QUALITY OF WORKLIFE OF DIETITIANS WITH MANAGEMENT RESPONSIBILITIES IN HEALTH CARE DELIVERY SYSTEMS

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CHAPTER I

INTRODUCTION

In our fast-changing society, hospitals and other health care institutions face the challenge of bringing the most recent technology and the highest standards of quality to the communities they serve. Effective management of hospitals and other health care institutions therefore requires creative and aggressive action to find ways of delivering the best possible health care, while meeting the human needs and aspirations of health care practitioners. The overall increase in the cost of health care, rising food and labor costs, and pressures to provide greater job satisfaction to employees, intensified the need for managerial leadership by the foodservice administrator/dietitian (Mahaffey, Mennes, and Miller, 1980). In terms of employment, health care is the nation's third largest industry. The size of the health industry more than justified such caution, as does the rate of charge, both in the absolute dollars expended and in their proportion of the gross national product.

Over the past few years there had been a new look at the potential of dietetics in the activities of our health care facilities, rehabilitation, and health maintenance (Myrtle, 1978). Concern for the quality of worklife (QWL) was a traditional issue in industrial and organizational psychology. Dating from Hoppock's (1935) early work on job satisfaction, the field had been concerned with employee

health and well-being. Also, there has been concern for a number of years with the issue of workplace participation and democratic management (Likert, 1961; McGregor, 1960).

Human resources are among the most important components of any organization. Roberts and Savage (1973) contended that there are several reasons for being concerned about and measuring worker satisfaction:

> Porter identifies job satisfaction in terms of the extent to which a job fulfills an individual's psychological needs. Job satisfaction is found in jobs on which there is little difference between the extent to which a worker thinks a particular need fulfilling condition should be present and the extent to which it is actually present in the job (p. 375).

There is a growing concern about humans, as well as physical assets. Studies have indicated that personal satisfaction contributes to job performance, and there is evidence that satisfaction is negatively related to absenteeism and turnover, but costly to organizations. It is generally considered desirable for management to know how their employees feel about their jobs. Understanding of personal objectives sought in work is important to those involved with personal management in health care and foodservice industries (Swartz and Vaden, 1978).

Avery (1972) identified job satisfaction as being important to educators and personnel workers to motivate in ways relevant to work performance. Concern had been raised that the traditional work ethic may have diminished and the concept that hard work is a virtue and a duty may be less applicable today, particularly among young workers (Morrison, 1972).

According to Brown (1954):

'Economic Man' is a rational, creative man who uses his

> reason primarily to calculate exactly how much satisfaction he may obtain from the smallest amount of effort. 'Satisfaction' does not mean pride in one's job, the feeling of having accomplished something, or even the regard of others; it refers to money (pp. 15-16).

There had been a long-standing interest in job satisfaction among individuals concerned with the world of work. The concept of job satisfaction, however, is a many-faceted one. A recent study by Agriesti-Johnson and Broski (1982) measured job satisfaction of dietitians in the United States. According to the study, job dissatisfaction may be related to societal changes, particularly the increased education and service demands made on dietitians without accompanying increase in factors that add to job satisfaction. Although some individuals saw it as a generalized affective orientation to all aspects of the work situation (Vroom, 1964), it was clear that such a view expresses a whole host of orientations to specific aspects of the job. The work environment provided for the satisfaction of a wide variety of individual needs. Vroom (1964) stated that job satisfaction refers to the affective orientation toward work roles, whereas Brown (1969) believed that work-related achievement satisfactions helped link an individual to an organization. Scanlan (1976) stated that work provided direction, purpose, and status; it identified an indi-vidual with the rest of society. Considering the importance of work in a person's life, information concerning objectives sought in work and job satisfaction, and the relationship of satisfaction to job performance, was useful to those involved in supervision of employees, personnel functions, and organizational administration.

The domain of management was the organizational environment where human and material resources were coordinated through the

decision-making hierarchy to achieve organizational goals. Many dietitians hold positions in which high priority was placed on successful application of modern management principles, and they contributed in many ways to the efficient functioning of their organizations. Management is a dynamic discipline and involved getting work done through people. Upgrading of managerial talent and skills was essential if the enterprise was to keep pace with rapid social and technologic change. Since people were the primary component of an organization, it was necessary to be aware of personal characteristics and sources of job satisfactions and dissatisfactions to keep an operation running smoothly.

Top management expected dietitians to be highly qualified, innovative thinkers with the vision and foresight, tempered with objectivity, to make good decisions. Perry (1969) warned of the ineffectiveness associated with dead-end jobs and the resulting lack of adequate career mobility in many allied health fields. Studies have shown that the lack of upward mobility in hospitals resulted in inefficient utilization of personnel and added to the cost of health care delivery (Joiner and Blayney, 1974).

Purpose and Objectives

The purpose of this research was to determine the quality of worklife (QWL) of dietitians with management responsibilities in health care delivery systems, hereafter referred to as "management dietitians." (See section on definitions for dimensions included under QWL.) Specific objectives included:

1. To determine if selected personal variables affected QWL of management dietitians such as age, sex, highest degree obtained, registration status (R.D.), route to ADA membership, position title, number of years in present job, and number of years in administrative dietetics and general dietetics.

2. To determine if selected work-related variables affected QWL of management dietitians such as: size, type and location of hospital or health care facility; and number of dietitians, supervisors, and other staff in the dietary department of the hospital or health care facility.

Hypotheses

Eighteen hypotheses were postulated for this study:

QWL: Actual Work on Present Job

H_1 - There will be no significant difference in the QWL: Actual Work on Present Job scores of management dietitians based on selected personal variables.

1. age
2. sex
3. highest degree attained
4. R.D. status
5. route to ADA membership
6. position title

H_2 - There will be no significant difference in the QWL: Actual Work on Present Job scores of management dietitians based on selected institutional variables.

1. size
2. type of facility

3. financial goals

QWL: Pay and Benefits

H_3 - There will be no significant difference in the QWL: Pay and Benefit scores of management dietitians based on selected personal variables.

H_4 - There will be no significant difference in the QWL: Pay and Benefit scores of management dietitians based on selected institutional variables.

QWL: Opportunities for Promotion

H_5 - There will be no significant difference in the QWL: Opportunities for Promotion scores of management dietitians based on selected personal variables.

H_6 - There will be no significant difference in the QWL: Opportunities for Promotion scores of management dietitians based on institutional variables.

QWL: Supervision on Present Job

H_7 - There will be no significant difference in the QWL: Supervision on Present Job scores of management dietitians based on selected personal variables.

H_8 - There will be no significant difference in the QWL: Supervision on Present Job scores of management dietitians based on selected institutional variables.

QWL: People in Your Present Job

H_9 - There will be no significant difference in the QWL: People in Your Present Job scores of management dietitians based on selected personal variables.

H_{10} - There will be no significant difference in the QWL: People in Your Present Job scores of management dietitians based on institutional variables.

QWL: Job in General

H_{11} - There will be no significant difference in the QWL: Job in General scores of management dietitians based on selected personal variables.

H_{12} - There will be no significant difference in the QWL: Job in General scores of management dietitians based on selected institutional variables.

QWL: Organization

H_{13} - There will be no significant difference in the QWL: Organization scores of management dietitians based on selected personal variables.

H_{14} - There will be no significant difference in the QWL: Organization scores of management dietitians based on selected institutional variables.

QWL: Performance Constraint Measure

H_{15} - There will be no significant difference in the QWL: Performance Constraint Measure scores of management dietitians based on selected personal variables.

H_{16} - There will be no significant difference in the QWL: Performance Constraint Measure scores of management dietitians based on institutional variables.

QWL: General Job Satisfaction

H_{17} - There will be no significant difference in the QWL: General

Job Satisfaction scores of management dietitians based on selected personal variables.

H_{18} - There will be no significant difference in the QWL: General Job Satisfaction scores of management dietitians based on selected institutional variables.

Assumptions and Limitations

Assumptions accepted for this study included:

1. Respondents completed the questionnaire objectively (what is) and not what they perceived as ideal.

2. Respondents were, indeed, dietitians with management responsibilities in health care delivery systems.

A limitation identified in this study was that the sample was randomly drawn from only one practice group: ADA members with management responsibilities in health care delivery systems. Results from the study can therefore only be generalized to this group of dietetic practitioners.

Definition of Terms

Quality of WorkLife: A process for work organizations which enables its members at all levels to actively participate in shaping the organization's environment, methods, and outcomes. This value-based process is aimed toward meeting the goals of enhanced effectiveness of the organization and improved quality of life at work for employees (Skrovan, 1980).

Health Care Delivery Systems: Our health service industry has been one of the fastest growing industries. Most health care takes

place under clinical conditions, with the patient going and coming from his home for the care, and occurs in institutions such as hospitals, long-term care institutions, outpatient facilities, public health centers, nursing homes, medical centers, and rehabilitation facilities when the individual stays to receive care (Kotschevar, 1973).

Organization: Composed of individuals and groups in order to achieve certain goals and objectives by means of differentiated functions that are intended to be rationally coordinated and directed through time on a continuous basis (Porter, Lawler, and Hackman, 1975).

Pay and Benefits: Pay is an incentive that is able to satisfy both lower order physiological and security needs, as well as higher order needs such as esteem and recognition (Lawler and Porter, 1963).

Supervision: The personal guidance of subordinates toward the achievement of organizational goals (Deep, 1978).

Opportunities for Promotion: A step up the organizational ladder, usually resulting in more status, prestige, money, benefits, authority, and responsibility (Fulmer and Franklin, 1982).

People in Your Present Job: "Participation is . . . an individual's mental and emotional involvement in a group situation that encourages him to contribute to group goals and to show responsibility for them" (Davis, 1963, p. 57).

Actual Work on Present Job: Work is a central part of our lives. Work plays an influential role in the development of the adult personality and makes a significant contribution to the quality of life we lead (Rambo, 1982).

Job in General: A job is a homogeneous cluster of work tasks, the completion of which serves some enduring purpose for the organization (Ivancevich, Szilagyi, and Wallace, 1977).

Performance Constraint Measure: The net effect of a person's effort as modified by his abilities, traits, and his role perceptions (Porter and Lawler, 1968). The situational resource variables relevant to performance are identified as job-related information, tools and equipment, materials and supplies, budgetary support, required services and help from others, task preparation, time availability, and work environment (Peters and O'Connor, 1980).

General Job Satisfaction: Refers to individuals' affective reactions to the work they do and to the conditions under which the work is carried out. It concerns individuals' attitudes toward their jobs, and their assessments of the separate components of the work as an overall evaluation of their job experience (Rambo, 1982).

