	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. BEHAVSTR
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2789 MSE=4 33075

WARNING· CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=477 586

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	EDUC
A	13 081	1167	3
B	12 711	1413	2
C	12 278	212	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: BEHAVSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	11	129 87780054	11 80707278	2 73	0 0017	0 011004	16 2197
ERROR	2696	11672.61850670	4 32960627		ROOT MSE		BEHAVSTR MEAN
CORRECTED TOTAL	2707	11802 49630724			2 08077060		12 82865583

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V47	11	129 87780054	2 73	0 0017

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. BEHAVSTR
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2696 MSE=4 32961

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=159 256

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V47
A	13 262	164	8
A			
B A	13 046	481	4
B A			
B A C	13 007	276	9
B A C			
B A C	12 935	155	X
B A C			
B A C	12 855	393	O
B A C			
B A C	12.832	190	Y
B A C			
B A C	12 735	98	2
B C			
B C	12 684	57	7
B C			
B C	12 606	393	3
B C			
B C	12 571	147	6
B C			
B C	12 566	129	1
C			
C	12 493	225	5

VARIABLE BEHAVSTR

V110	N	MEAN	STD DEV	STD ERROR	MINIMUM	MAXIMUM	VARIANCES	T	DF	PROB > |T|
1	1260	12 59206349	2 16703599	0 06104932	4 00000000	16 00000000	UNEQUAL	-5 5063	2598 6	0 0001
2	1503	13 03326680	2 01200403	0 05189785	4 00000000	16 00000000	EQUAL	-5 5423	2761 0	0 0001

FOR HO VARIANCES ARE EQUAL, F'= 1 16 WITH 1259 AND 1502 DF PROB > F'= 0 0059

APPENDIX Q

STATISTICAL ANALYSIS FOR THE OCCUPATIONAL STRESS DIMENSION: PHYSICAL STRAIN (PHYSSTR)

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: PHYSSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	9	240 67458296	26 74162033	2 56	0 0063	0 008593	11 6610
ERROR	2660	27766 70406873	10 43861055		ROOT MSE		PHYSSTR MEAN
CORRECTED TOTAL	2669	28007 37865169			3 23088387		27 70674157

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V106	9	240 67458296	2 56	0 0063

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: PHYSSTR
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2660 MSE=10 4386

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=5 41313

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V106
A	30 000	1	9
A			
A	28 323	403	2
A			
A	28 158	19	5
A			
A	28 133	15	6
A			
A	28 000	2	8
A			
A	28 000	5	7
A			
A	27 817	60	4
A			
A	27 812	383	1
A			
A	27 807	176	3
A			
A	27 500	1606	0

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: PHYSSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	164 31020752	23 47288679	2 22	0 0298	0 006050	11 7328
ERROR	2554	26992 88768476	10 56886754		ROOT MSE		PHYSSTR MEAN
CORRECTED TOTAL	2561	27157 19789227			3 25097947		27 70843091

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V107	7	164.31020752	2 22	0 0298

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: PHYSSTR
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2554 MSE=10 5689

WARNING CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=5 21346

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V107
A	28 400	15	4
A			
A	28 133	331	2
A			
A	28 000	4	6
A			
A	27 892	83	3
A			
A	27.873	465	1
A			
A	27 568	1658	0
A			
A	26 800	5	5
B	21 000	1	7

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE PHYSSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	149 98697804	21 42671115	2 05	0 0449	0 005099	11 6601
ERROR	2806	29264.83889261	10 42937951		ROOT MSE		PHYSSTR MEAN
CORRECTED TOTAL	2813	29414 82587065			3 22945499		27 69651741

SOURCE	DF	ANOVA SS	F VALUE	PR > F
TITLE	7	149.98697804	2 05	0 0449

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. PHYSSTR
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2806 MSE=10 4294