CHAPTER II

REVIEW OF LITERATURE

Conceptual Overview of Quality of Worklife

The term "quality of work life" (QWL) has recently come to mean more than just job security, good working conditions, adequate and fair compensation, equal employment opportunity, or job enlargement. Interest in establishing a better work environment was one of the strongest growing concerns about the overall quality of people's lives (Glaser, 1976). 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. This broad definition encompassed the economic, social, and psychological aspects of work, and incorporated both historic and current perspectives as to what constituted a good QWL. The work environment may provide for the satisfaction of a wide variety of individual needs, but there was conflicting evidence as to whether employees today were more or less satisfied with their jobs than were their counterparts of 5 to 10 years ago. Like most aspects of the society, work had been subjected to a number of influences that brought about significant changes in its character. In many respects, what was meant by work today was radically different from the meaning associated with the concept

several decades ago. Many employees were becoming more concerned about the quality of their work lives, and a growing number believed that a career should provide them with opportunities to satisfy personal needs that extend beyond those directly relating to the wages that were earned (Rambo, 1982). Much of the research in the literature suggested that workers were less satisfied today, and there was a growing problem of job alienation because an increasingly younger and better educated labor force cannot derive the self-esteem and sense of meaning and purpose that work should provide (Smith, Scott, and Hulin, 1977). Changes, both in the kind of work carried out and in the characteristics of persons entering the labor force, have also been accompanied by changes in the pattern of work careers. Rosenfeld (1979) reported evidence that people were more mobile; that is, they move from job to job more so than in the past. Sekscenski (1979) found that in 1978, median job tenure for all workers was only 3.6 years; only 25 percent of those employed during this time had been on the same job for more than 10 years. It was difficult to trace the origins of the many changes that have taken place in the nature and conditions of work. Whatever their origins, however, these changes in the character of work have led to new directions in the research literature that dealt with work behavior and the organizational influences that surrounded work. Changes occurring in work have shifted the focus toward a new set of topics; that is, interest in improving the efficiency of performance had now become more concerned with the psychological and social consequences of work.

Lately, there had been a significant increase in the amount of research activity carried out on problems relating to work behavior.

Social problems and a heightened social awareness have provided a stimulus for much of this new research, and many issues being considered were those that approach work, not only from the management's perspective, but also from the point of view of the individual workers and the society in which they live. The growth in size and complexity of governmental and industrial organizations has made people more aware of the significance of these larger social units. This awareness had made it clear that the social variables that affect a worker's job experience are not all to be found within the relatively close circle formed by the immediate work group. There existed an entire realm of organizational variables that were associated with the structure and function of the large social units that make up an organization. These variables operated to influence the effectiveness with which an organization achieved its objectives. Also, there were important factors influencing the conditions under which individuals performed their job responsibilities. Recognition of the significance of these variables has led to the development of an area of research referred to as "organizational behavior," which dealt with the behavior of people who were working within these complex social structures, and also with the behavior and interaction of groups that ranged in size and complexity, from the small task group to the entire organization (Rambo, 1982). In essence, behavioral scientists have stated that the field was moving more closely to what may be called a "social psychology of work," an area that paid close attention to the interaction that took place between the social and psychological variables found in the work environment.

Organizational behavior was defined by Gray and Starke (1977, p. 2) as "The study of why people behave the way they do in organizations." People have always attempted to understand and predict how people will behave in work situations of all types, but the magnitude of this need was largely determined by the size and type of organizations in existence. The term "organizational behavior" also applied to the interaction of people within all types of organizations such as business, schools, government, and service organizations. Whenever people joined together in some sort of formal structure to achieve an objective, an organization was created. Sometimes, individuals utilized technology to help them achieve their objective; hence, in organizations there was an interaction of people, technology, and structure (Davis, 1977).

Luthans (1973) defined organizational behavior as the human being's interaction with the organization which represented the integrating theme for the new behavioral approach to management. When organizational behavior showed that the interaction between the human and the formal organization had resulted in satisfaction of human needs and goal attainment, a positive adaptation has occurred, but if the formal organization represented a barrier to the human being and the person cannot overcome this barrier, the behavior may result in frustration, goal conflict, role conflict, or resistance to change. Similarly, Klein and Ritti (1980) referred to organizational behavior as observing work activities, interpersonal interactions, and sentiments to understand better how people reacted to one another in given work settings, how people interpreted each other's verbal and symbolic communications, and how social and physical structure influenced these.

According to Ivancevich, Szilagyi, and Wallace (1977):

> Organizational behavior is concerned with the study of the behavior, attitudes, and performance of workers in an organizational setting; the organization's and informal group's effect on the worker's perceptions, feelings, and actions; the environment's effect on the organization and its human resources and goals; and the effect of the workers on the organization and its effectiveness (p. 2).

An organization's survival depended upon the willingness of its members to sacrifice a degree of individuality and to conform to certain behavioral norms. Conformity can be taken too far, however, limiting creativity and individual growth, and at times rewarding immature behavior (Williams, 1978).

Job Satisfaction

Significant trends in work can be found in the growing number of individuals who wanted jobs that satisfied personal objectives and provided them with something more than adequate wages and/or reasonable prospects for advancement. Individuals wanted work that was socially meaningful, psychologically fulfilling, made a positive contribution to the community, and permitted personal growth and utilization of individual talents. People tended to seek jobs that permit them to achieve some sense of identity and purpose (Rambo, 1982).

There was no other area in work behavior that had received more attention than job satisfaction; however, there was no firm consensus among behavioral scientists as to its meaning. Most of the definitions in the literature purported that job satisfaction involved some sort of appraisal of work experience, yet there appeared to be some

difficulty in deciding what parameters to use in assessing its achievement.

Vroom (1964) used the concepts of valence and expectancy to emphasize job satisfaction which referred not only to an individual's reaction to job experiences that have already taken place, but also to the anticipation of events that lie in the future. Locke (1969, 1976) defined job satisfaction in terms of the pleasurable emotional states that resulted from the perception that a job permitted the achievement of things an individual valued highly. "Job satisfaction and dissatisfaction are a function of the perceived relationships between what one wants from one's job and what one perceives it as offering" (Locke, 1969, p. 316). The smaller the discrepancy between wants and outcomes, the higher the level of job satisfaction.

In a series of studies dealing with satisfaction in management positions, Porter (1961, 1962, 1963a, 1963b, 1963c) suggested that the measurement of satisfaction needed to be approached by considering the extent to which the individual reported deficiencies in the job's ability to fulfill certain psychological needs. Wanous and Lawler (1972) found that different equations to derive job satisfaction will give different results. They contended that if workers were asked directly to rate their level of job satisfaction, results would be different compared to results where the difference was computed between the workers' ratings of what a condition should be versus what was in existence. There was not only one approach to job satisfaction, but several, each giving a somewhat different view of a complicated aspect of work behavior. Blue collar workers, women, ethnic and racial minorities, and young and old workers appeared to have been

facing a large number of negative experiences. Causes of these problems have been identified as: technology, rising expectations, affluence, and accelerating social changes. Concern over the quality of working life was the belief that jobs do exist, or could provide the individual with a working environment that was psychologically wholesome.

Sheppard and Herrick (1972) indicated that most workers were moderately well satisfied with their jobs and that there was no substantial evidence that the level of job satisfaction had been declining during the past decade. Kahn (1972) gave a good perspective on job satisfaction when he reviewed almost 2,000 job satisfaction surveys which revealed that relatively few workers reported being extremely satisfied, and only very few reported being extremely dissatisfied.

The most frequently cited job setting that led to high incidence of job dissatisfaction was the automobile assembly line. It was in this type of automated job that work specialization and machine pacing were found in their most advanced forms; however, Form (1973) studied the attitudes of automobile workers in four countries and found the contrary. A large majority reported that they were satisfied with their jobs. Job satisfaction did vary with the skill level of the job, with higher levels of skill being associated with a higher incidence of job satisfaction. Studies of selected populations over the past 10 or more years have shown a slight trend toward decreasing levels of job satisfaction (Smith, Roberts, and Hulin, 1976; Smith, Scott, and Hulin, 1977). During the past several decades, however,

there had not been a major shift in the character of workers' attitudes toward their jobs.

Apart from the direct approach, which involved asking workers how well they like their jobs, there were other indicators that might be used to gauge the level of satisfaction with work. Armkneckt and Early (1972) reported for the Monthly Labor Review that changes in "quit rate" (that is, the rate at which workers voluntarily leave their jobs) over the past 20 years have shown no trend implying a steadily rising job dissatisfaction. The U.S. Department of Labor (1976) confirmed these results, and Organ (1977) presented evidence to indicate that whatever the national trend was may be explained by the entrance of an increasing number of younger workers into the labor force.

Since job satisfaction was a very general concept that potentially involves every facet of a job, there are work-related variables that have, at one time or another, been shown to impact on it. The work itself, as well as organizational, psychological, and demographic variables, have been shown to be related to the workers' affective reactions to their jobs.

Age and Tenure

Carrell and Elbert (1974) reported that older workers seemed to have higher levels of job satisfaction than did younger workers. A study of aging was done by Siassi, Crocetti, and Spiro (1975) on factory workers and their employed spouses and it appeared that with increasing age there was an improvement in the workers' adjustment to the job. As age increased, job tenure also tended to vary. As a

result, the job satisfaction/age relationship may, in fact, be a reflection of a tenure/job satisfaction relationship. With increasing tenure on a job, individuals have a better chance to adjust to the work, and probably were making higher salaries. Wall (1972) studied a group of British workers employed in a chemical factory, and found that improvement in job satisfaction was observed only when both age and tenure were permitted to vary.

Gibson and Klein (1970) found that age and tenure were related to job satisfaction in opposite directions. Job satisfaction improved with age in this sample of blue collar workers, but job satisfaction declined significantly with tenure throughout the workers' first 12 years of service on the job. Martin and Vaden (1978) did a study on job satisfaction and work values of foodservice employees in large hospitals and concluded that satisfaction with work varied among different age groups. The 19 to 30 year old group scored lower on satisfaction relating to work than the 31 to over 50 year old group. Another study by Swartz and Vaden (1978) on work values of foodservice employees showed that the older employees were more likely to agree that "work helps you forget about your personal problems," compared to the younger employees. Schwab and Heneman (1977) reported the results of a survey carried out in one organization, in which the only improvement in job attitudes with age occurred with respect to the workers' satisfaction with the work itself. The relationship between work satisfaction and age had considerable consistency, and as people grow older they tended to report increasing satisfaction with at least some aspects of their jobs.

Sex

In their book, The Measurement of Satisfaction in Work and Retirement, Smith, Kendall, and Hulin (1975) indicated that the relationship between the Job Descriptive Index's (JDI) total satisfaction and performance ratings were generally positive for males, but significantly less for females. In spite of the fact that women receive less pay for work similar to that performed by their male counterparts, and that occupational sex stereotyping often denied women many desirable jobs, there was no consistent evidence that women differed from men in their job satisfaction (Rambo, 1982).

Education

There appeared to be a negative relationship between education and satisfaction with pay. Klein and Haher (1966) suggested that this may be a function of differences in expectations regarding pay, with better educated workers possessing higher expectations regarding what they could be making on another job. There was evidence, however, indicating that there was a positive relationship between overall measures of job satisfaction and education.

Both the 1969 and 1973 surveys of employment quality by Klein (1973) found a progression in job satisfaction scores as one moves up the education ladder; hence, when job satisfaction was viewed as a general summary evaluation of a job, higher levels of education seemed to improve the likelihood that a worker will respond positively to the global aspects of work. Satisfaction with pay, one facet of global job satisfaction, tended to decrease with higher levels of education.

A study with foodservice employees indicated that workers with some college education or a degree were less satisfied with their co-workers than those with either grade school or high school education. Women with some college education may be less satisfied with their co-workers because of other interests, knowlege, and/or aspirations (Martin and Vaden, 1978).

Occupational Level

A consistent relationship was found between job satisfaction and level of occupation. Job satisfaction tended to increase as one moved up the hierarchy of jobs that have been ranked according to social prestige or social status (Kornhauser, 1965; Inkeles, 1960).

Rural and Urban Background

Social origin was a factor that contributed to workers' evaluation of their jobs. Blood and Hulin (1967) and Hulin and Blood (1968) contended that workers coming from rural backgrounds have a higher incidence of job satisfaction than workers from an urban background. Rural workers were thought to invest higher values in the work itself, whereas urban workers tended to look at their jobs primarily as a means of making money. As a result, rural workers were seen as being more responsive to the content of their jobs and being better satisfied with jobs that involved more complex duties, and a greater variety of experiences. Fossum (1974) did an experiment in a laboratory setting where college students from urban and rural backgrounds were hired to perform a task that was dull and repetitive. The results indicated that, when compared to urban subjects, rural subjects were

more satisfied with the task and pay they received. Shepard (1970), studying workers raised in rural and urban environments, reported no difference between the two groups in their reactions to jobs that were less complex and more narrowly specialized. Schuler (1973) suggested that urban-rural influences on job satisfaction could be seen more clearly when the workers' early social environments were different from the social settings in which their present jobs were found. When the social environment of childhood matched the social environment of work, the individual most likely reported higher levels of job satisfaction. Job satisfaction, therefore, reflected a composite of many different work experiences; as a result, there was a good probability that it overlapped to some extent with many aspects of an individual's life.

Situational Factors

The extent to which a job was capable of fulfilling certain psychological needs was found where there was adequacy of fit between the job and individual. In addition, job satisfaction was most likely to exist as a result of job conditions that permitted the worker to experience some sense of self-actualization (Lofquist and Dawis, 1969; Herzberg, 1966).

Work Roles

A work organization can be thought of as consisting of many work roles which refer to consistent patterns of activities that identify what an individual does in an organization. Many aspect of the work role had received attention in relation to job satisfaction, such as

role ambiguity and role conflict. These factors have been found to contribute to feelings of job discontent. A worker experienced role ambiguity when certain aspects of a work role were not defined clearly. Disagreement between a worker and a supervisor concerning the responsibility for a particular function constituted role ambiguity.

In a study of organizational stress, Kahn et al. (1964) reported that role conflict and ambiguity tended to occur independently of each other. As work-role ambiguity and conflict increased, job tensions and job dissatisfaction increased as well. Miles (1975), and Maher and Piersol (1970) supported this notion in that negative relationships existed among work-role ambiguity, conflict, and job satisfaction. Hamner and Tosi (1974), and Schuler (1975) reported that at higher levels of organizational management, role ambiguity seemed to have a more negative relationship with measures of job satisfaction than did role conflict. At lower levels of management, role conflict tended to bear a more negative relationship with workers' report of job satisfaction.

Keller (1975) maintained that role conflict and ambiguity correlated differently with different facets of job satisfaction. The principal source of role conflict was found in the workers' relationship with the supervisor and the incentive systems under the boss's control, while role ambiguity tended to originate in the duties of the job and in the problem-solving situations created by the job. In contrast, Organ and Green (1974) reported that work-role difficulties related to job satisfaction as a function of the personality of the worker. In a study of dietitians, Agriesti-Johnson and Miles (1982)

also found that role ambiguity and role conflict had no impact on job satisfaction.

Organizational Variables

Organizational structure (size, number of management levels, and centralization of control) was the social framework within which work activity takes place. Size of the organization had a bearing on the level of work specialization or the social distance between people. The number of layers of management has a direct bearing on the nature and efficiency of work communication. Dawis, Pinto, Weitzel, and Nezzer (1974) looked at the structure of the organization in terms of its impact on the system of reinforcements; that is, rewards and punishments in connection with working. Smart (1975) reported that the dimensions of the work contributing to general job satisfaction seemed to change as a function of the characteristics of the organizational environment. Porter and Lawler (1964) and Porter and Siegel (1965) suggested that a flat organizational structure with few layers of management seemed to be associated with better job attitudes in small organizations.

Organizational Climate

Lyon and Ivancevich (1974) referred to organizational climate as the overall impressions the worker forms about an organization. Studies done by LaFollette and Sims (1975) and Gavin and Howe (1975) indicated that there was a relationship between the workers' generalized perceptions of the organization and measures of job satisfaction. Organizational climate had also been identified as a perceptual factor

that intervened between work environment, job attitudes, and performance (Lawler, Hall, and Oldham, 1974).

Need Fulfillment

Maslow's (1954) theory of job satisfaction contended that individuals experience satisfaction with work to the extent that their jobs were able to meet their psychological needs. Wolf (1970) stated that satisfaction was the result of need gratification, and job dissatisfaction occurred whenever the gratification of an ongoing need was frustrated. Whenever job satisfaction was experienced, job-related events resulted in gratification of needs that were active.

Turnover and Absences

Porter and Steers (1973) stated that both turnover rates and absenteeism increased as job satisfaction decreased. In a study of women employees in an insurance company, findings showed that job dissatisfaction first led to an increased rate of absences, and then the worker left the job altogether (Waters and Roach, 1971).

Seashore (1973) pointed out that job dissatisfaction did not lead only to adjustment patterns that were negative, but that dissatisfaction could lead to forms of adjustment that were positive in their effects on workers and the organizations where they work. Porter and Steers (1973) reported that not only did measures of overall satisfaction correlated negatively with turnover and absences, but that measures of the individual facets of job dissatisfaction seemed to hold a similar relationship.

Productivity

Results of studies dealing with job satisfaction and behaviors had not been duplicated by studies concerned with job satisfaction and productivity. In 1964, Vroom concluded that the relationship between work satisfaction and performance tended to be positive (high satisfaction associated with higher levels of production), but the strength of the relationship was consistently quite low. Porter and Lawler (1968) hypothesized that worker performance tended to have a more direct effect on satisfaction than satisfaction had on performance.

Surrogate Measures Used to Imply QWL

The Job Diagnostic Survey (JDS) (Hackman and Oldham, 1975, 1980) was developed to evaluate the redesign potential of current jobs, to increase output and motivation of personnel, and to assess the effects of these changes on personnel. The JDS was based on the Job Characteristics Model, which 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). The model also incorporated several moderating variables (job security, pay, relations with co-workers, nature of supervision, and individual growth needs) which were presented in the model as influencing the relationship between job characteristics and the outcome variables. Measure of three critical psychological states were provided. These were: experienced meaningfulness of work, experienced responsibility for work outcomes, and knowledge of results of work activities. Long

and short forms of the JDS were developed, but measures of the experienced psychological states and fewer items of other key variables in the job characteristics were excluded from the short form. A seven-point response scale was used in both the short and long form. The JDS had been used with blue collar, white collar, and lower level managerial personnel, and in business, service, and public organizations. When using the JDS, the anonymity of the individual need to be maintained. The instrument generally diagnosed a group of individuals in a similar job rather than the job of a single individual.

The Job Descriptive Index (JDI) was developed by Smith, Kendall, and Hulin (1969) and had been utilized extensively as an attitude measure in organizational research. The construction and validation, its normative data, and relatively low reading level measures five facets of job satisfaction: work itself, pay, opportunity for promotion, supervision, and relationship with co-workers. Wolf (1970) stated that the JDI was unique in that it provided only three possible answers to each question: "yes," "no," or "cannot decide." Also, the JDI can be self-administered because it was written in simple vocabulary. Hopkins, Vaden, and Vaden (1979) stated that the JDI was stable over time and applicable to employees with different demographic characteristics. The JDI had been widely used in business and government (Blood, 1969; Hulin, 1968; Sims, Szilagyi, and Keller, 1976) as a research tool and a diagnostic indicator. The JDI dimensional structure seemed stable across some occupational groups (Smith, Smith, and Rollo, 1975), although the JDI developers relied basically on white, industrial workers. A recent study by Agriesti-Johnson and Broski (1982) using the JDI to measure job satisfaction of dietitians

in the United States. The JDI had two formats: The short term form measured five facets of job satisfaction (opportunity for promotion, pay, relationship with co-workers, supervision, and the work itself); and the long form had an additional 18 item supplement entitled "Job-in-General" to which participants were asked to respond to with a "yes," "no," or "cannot decide" answer.

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. The reliability, construct, convergent, and discriminant validities of this instrument had been tested by the authors. The job characteristics inventory was used in a study of all registered nurses licensed in the state of Iowa (Brief and Aldag, 1978).

The Opinion Scale for Managers' Job Satisfaction (Warr and Routledge, 1969) was developed for use in large-scale investigations of managers. The opinion scale expanded the ideas behind the JDI for use with supervisory and managerial staff. The scale yielded separate scores for different types of satisfactions rather than merely providing an overall single index. The 77-item scale had seven subscales which included: firm, pay, prospects of promotion, job itself, immediate supervisor, managers of your own level, and subordinates. Half of the items in each subscale were positively worded, while others were negatively worded. All items were scored as "1," "?," or "3," but the scoring varied between positively worded items, where "yes" = 3, and negatively worded items, where "no" = 3.

The Minnesota Satisfaction Questionnaire (Weiss, Dawis, England, and Lofquist, 1967) measured satisfaction with 20 facets of the job environment: ability, utilization, achievement, activity, advancement, authority, company policies and practices, compensation, coworkers, creativity, independence, moral values, recognition, responsibility, security, social service, social status, supervision-human relations, supervision-technical, variety, and working conditions. Each facet was measured by the sum of five items, with rating scales that ranged from "very satisfied" (5) to "very dissatisfied" (4). Unfortunately, little research had been performed comparing standardized satisfaction measures. Survey studies had been done on employed physically handicapped workers on such variables as: job performance, productivity, absenteeism, accident rates, and insurance costs (in some cases comparing handicapped workers with nonhandicapped workers).

The characteristics of five instruments generally used as surrogate measures of QWL are summarized to illustrate the dimensions each encompassed (Table I). The research instrument in the present study utilized the JDI as a base, and included other dimensions from the other instruments.