WARNING CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=170 878

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	TITLE
A	28 227	185	36
A			
B A	27 874	833	24
B A			
B A	27 855	152	25
B A			
B A	27 849	139	35
B A			
B A	27 575	590	29
B A			
B A	27 571	84	3
B A			
B A	27 462	744	1
B			
B	27 299	87	18

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE PHYSSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	4	194.23655943	48 55913986	4 67	0 0009	0 006615	11 6487
ERROR	2803	29170 37312718	10 40684022		ROOT MSE		PHYSSTR MEAN
CORRECTED TOTAL	2807	29364 60968661			3 22596346		27 69373219

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V105	4	194 23655943	4 67	0 0009

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. PHYSSTR
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2803 MSE=10 4068

WARNING CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=105 163

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V105
A	28.677	31	5
A			
B A	28 276	87	3
B A			
B A	27 834	1214	2
B A			
B A	27 813	520	4
B			
B	27 365	956	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE PHYSSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	8	473 56317711	59 19539714	5 74	0 0001	0 016099	11 5976
ERROR	2805	28941 26269354	10 31774071		ROOT MSE		PHYSSTR MEAN
CORRECTED TOTAL	2813	29414 82587065			3 21212402		27 69651741

SOURCE	DF	ANOVA SS	F VALUE	PR > F
AGE	8	473 56317711	5 74	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: PHYSSTR
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2805 MSE=10 3177

WARNING· CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=56 1788

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	AGE
A	28 974	38	8
A			
B A	28 310	203	5
B A			
B A	28 152	414	4
B A			
B A	28 087	149	6
B A			
B A	27 739	686	3
B A			
B A	27 687	67	7
B A			
B A	27 600	10	9
B			
B	27 511	789	2
B			
B	27 039	458	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE PHYSSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	3	114 25800648	38 08600216	3 67	0 0118	0 003966	11.6283
ERROR	2766	28696 24054947	10 37463505		ROOT MSE		PHYSSTR MEAN
CORRECTED TOTAL	2769	28810 49855596			3 22096803		27 69927798

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V7	3	114 25800648	3 67	0 0118

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE PHYSSTR
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2766 MSE=10 3746

WARNING CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=536 73

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V7
A	28 054	428	11
A			
B A	27 785	1134	1
B			
B	27 540	322	6
B			
B	27 476	886	0

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE PHYSSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	7	405 21936042	57 88848006	5 57	0 0001	0 015302	11 6435
ERROR	2508	26075 90305612	10 39709053		ROOT MSE		PHYSSTR MEAN
CORRECTED TOTAL	2515	26481 12241653			3 22445197		27 69316375

SOURCE	DF	ANOVA SS	F VALUE	PR > F
INCOME	7	405 21936042	5 57	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE PHYSSTR
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2508 MSE=10 3971

WARNING CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=186 576

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	INCOME
A	28 677	99	8
A			
B A	28 163	123	6
B A			
B A	28 134	82	7
B			
B	27 898	492	3
B			
B	27 883	248	5
B			
B	27 798	531	2
B			
B C	27 607	359	4
C			
C	27 067	582	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE· PHYSSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	2	473 48000143	236 74000072	22 99	O 0001	O 016097	11 5852
ERROR	2811	28941 34586921	10 29574737		ROOT MSE		PHYSSTR MEAN
CORRECTED TOTAL	2813	29414 82587065			3 20869870		27 69651741

SOURCE	DF	ANOVA SS	F VALUE	PR > F
EDUC	2	473 48000143	22 99	O 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE PHYSSTR
NOTE· THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=O 05 DF=2811 MSE=10 2957

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=491 828

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	EDUC
A	28 147	1182	3
B	27 445	1412	2
C	26 886	220	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE PHYSSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	6	181 39439317	30 23239886	2 91	0 0078	0 006316	11 6322
ERROR	2748	28538 50760320	10 38519200		ROOT MSE		PHYSSTR MEAN
CORRECTED TOTAL	2754	28719 90199637			3 22260640		27 70417423