Summary

Quality of work life (QWL) was not a program, a technique, or a solution; rather, it was a process, an approach, a way of involving employees at every level of a work organization in solving problems and, just as important, in discovering opportunities to do things better (Sweeney, 1982). QWL also focused on the characteristics of

TABLE I

QUALITY OF WORKLIFE INSTRUMENTS

Instrument	Description
Job Diagnostic Survey (JDS) (Hackman and Oldham, 1975, 1980)	Measures five core job dimensions: skill variety, task identity, task significance, autonomy, and feedback. Also measures three critical psychological states (experienced responsibility for work outcomes, and knowledge of actual results), as well as affective reactions to the job (general satisfaction, internal work motivation, and specific satisfactions). A seven-point response scale is used.
Job Descriptive Index (JDI) (Smith, Kendall, and Hulin, 1969, 1975, 1983)	Measures opportunity for promotion, pay, relationship with co-workers, supervision, and the work itself. Participants are asked to respond with a "yes," "no," or "cannot decide." An additional 18 item dimension entitled "Job-in-General" is also available to be used in conjunction with the JDI.
Job Characteristics Inventory (JCI) (Sims, Szilagyi, and Keller, 1976)	Measures variety, autonomy, feedback, task identity, dealing with others, and friendship. A five-point Likert scale is used.
Opinion Scale for Managers' Job Satisfaction (Warr and Routledge, 1969)	Measures seven subscales: firm, pay, prospects of promotion, job itself, immediate superior, managers of own level, and subordinates.
Minnesota Satisfaction Questionnaire (Weiss, Dawis, Englang, and Lofquist, 1967)	Measures satisfaction with 20 facets of the job environment: ability utilization, achievement, activity, advancement, authority, company policies and practices, compensation, co-workers, creativity, independence, moral values, recognition, responsibility, security, social service, social status, supervision-human relations, supervision-technical, variety, and working conditions.

the organization, the workplace, and the work itself that influenced employee satisfaction, well-being, and behavior on and off the job.

Job satisfaction was an area of work behavior that had received more attention; however, behavioral scientists have no firm consensus as to its meaning. The literature claimed that most of the job satisfaction definitions involved some sort of appraisal of work experiences, yet there appeared to be some difficulty in deciding what parameters to use in assessing its achievement. In many respects, job satisfaction was a difficult concept to define. The concept confronted social scientists with measurement problems that were formidable; furthermore, job satisfaction scales had not shown themselves to be highly predictive of job performance. The job satisfaction literature provided a good example of the application of behavioral research to a problem that was currently regarded as socially important. Concern with job satisfaction had grown over the recent past; in part, as a function of interest in matters bearing on the quality of worklife, and as a result of a rapidly changing technology that was perceived as a factor robbing work of much of its psychological value.

The literature indicated that measures of job satisfaction tended to correlate with a large variety of work-related and demographic variables. The extent of these coefficients tended to be rather low; however, their value was dependent upon the presence or absence of other mediating variables.

The literature abounds with articles concerning job satisfaction, workers' behavior, and labor productivity such as tenure, absenteeism, effects of age, sex, and education, and other factors impacting on the worker's ability to perform the job. An attempt was made to group

these articles into two major areas: QWL, which included organizational behavior; and job satisfaction. Many of these articles could possibly fit under both areas. Research to discover mutually agreed upon definitions and parameters to assess attainment of affective responses of individuals towards their work, specifically professionals, are needed. There were no instruments to measure QWL as it was defined; hence, surrogate measures were used in an attempt at measurement. Until behavioral scientists are able to develop better definitions and ways to measure QWL, organizational behavior, or job satisfaction, all these areas will need to be reviewed.

CHAPTER III

METHODS AND PROCEDURES

Very limited studies have been done to study the quality of work life (QWL) of health care professionals. A study on job satisfaction of dietitians in the United States indicated that job dissatisfaction related to societal changes (Agriesti-Johnson and Broski, 1982). The intent of the present study was to measure quality of worklife of dietitians with management responsibilities in health care delivery systems. Specifically, dietitians were asked to describe how they felt towards the organization they work for, actual work on present job, pay and benefits, supervision on present job, opportunities for promotion, people on present job, job in general, performance constraint measure, and general job satisfaction related to their jobs. The research design; sample; data collection, which includes planning and development, instrumentation, procedures, and scoring; and data analysis, will be included in this chapter.

Research Design

Descriptive status survey was the research design utilized to meet the objectives of the study. Best (1981) stated that descriptive research sought to find answers to questions through the analysis of variable relationships which seemed to be associated with certain occurrences, outcomes, conditions, or types of behavior. Descriptive

research involved the interpretation of conditions that existed and some comparison or contrast to discover relationships between existing variables. Descriptive survey will be used for this study in order to reach a broad view of dietetic practitioners working in various sizes and types of hospitals and other health care facilities.

Sample

The random sample in the study was drawn from the membership list (N=3500) of the ADA practice group: "ADA members with management responsibilities in health care delivery systems." Participant selection was made by randomly selecting a name on the first page of the mailing list, then taking every sixth name thereafter. When the person selected was obviously not employed in a hospital or health care setting, their name was eliminated and the next person on the list was included. A total of 400 dietitians were sent the research questionnaire. Due to limited time, a follow-up reminder was not done.

Data Collection

Planning and Development

During fall semester, 1983, a group of graduate students in Food, Nutrition and Institution Administration (FNIA) 5593 class (Food Service Systems II) searched the literature for research instruments that had been utilized in measuring the QWL of individuals in various occupations. Some of the instruments examined included: Job Descriptive Index (JDI) (Smith, Kendall, and Hulin, 1969, 1975, 1983), Job Diagnostic Survey (JDS) (Hackmand and Oldham, 1975, 1980), Opinion

Scale for Manager's Job Satisfaction (Warr and Routledge, 1969), the Minnesota Satisfaction Questionnaire (MSQ) (Weiss, Dawis, England, and Lofquist, 1969). Job Characteristics Inventory (JCI) (Sims, Szilagyi, and Keller, 1976), and others.

Students discovered that the most carefully constructed and reliable instrument to measure job satisfaction was the JDI, which encompassed six dimensions: work, pay, promotion, supervision, co-workers, and job in general. Three other dimensions: "Organization," which came from the Opinion Scale for Managers' Job Satisfaction (Warr and Routledge, 1969), "Performance Constraint Measure," which was Peters' (1980) measure of frustration index, and "General Job Satisfaction" (Hackman and Oldham, 1975, 1980) were also determined as factors impacting on QWL of professionals; hence, statements were selected or written to fit under each of these three dimensions. The researcher then combined the six dimensions of the JDI and the three additional dimensions to comprise the QWL section of the research instrument. The survey procedure was determined and a statistician was consulted to select the appropriate data analysis techniques to utilize.

Instrumentation

The research instrument designed for the study consisted of two parts: General Information and Quality of Work Life Assessment. The questionnaire utilized the Job Descriptive Index (JDI) which was first published by Smith, Kendall, and Hulin in 1969, and revised and copyrighted in 1975 and 1983 by Bowling Green State University, Bowling Green, Ohio, as well as adaptations from other research instruments. The right to use or reproduce the JDI section was purchased from Dr.

Patricia Smith, Bowling Green State University, at $34.00 per 100 copies of the questionnaire. The researcher arbitrarily rearranged the dimensions of the JDI and the three additional dimensions considering logical sequence, space available on each page, and total number of pages of the questionnaire; hence, the original JDI forms were not used. A cover letter explaining the research and instructions in completing and returning the questionnaire was developed by the researcher to accompany the research instrument (Appendix A). The five page instrument was then reviewed for content validity, clarity, and format by a panel of Oklahoma State University graduate faculty from the Department of Food, Nutrition and Institution Administration and from the Department of Statistics. Suggestions were incorporated into the instrument (Appendix A).

To complete the questionnaire, respondents were asked to enter, in the appropriate spaces provided, the letter Y if they agreed with the statements under each dimension, N if they disagreed with the statements, and ? if they could not decide. For the dimension, "General Job Satisfaction," a Likert-type scale was utilized using a scale of 1 to 7, where 1 represented "disagree strongly," 4 was "neutral," and 7 was "agree strongly" (Appendix A).

Procedure

The cover letter and questionnaire were printed on green bond paper and reproduced at the Oklahoma State University Engineering Duplicating Services. The university's Central Mailing Services facilitated the mailing and return of the questionnaires. Postage was provided by the researcher. Mailing information and codes were

printed on the back of the last sheet so that the questionnaire could be mailed without being placed in an envelope, could be refolded when completed, and mailed back in the same manner. The 400 questionnaires were mailed on February 15, 1984, and respondents were asked to return them on or before March 9, 1984. Due to time and financial constraints, no follow-up was done.

Scoring

The QWL data were scored as follows, except for General Job Satisfaction (GJS):

	Points
Yes to a positive item	3
No to a negative item	3
? to any item	1
Yes to a negative item	0
No to a positive item	0

For GJS which utilized a Likert-type scale, three statements with positive answers were given scores of seven points each. Two items with negative answers were reversed and also given scores of seven points each, giving a total of 35. The answer key may be found in Appendix B. Total possible points for each dimensions were as follows:

	Maximum Points
Organization	36
Pay and Benefits	60
Supervision on Present Job	78
Opportunities for Promotion	48
People in Your Present Job	78
Actual Work on Present Job	75
Job in General	54
Performance Constraint Measure	27
General Job Satisfaction	35

Data Analysis

Data obtained from the survey were transcribed and coded onto computer data sheets. They were then keypunched onto computer cards, three cards per respondent, which provided the researcher direct access to the mainframe computer (IBM 3081D). Appropriate programs were selected and data were analyzed using the Statistical Analysis System, (SAS) (Helwig, 1979). Standard statistical procedures, including frequency tables, t-test, Analysis of Variance (ANOVA), and chi-square were used to analyze the data (Steel and Torrie, 1980). Mean scores, rather than the adjusted mean scores, were used in all statistical analysis; however, adjusted mean scores were also computed and shown to allow the researcher to facilitate comparing her results with a 1982 study by Agriesti-Johnson and Broski (Table IV, Figure 8).

Because there is very limited "base data" for QWL of health care professionals, the researcher elected to use a higher significance level ($p = 0.10$) with the ANOVA, t-test, and chi-square determinations in order to see more broadly which selected personal as well as institutional variables affected the QWL dimensions included in the study. The level of $p = 0.05$ was used, however, for the Duncan Multiple Range Test for mean separation.

CHAPTER IV

RESULTS AND DISCUSSION

The purpose of this study was to measure the QWL of management dietitians. Data was obtained using the research instrument described in Chapter III, "Methods and Procedures." The questionnaire was mailed to 400 randomly selected members of the ADA practice group: "ADA Members With Management Responsibilities in Health Care Delivery Systems." The response rate was 43 percent (N=171), of which 42 percent (N=168) were usable for analysis. The reasons for exclusion included retirement and unemployment of the respondents at the time the survey was conducted.

Characteristics of Survey Participants

Age and Sex

As illustrated in Figure 1, 32 percent (N=54) of the respondents were in the 30 to 39 years of age group, 23 percent (N=39) were in the 40 to 49 age group, and 20 percent (N=34) were between 50 to 59 years of age. The remaining respondents were in the 20 to 29 or 60 to 69 age groups. Ninety-six percent (N=161) of the respondents were females, while the remaining four percent (N=7) were males.

Highest Degree Attained

Sixty percent (N=107) of the 168 respondents listed a bachelor

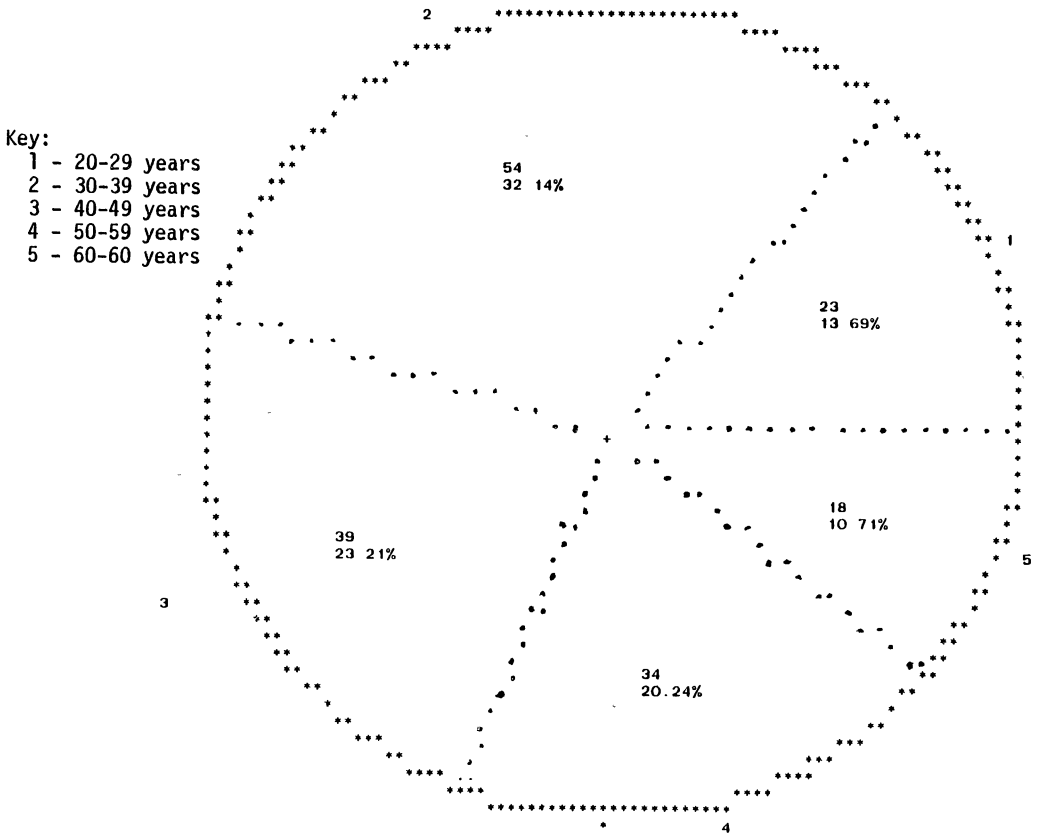


Figure 1. Management Dietitian Respondents by Age Groups

of science as the highest degree attained. Sixty of the respondents (40%) attained master's degrees. Only one respondent completed a doctorate degree.

Registration Status

Of the 168 respondents, 86 (51%) earned their R.D. status by taking the registration examination. Eighty-two (49%) indicated that they attained registration status (R.D.) via the grandfather clause.

Route to ADA Membership

As illustrated in Figure 2, 60 percent (N=100) of the respondents listed the dietetic internship as their route to membership in the ADA. Thirty-three percent (N=55) of the respondents became ADA members via the M.S., plus six months of work experience, CUP or three year, preplanned experience. The remaining seven percent (N=13) of the respondents completed a traineeship to meet the experience requirement for ADA membership.

Position Title

The predominant position title of the 168 respondents was that of director (N=96, 57%) (Figure 3). Fourteen percent (N=24) of the respondents described their position title under "other," which included foodservice manager, chief of dietetic services, corporate coordinating dietitian, district manager, catering manager, dietetic internship director, and assistant dietitians. Eleven percent (N=20) were assistant directors, 10 percent (N=18) were administrative

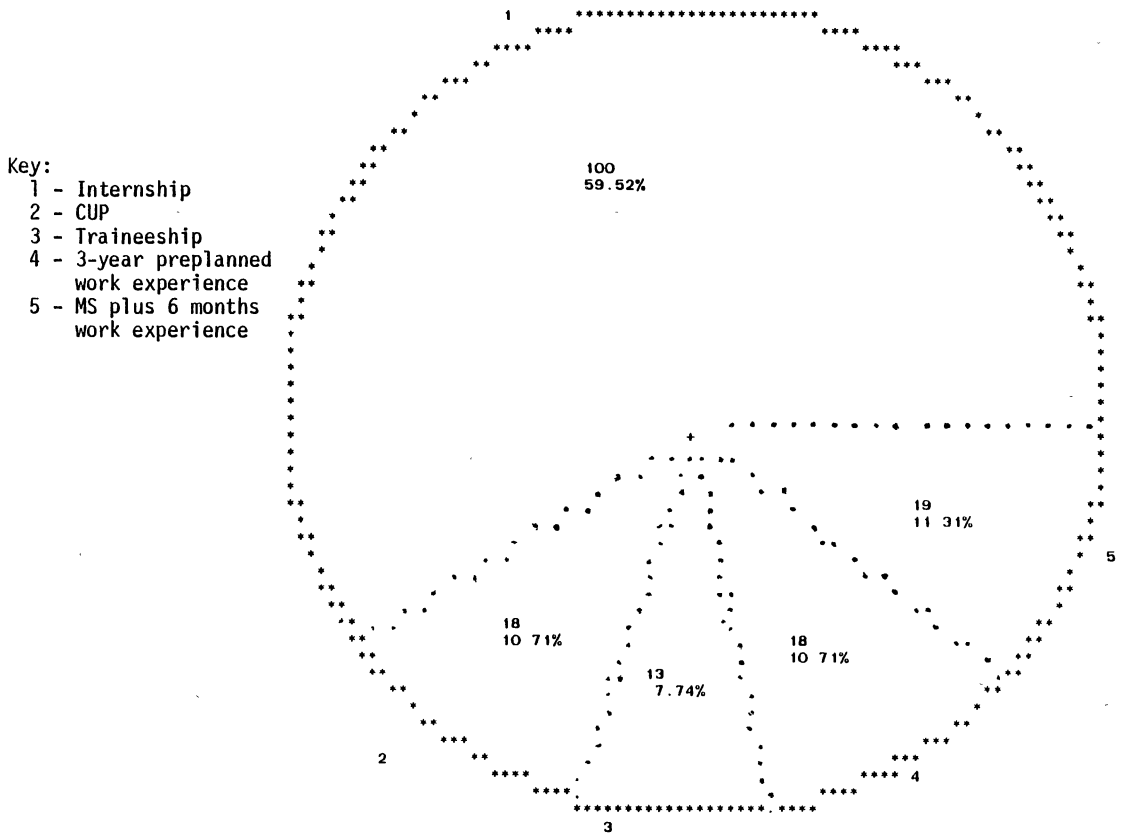


Figure 2. Management Dietitian Respondents by Route to ADA Membership

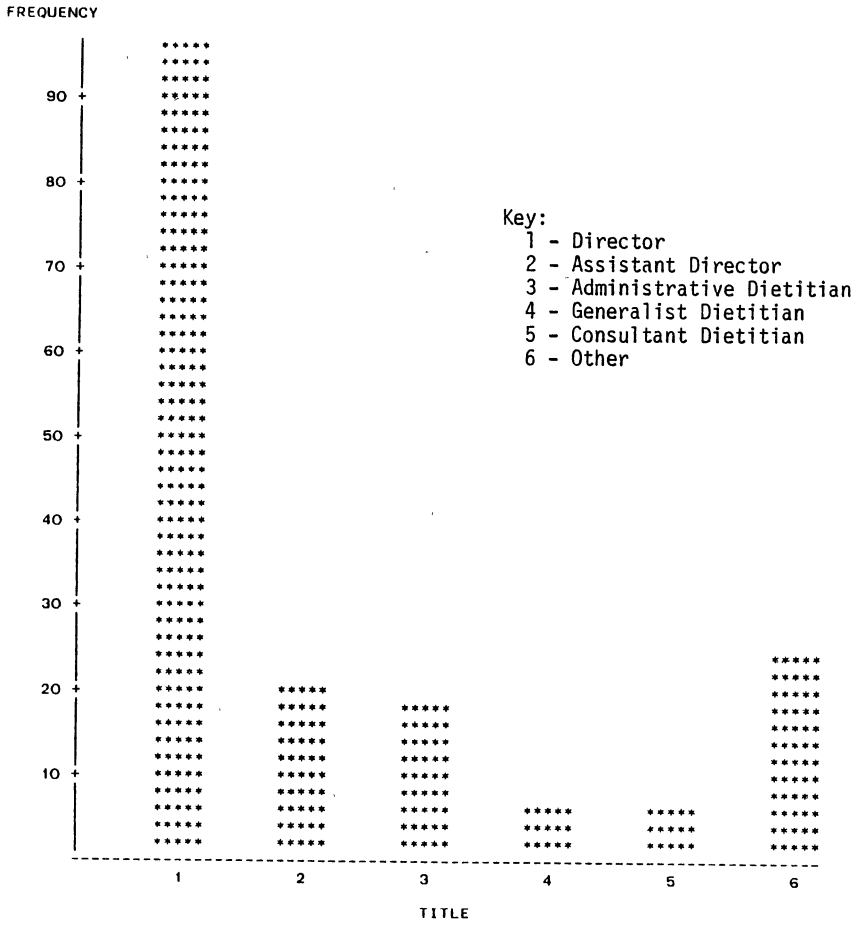


Figure 3. Management Dietitian Respondents by Position Title

dietitians, and the remaining 12 respondents were either generalist dietitians or consultants.

Number of Years in Present Job, Administrative and General Dietetics

Figure 4 illustrated the frequency and number of years the management dietitians in this study had worked in their present jobs, as well as in administrative and general dietetics. A little over half of the respondents (N=98) had been in their present jobs from less than one year to five years. The remaining had worked in their present jobs from 6 to 10 years (N=33), and from 11 or more years (N=37).

Almost two-thirds (N=110) of the respondents had worked in general dietetics for less than one year to five years. The remaining one-third had worked either 6 to 10, or 11 or more years in general dietetics. In contrast to general dietetics, only one-half of the respondents had experience in administrative dietetics from less than one year to five years. The remaining one-half had experience from 6 to 10, or 11 or more years as administrative dietitians.