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V36	6	181 39439317	2 91	0 0078

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE. PHYSSTR
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE.
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2748 MSE=10 3852

WARNING CELL SIZES ARE NOT EQUAL.
HARMONIC MEAN OF CELL SIZES=272 392

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V36
A	27 979	433	3
A			
A	27 952	463	4
A			
A	27 937	285	1
A			
B A	27 852	291	5
B A			
B A	27 486	863	2
B			
B	27 340	100	7
B			
B	27 334	320	6

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE PHYSSTR

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	11	210 32436027	19 12039639	1 82	0 0454	0 007319	11 7094
ERROR	2716	28527 44946671	10 50347919		ROOT MSE		PHYSSTR MEAN
CORRECTED TOTAL	2727	28737 77382698			3 24090715		27 67778592

SOURCE	DF	ANOVA SS	F VALUE	PR > F
V47	11	210 32436027	1 82	0 0454

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: PHYSSTR
NOTE THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2716 MSE=10 5035

WARNING. CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=159 111

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	V47
A	28 087	277	9
A			
B A	27 985	399	O
B A			
B A	27 850	487	4
B A			
B A	27 760	167	8
B A			
B A	27 732	56	7
B A			
B A	27 658	187	Y
B A			
B A	27 535	155	X
B A			
B A	27 471	227	5
B A			
B A	27 466	131	1
B A			
B A	27 372	398	3
B A			
B A	27 260	146	6
B			
B	27 133	98	2

APPENDIX R

STATISTICAL ANALYSIS FOR THE OCCUPATIONAL STRESS DIMENSION: MENTAL HEALTH (MENHLTH)

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: MENTHLTH

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	8	330 33543147	41 29192893	3 81	0 0002	0 011127	17 9867
ERROR	2729	29358 19049986	10 75785654		ROOT MSE		MENTHLTH MEAN
CORRECTED TOTAL	2737	29688 52593134			3 27991715		18 23520818

SOURCE	DF	ANOVA SS	F VALUE	PR > F
AGE	8	330 33543147	3 84	0 0002

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE MENTHLTH
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2729 MSE=10 7579

WARNING. CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=47 6661

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	AGE
A	19 139	36	8
A			
A	18 931	202	5
A			
A	18 676	145	6
A			
A	18 505	402	4
A			
A	18 433	60	7
A			
A	18 375	8	9
A			
A	18 201	773	2
A			
A	18 099	665	3
A			
A	17 696	447	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: MENTHLTH

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R SQUARE	C V
MODEL	7	220 79545794	31 54220828	2 93	0 0048	0 008335	18 0134
ERROR	2439	26269 797.10438	10 77072452		ROOT MSE		MENTHLTH MEAN
CORRECTED TOTAL	2446	26490 59256232			3 28187820		18 21904373

SOURCE	DF	ANOVA SS	F VALUE	PR > F
INCOME	7	220 79545794	2 93	0 0048

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE MENTHLTH
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2439 MSE=10 7707

WARNING: CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=181 669

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	INCOME
A	18 728	243	5
A			
B A	18 430	121	6
B A			
B A	18 362	94	8
B A			
B A	18 356	475	3
B A			
B A	18 346	81	7
B A			
B A	18 312	519	2
B A			
B A	18 193	348	4
B			
B	17 730	566	1

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: MENTHLTH

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C V
MODEL	2	330 76954712	165 38477356	15 11	0 0001	0 011141	17 9669
ERROR	2735	29357 75638422	10 73409740		ROOT MSE		MENTHLTH MEAN
CORRECTED TOTAL	2737	29688 52593134			3 27629324		18 23520818

SOURCE	DF	ANOVA SS	F VALUE	PR > F
EDUC	2	330 76954712	15 41	0 0001

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE MENTHLTH
NOTE: THIS TEST CONTROLS THE TYPE I COMPARISONWISE ERROR RATE,
NOT THE EXPERIMENTWISE ERROR RATE