Characteristics of the Institutions

Type of Facility

Management dietitians in this study worked predominantly in full-service hospitals with out-patient departments (N=76, 45%), while about one-fourth (N=44, 26%) worked in community hospitals with limited out-patient departments (Figure 5). Twenty respondents (12%) checked their place of employment as "other," which included

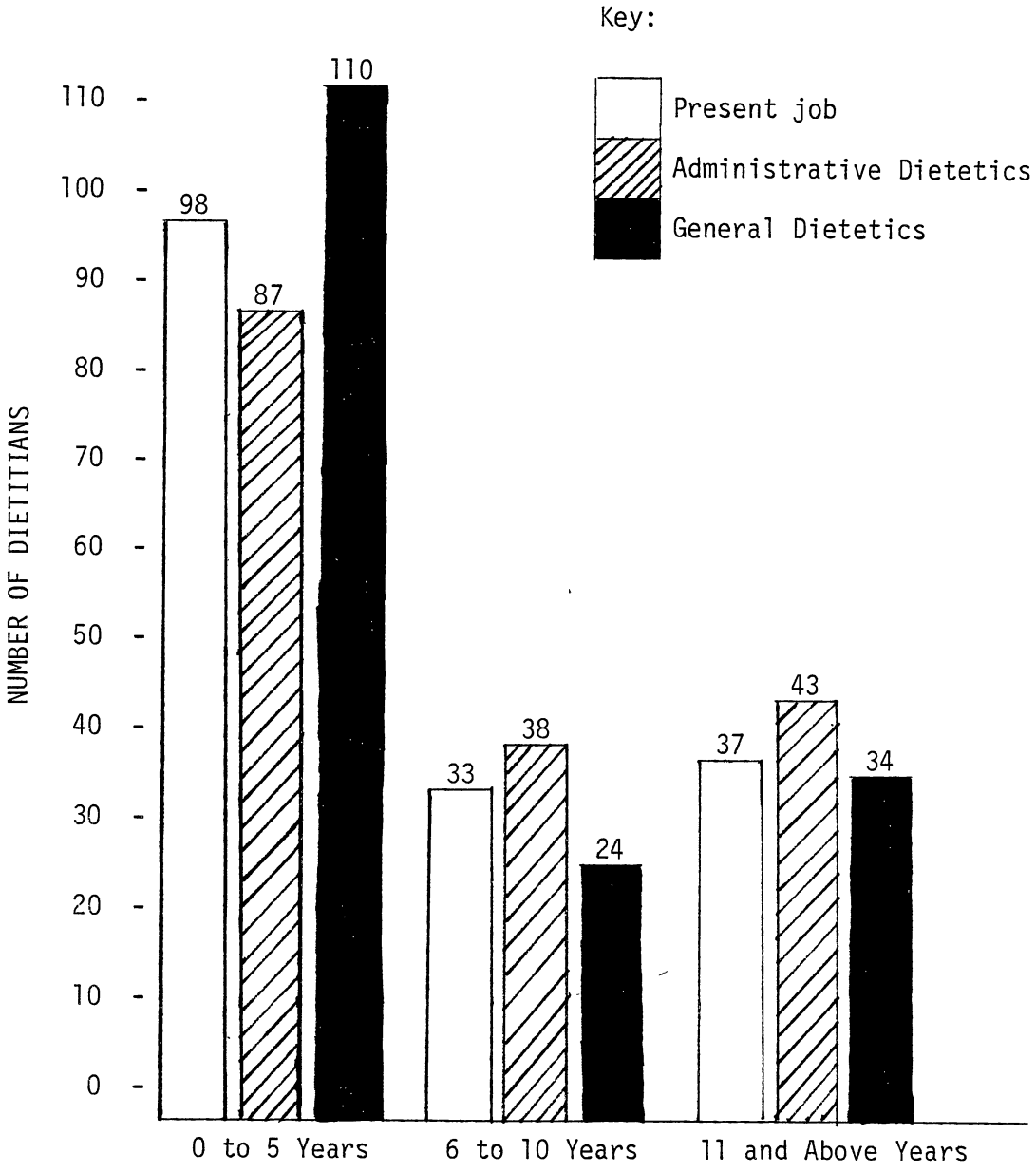


Figure 4. Number of Years in Present Job, and Experiences in Administrative and General Dietetics

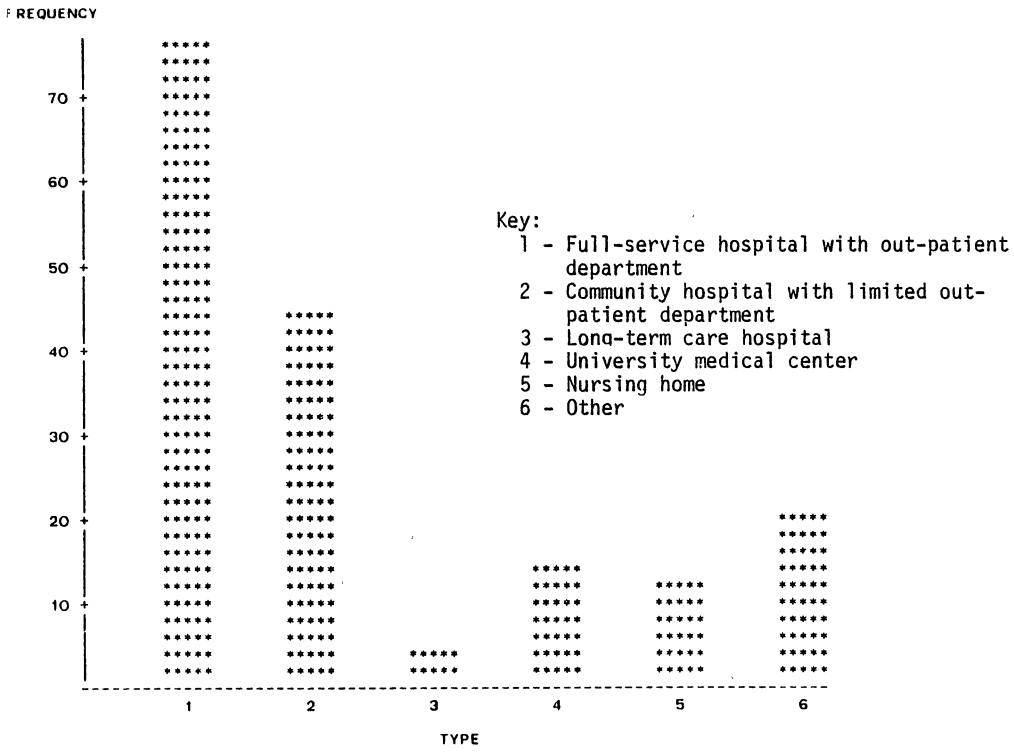


Figure 5. Type of Facilities Where Management Dietitians are Employed

correction facilities, government schools, and managment consulting firms. Eight percent (N=14) indicated their place of employment as university medical centers, seven percent (N=12) listed nursing homes, and only two percent (N=4) listed long-term care hospitals as their place of employment

Financial Goals of the Facility

Eighty-three percent (N=139) of the respondents were employed in non-profit institutions. In contrast, only 29 (17%) of the respondents were employed in profit-making institutions.

Size of Facility

About one-half of the respondents (N=82, 48%) worked in medium sized facilities with beds ranging from 300-999, while amost one-third of the respondents (N=55, 32%) worked in hospitals with 100 to 299 beds. The remaining number worked in small facilities with 100 beds or less (N=18, 10%), or in large facilities with 1,000 or more beds (N=13, 7%).

Population

The workplace of the respondents were located in cities with population ranges of 2,000 to 10 million, with the predominant size of location being under 100,000 (N=79) (Table II). Forty of the 79 have populations ranging from 2,000 to 50,000, while 31 were in the 50,001 to 100,000 population range. Fifteen of the health care facilities were in locations with a population of 1,000,000 to 10,000,000.

Thirty-nine respondents did not indicate size of city where their institution was located.

TABLE II

POPULATION WHERE INSTITUTIONS WERE LOCATED

Population Size	frequency
100,000 and under	79
100,001 - 500,000	22
500,001 - 1,000,000	7
Above 1,000,000	15
No response	39

Size of Staff in Dietary Department

The size of staff in terms of administrative and clinical dietitians in the facilities where the respondents were employed ranged from 0 to 30 (Figure 6). Almost one-half of the institutions (N=80, 48%) had only one administrative dietitian and one-fourth (N=40, 24%) had two administrative dietitians on staff. Only one of the 168 respondents indicated that they had 20 administrative dietitians. In contrast, about one-fourth of the facilities employed only one

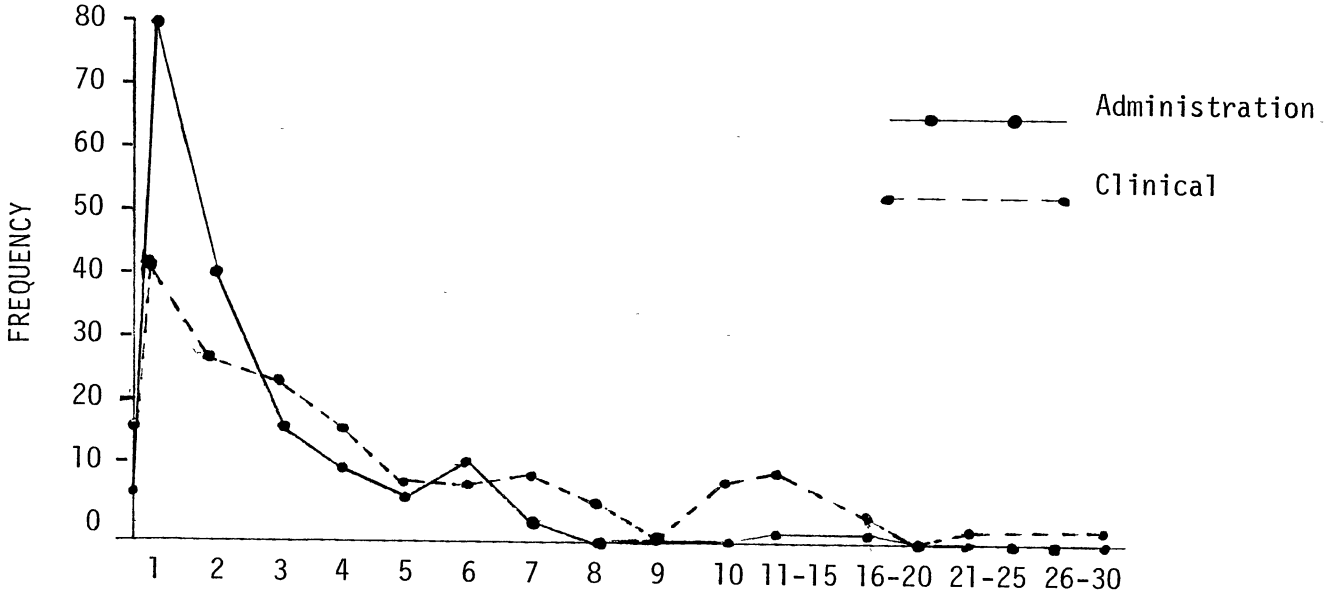


Figure 6. Number of Administrative and Clinical Dietitians

clinical dietitian, while another one-fourth employed between two and three dietitians. Only one facility employed 30 clinical dietitians (Figure 5).

Figure 7 illustrated the number of supervisors and clerical staff in facilities where the respondents were employed. The number of supervisors on staff ranged from 0 to 51. About three-fifths of the institutions hired from one to five supervisors, while one-fifth of the institutions had from six to eight supervisors. Only one facility reported having 39 supervisors, and the remaining two hired either 50 and 51 supervisors each.

The clerical staff in these same institutions ranged from 0 to 21. Less than one-third of the institutions (N=51) reported having only one clerical person, while 19 of the institutions did not employ clerical staff at all. About one-half of the institutions indicated having two to six clerical staff, and only one facility indicated that it had 21 clerks.