ALPHA=0 05 DF=2735 MSE=10 7341

WARNING, CELL SIZES ARE NOT EQUAL
HARMONIC MEAN OF CELL SIZES=476 768

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT

DUNCAN GROUPING	MEAN	N	EDUC
A	18 593	1147	3
B	18 065	1378	2
C	17 413	213	1

APPENDIX S

CORRELATION OF QWL AND OCCUPATIONAL STRESS DIMENSIONS OF RESPONDENTS OF NATIONAL WOMEN'S STRESS SURVEY

CORRELATIONAL MATRIX OF QWL DIMENSION AND OCCUPATIONAL STRESS DIMENSIONS

CORRELATION COEFFICIENTS / PROB > |R| UNDER HO:RHO=0 / NUMBER OF OBSERVATIONS

	COMPANY	AWPJ	SPJ	GJS	POYPJ	JIG	PCM	COPING	V5	BEHAVSTR	PHYSSTR	MENTHLTH
COMPANY	1.00000 0.0000 2678	0.45748 0.0001 2604	0.56779 0.0001 2586	0.26401 0.0001 2651	0.46532 0.0001 2647	0.04257 0.0285 2648	0.26427 0 0001 1929	0.18823 0.0001 2622	0.13046 0 0001 2559	0 06985 0.0003 2632	0.24496 0.0001 2651	0 28885 0 0001 2587
AWPJ		1.00000 0.0000 2732	0.34262 0.0001 2628	0.32732 0.0001 2705	0.38587 0.0001 2687	0.04501 0.0192 2705	0.27839 0.0001 1940	0.21772 0 0001 2677	-0 01598 0 4146 2609	0.18141 0.0001 2684	0.34898 0.0001 2706	0.39841 0 0001 2635
SPJ			1.00000 0 0000 2701	0.23082 0.0001 2678	0.41123 0.0001 2663	0.10565 0 0001 2678	0.19208 0.0001 1927	0.15201 0 0001 2642	0.21320 0.0001 2583	0.02198 0.2575 2655	0.17208 0.0001 2677	0.23165 0 0001 2601
GJS				1.00000 0.0000 2813	0.20182 0.0001 2746	0 08415 0 0001 2786	0.18008 0.0001 1974	0.14253 0 0001 2750	0.01280 0 5075 2681	0.09089 0.0001 2763	0.19811 0 0001 2785	0.25110 0.0001 2708
POYPJ					1.00000 0.0000 2774	0.04396 0.0213 2744	0.22333 0.0001 1970	0.15908 0.0001 2713	0.06946 0.0003 2653	0.09031 0.0001 2725	0.20307 0 0001 2746	0.25203 0.0001 2676
JIG						1.00000 0.0000 2811	-0.11440 0 0001 1975	0.00128 0 9467 2751	0.34589 0 0001 2681	0.01198 0 5293 2761	0.07614 0 0001 2784	0.07700 0.0001 2708
PCM							1.00000 0 0000 1995	0 07702 0 0006 1959	-0 10947 0 0001 1910	0 08087 0.0003 1969	0.18921 0 0001 1978	0.20153 0 0001 1932
COPING								1.00000 0 0000 2780	0.06133 0 0016 2649	0.12306 0.0001 2744	0.20330 0.0001 2757	0.29793 0 0001 2683
V5									1.00000 0.0000 2706	-0.04835 0 0126 2660	0.01198 0.5352 2680	0.07630 0 0001 2610
BEHAVSTR										1.00000 0 0000 2792	0.24384 0 0001 2767	0.31378 0.0001 2589
PHYSSTR											1.00000 0 0000 2814	0 56289 0.0001 2717
MENTHLTH												1 00000 0.0000 2738

VITA

Earl Reid Palan

Candidate for the Degree of

Doctor of Philosophy

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