The total personnel in the dietary departments where the respondents were employed was shown in Table III. The total personnel ranged from 1 to 340, with about half of the institutions hiring from 1 to 80 dietary personnel. Almost two-fifths of the institutions employed from 81 to 200, while only one facility hired 326 dietary personnel (Table III).

QWL of Management Dietitians

The QWL expected scores under various assumptions was illustrated in Table IV. The figures listed in the column "Maximum Scores" (except for the QWL: General Job Satisfaction Score) were derived by

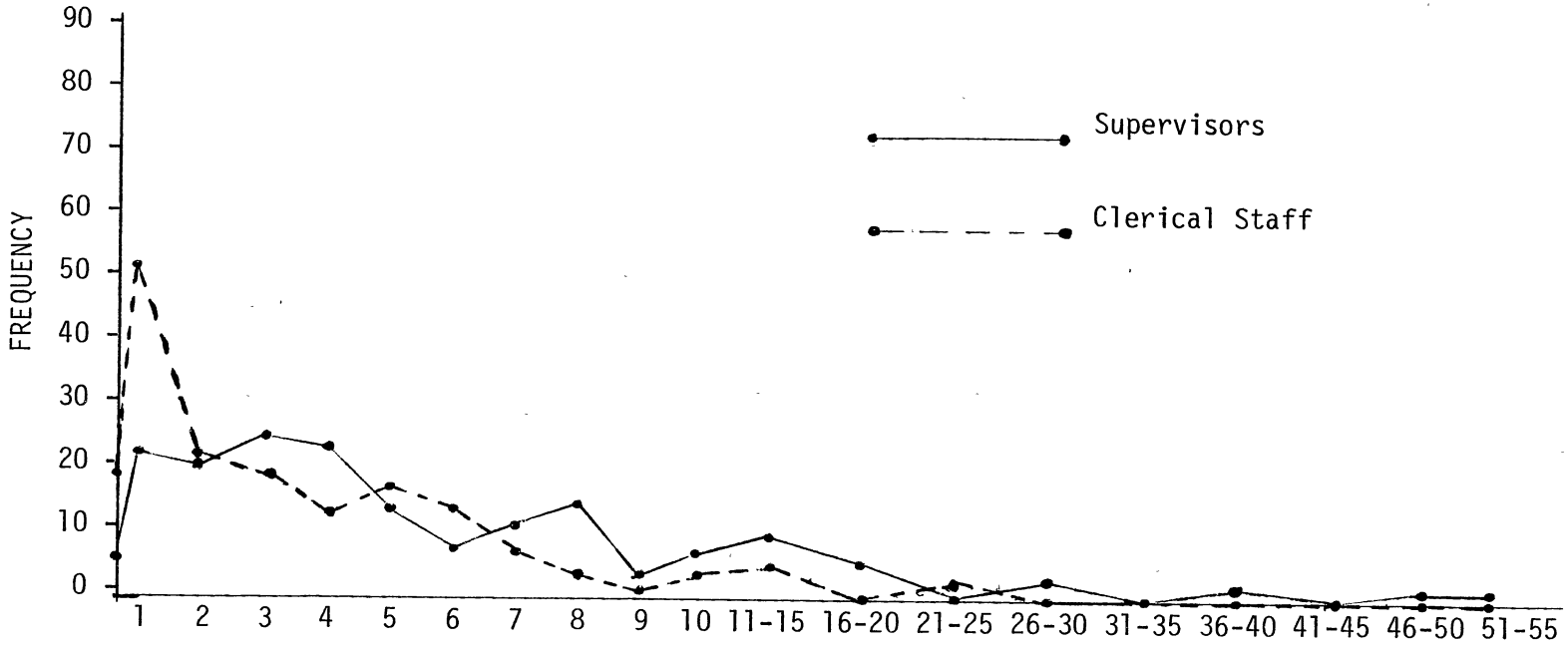


Figure 7. Number of Supervisors and Clerical Staff

TABLE III

TOTAL NUMBER OF PERSONNEL IN DIETARY DEPARTMENT

Number of Personnel	frequency
1-20	24
21-40	29
41-60	22
61-80	19
81-100	15
101-120	16
121-140	12
141-160	9
161-180	4
181-200	6
201-220	4
221-240	2
241-260	3
261-280	1
281-300	1
301-320	0
321-340	1

TABLE IV

QWL EXPECTED SCORES UNDER VARIOUS ASSUMPTIONS AND MEAN SCORES

Scale	Maximum Score	Expected Scores Under Assumption of Response Set: Indifference	Yes	No	Balance Attitude	Mean Scores	Adjusted ~~Three~~ Mean Scores
JDI[1]							
Work	75	25	33	42	37.5	49.54	35.67
Pay and Benefits	60	20	30	30	30.0	42.63	38.37
Promotions	48	16	24	24	24.0	24.21	27.24
Supervision	78	26	42	36	39.0	56.49	39.11
Co-workers	78	26	36	42	39.0	59.88	41.46
Job in General	54	18	27	27	27.0	43.54	43.54
Added Dimensions*							
Organization	36	12	18	18	18.0	27.34	41.01
Performance Constraint	27	9	18	9	13.5	18.70	37.40
		Response Set: Agree Strongly		Disagree Strongly			
General Job Satisfaction[2]	35 (28)	7.75 11.66	21	14	~~25.59~~ 17.5	~~39.48~~ 25.63	39.48

[1]Source: P. C. Smith et al., The Measurement of Satisfaction in Work and Retirement. A Strategy for the Study of Attitudes (1969, 1975, 1983). (See also Scoring, Chapter III.)

[2]Likert Scale: 1-7; 7-Agree Strong, 4-Neutral, and 1-Disagree Strongly (Research Instrument, Appendix B).

[3]Adjusted Mean Scores: To make scores more nearly comparable to scoring of the original five dimensions of the JDI, mean scores in this study were adjusted based on a maximum score for each dimension (see Smith, Kendall, and Hulin, 1969, pp. 79-82).

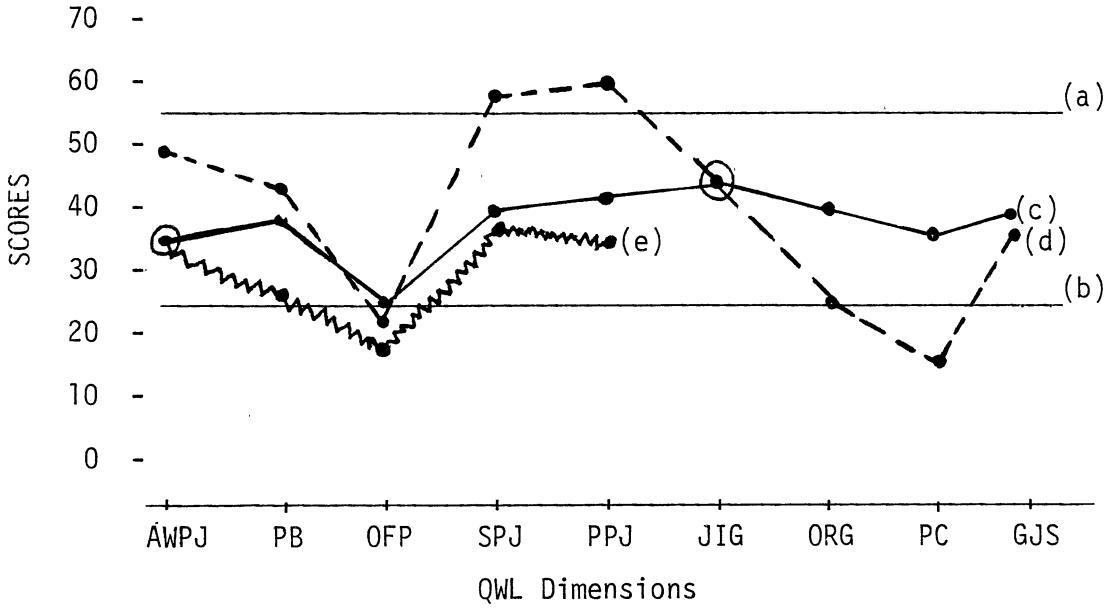
*For Added Dimensions, see Instrumentation, Chapter III.

multiplying the number of items under each dimension by three (see Scoring Section, Chapter III). The indifference column scores represented one-third of the maximum scores. The scores under response set represented the total possible scores of positive and negative items. The balance attitude scores represented one-half of the maximum score. (For further explanation, see Smith et al., 1969, pp. 77-82.) The added dimension, organization and performance constraint was scored exactly like the other JDI dimensions. The dimension, General Job Satisfaction, however, utilized a Likert-type scale; hence, the scoring is somewhat different (Table IV).

QWL Actual Work on Present Job (AWPJ)

The QWL dimension: Actual Work on Present Job dealt with how individuals thought of their work most of the time. In other words, was their work fascinating, pleasant, challenging, creative, or was it boring, tiresome, frustrating, or hectic? According to the management dietitians (N=168) in this study, their jobs were "somewhat" fascinating, pleasant, and creative (Figure 8). The variables age, highest degree, and position title attained did not significantly ($p = .10$) affect AWJP scores; however, sex, R.D. status, and route to ADA membership did affect the AWPJ scores.

Female management dietitians scored significantly higher ($p = .0975$) than their male counterparts in items describing actual work on the present job (Table V). The reader is reminded that in Table IV, the balance attitude score for AWPJ was 37.5. The male dietitians' AWPJ scores were somewhat similar to the balance attitude score for AWPJ (see Table IV and Figure 8).



Key:

AWPJ - Actual Work on Present Job
P&B - Pay and Benefits
OPF - Opportunities for Promotion
SPJ - Supervision on Present Job
PPJ - People in Present Job
JIG - Job in General
ORG - Organization
PC - Performance Constraint
GJS - General Job Satisfaction

(a) - Maximum Score = 54 (Smith, Kendall, and Hulin, 1979, pp. 79-82)
(b) - Balance Attitude Score = 27 (1/2 of 54)
(c) - Adjusted Mean Scores in Present Study (Table IV)
(d) - Mean Scores in Present Study (Table IV, Figure 8)
(e) - Mean Scores based on maximum of 54 of five QWL dimensions (Agriesti-Johnson and Broski, 1982)

Figure 8. Comparison of QWL Mean Scores

TABLE V

T-TEST PROCEDURE FOR QWL: ACTUAL WORK ON PRESENT JOB AND SEX

Sex	N	Means	Standard Error	t	Observed Significance Level
Female	161	49.92	1.11	1.66	.0975
Male	7	40.71	6.90		

The QWL: AWPJ scores were affected by the variable: R.D. status. Management dietitians who attained their R.D.'s via the grandfather clause scored significantly higher ($p = .0160$) than those who attained R.D. status by way of examination (Table VI).

It is interesting to note that age did not affect AWPJ scores, since dietitians taking the R.D. examinations were generally the younger professionals. When the mean scores based on R.D. status (Table VI) were compared against the total mean scores (Figure 8), dietitians with R.D. via the grandfather clause appeared to think more positively toward their jobs than those who attained R.D. status by examination.

The QWL: AWPJ scores were affected by the variable: Route to ADA Membership. Management dietitians who attained their membership via the three years' pre-planned work experience and those who completed traineeship scored significantly higher ($p = .0561$) than the CUP graduates (Tables VII and VIII).

TABLE VI

T-TEST PROCEDURE FOR QWL: ACTUAL WORK ON PRESENT JOB SCORES AND R.D. STATUS

R.D. Status	N	Mean	Standard Error	t	Observed Significance Level
Grandfather Clause	83	52.23	1.55	2.43	0.0160
Registration Examination	85	46.91	1.53		

TABLE VII

ANALYSIS OF VARIANCE TABLE FOR QWL: ACTUAL WORK ON PRESENT JOB SCORES AND ROUTE TO ADA

Source	DF	Sum of Squares	Mean Square	F-Value	Observed Significance Level
Route	4	1886.04	471.51	2.35	.0561
Error	163	32651.73	200.32		
Corrected Total	167	34537.78			

TABLE VIII

DUNCAN MULTIPLE RANGE TEST FOR QWL: ACTUAL WORK ON PRESENT JOB SCORES AND ROUTE TO MEMBERSHIP

Route to Membership	N	Mean	Grouping*
Three year's pre-planned work experience (4)	18	55.22	A
Traineeship (3)	13	53.30	A
Internship (1)	100	49.53	AB
Master's plus six months work experience (5)	19	49.05	AB
CUP program (2)	18	41.66	B

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

Those who became ADA members via the work experience routes scored significantly higher than did the dietitians from the CUP program (Table VIII). When the mean scores based on route to membership (Table VIII) were compared against the total mean scores (Figure 8), dietitians who had completed the three years of pre-planned work experience and traineeship appeared to think more positively about their jobs than did the CUP graduates. CUP graduates usually had the clinical or generalist emphasis and perhaps they were not too secure or happy in entry level management positions. On the other hand, if they had management emphasis, this result may indicate that perhaps

they have not been challenged enough. Dietitians whose route to ADA membership was either the internship or master's plus six months of work experience are in a group by themselves. Their QWL: AWPJ mean scores, however, did not significantly differ from dietitians whose membership routes were the work-related ones, or CUP (Table VIII).

The QWL: AWPJ scores were not significantly ($p = .10$) different among the six categories of position titles using ANOVA; however, the Duncan Multiple Range Test showed that consultants, "others," and directors scored significantly higher than those with the title of "generalist dietitian." In other words, consultants, "others," and directors thought more positively about their work than did generalist dietitians (Figure 8, Table IX). Respondents with assistant directors or administrative dietitian titles were in a group by themselves; however, their QWL: AWPJ mean scores were not significantly different from the generalists and from the other groups. The QWL: AWPJ mean scores of generalist dietitians was below the mean score for balance attitude toward AWPJ (Figure 8). Perhaps generalist dietitians preferred working with a greater variety of responsibilities than did the more specialized and increasingly complex responsibilities of management dietitians. The Agriesti-Johnson and Broski (1982) study also indicated that the AWPJ scores of generalist dietitians were below those of the administrative head or administrative dietitians.

The institutional variables of size, type, and financial goals did not significantly affect ($p = .10$) the AWPJ scores of management dietitians. It should be noted, however, that in Table X, dietitians who worked in fewer than 100 bed institutions scored lower than dietitians in 1,000 or more beds, indicating that dietitians who work in

larger institutions thought more positively about their jobs than those employed by smaller institutions. Perhaps more challenges are available in larger institutions.

TABLE IX

DUNCAN MULTIPLE RANGE TEST FOR QWL: ACTUAL WORK ON PRESENT JOB SCORES AND POSITION TITLE

Position Title	N	Mean	Grouping*
Consultants	5	54.80	A
Others	23	50.52	A
Directors	96	50.19	A
Assistant Directors	20	48.95	AB
Administrative Dietitian	18	48.33	AB
Generalist Dietitian	6	36.50	B

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

Management dietitians working in nursing homes scored above the AWPJ mean score, while dietitians in full-service hospitals with outpatient departments scored the lowest on AWPJ scores (Figure 8, Table X). As in the Agriesti-Johnson and Broski (1982) study, dietitians

TABLE X

DUNCAN MULTIPLE RANGE TEST FOR QWL: ACTUAL WORK ON PRESENT JOB SCORES AND SIZE AND TYPE OF FACILITY

Variables	N	Mean	Grouping*
Size			
Fewer than 100 beds	18	45.89	A
100-299 beds	57	49.02	A
300-999 beds	80	50.06	A
1,000 or more beds	4	53.62	A
Type of Facility			
Nursing Home	11	51.63	A
Other	20	50.25	A
University medical center	14	49.42	A
Community hospital with limited out-patient department	43	49.36	A
Long-term care hospital	4	46.20	A
Full-service hospital with out-patient department	76	41.54	A

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

who worked in less conventional settings as consultants, private practice, and others tended to be more challenged with their jobs than those in traditional settings. The financial goal mean scores of management dietitians in institutions for profit (N=32) was 50.87, while the mean scores of those in non-profit institutions (N=136) was 49.22. The t-test determination indicated that the goal orientation of the institutions did not significantly affect (p = .10) AWPJ scores.

QWL: Pay and Benefits (PB)

The QWL dimension: Pay and Benefits deals with how individuals perceived their pay and benefits (adequate, fair, and above average) for their job. According to the management dietitians (N=168) in this study, their pay and benefits were "good," "adequate," and "above average." The mean score for PB was shown in Figure 8.

The variables of age, sex, highest degree, route, and position title did not significantly (p = .10) affect PB scores; however, R.D. status did affect PB scores (p = .0830) (Table XI). Management dietians who attained their R.D. status via the grandfather clause scored slightly higher than those who attained R.D. status by way of examination.

The reader is reminded that, although age did not affect PB scores, dietitians whose R.D. status was via the grandfather clause were presumably happier with the pay and benefits they currently received. When the mean scores based on R.D. status (Table XI) were compared to total mean scores (Figure 8), dietitians with R.D. via the grandfather clause appeared to think more positively toward their

current pay and benefits. Perhaps these dietitians were older and have been in their positions longer; hence, are earning higher salaries, which may have contributed to their positive attitudes toward pay and benefits.

TABLE XI

T-TEST PROCEDURE FOR QWL: PAY AND BENEFIT SCORES AND R.D. STATUS

R.D. Status	N	Mean	Standard Error	t	Observed Significance Level
Grandfather Clause	83	44.07	1.156	1.743	.0830
Registration Examination	85	41.23	1.143		

The QWL: PB mean scores of management dietitians in the 50 to 59 age group were significantly higher than the mean scores of the 20 to 29 year age group (Table XII). This indicated that the older dietitians seemed to be happier with their pay and benefits than the younger group of dietitians. Those in the age groups 30 to 39, 40 to 49 and 60 to 69 were in a group by themselves. Their mean scores were not, however, significantly different than the 50 to 59 or the 20 to 29 age groups.

TABLE XII

DUNCAN MULTIPLE RANGE TEST FOR QWL: PAY AND BENEFIT SCORES AND AGE

Age	N	Mean	Grouping*
50-59	34	45.29	A
30-39	54	44.09	AB
40-49	39	41.54	AB
60-69	18	40.89	AB
20-29	23	38.52	B

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

The institutional variables of size, type, and financial goals did not significantly affect ($p = .10$) the PB scores of management dietitians. The QWL: PB scores by facility size ranged from 39.61 to 44.46, by facility type ranged from 37.50 to 44.53, and by financial goals from 40.47 to 43.15. The reader is reminded that the total mean scores for QWL: PB is 42.63 (Figure 8).

QWL: Opportunities for Promotion (OFP)

The QWL dimension: Opportunities for Promotion dealt with how individuals perceived having a change, a good opportunity or ability for promotion. According to the management dietitians (N=168) in this study, their opportunities for promotion were about average (Figure

8). The variables of age, sex, highest degree attained, R.D. status, and route to ADA membership did not significantly ($p = .10$) affect QWL: OFP scores. Only one variable, position title, affected OFP scores ($p = .0384$) (Table XIII). The Duncan Multiple Range Test for mean separation showed that consultant dietitians' mean scores for OFP were significantly different from those of the generalist dietitians (Table XIV). The mean scores of assistant directors, administrative dietitians, and "other" were not significantly different from one another and were in a group by themselves. Directors were also in a group by themselves. These results supported the findings of the Agriesti-Johnson and Broski (1982) study, where consultants and "others" scored higher than generalist dietitians. The same is true for mean scores in pay and benefits in the previous section. Dietitians who worked in less conventional settings or those who are self-employed and have some control over their advancement were more satisfied than generalist dietitians and directors who may be in dead-end jobs.

The Duncan Multiple Range Test for mean separation showed that management dietitians who attained their ADA membership via traineeship scored significantly higher than those whose membership route was the master's degree plus six months of work experience (Table XV). Dietitians whose ADA membership route was either the three year work experience, CUP, or internship were in a group by themselves. Management dietitians whose route to ADA membership was either the internship or the master's degree plus six months of work experience scored lower than the total mean score or the balance attitude score (Figure

TABLE XIII

ANALYSIS OF VARIANCE TABLE FOR QWL: OPPORTUNITIES FOR PROMOTION AND POSITION TITLE

Source	DF	Sum of Squares	Mean Square	F-Value	Observed Significance Level
Position Title	5	1696.77	339.35	2.41	.0384
Error	162	22815.51	140.84		
Corrected Total	167	24512.28			

TABLE XIV

DUNCAN MULTIPLE RANGE TEST FOR QWL: OPPORTUNITIES FOR PROMOTION SCORES AND POSITION TITLE

Postition Title	N	Mean	Grouping*
Consultant	5	34.00	A
Other	23	27.96	AB
Administrative Dietitian	18	25.94	AB
Assistant Director	20	25.55	AB
Director	96	28.84	BC
Generalist Dietitian	6	14.00	C

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

8). Obviously, these two groups perceived their work situation as having less than average OFP.

TABLE XV

DUNCAN MULTIPLE RANGE TEST FOR QWL: OPPORTUNITIES FOR PROMOTION SCORES AND ROUTE TO MEMBERSHIP

Route to Membership	N	Mean	Grouping*
Traineeship	13	30.15	A
Three years of pre-planned work experience	18	26.17	AB
CUP program	18	24.89	AB
Internship	100	23.45	AB
Master's degree plus six months of work experience	19	21.68	B

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

The institutional variables of size, type, and financial goals did not significantly affect ($p = .10$) the OFP scores of management dietitians using the Duncan Multiple Range Test; however, in Table XVI, dietitians in larger institutions scored significantly higher than those who worked in fewer than 100 beds or 100 to 299 bed

institutions. Perhaps larger institutions provide better opportunities for promotion for their staff, and dietitians in this study supported this notion.

TABLE XVI

DUNCAN MULTIPLE RANGE TEST FOR QWL: OPPORTUNITIES FOR PROMOTION SCORES AND SIZE OF INSTITUTION

Size of Institution	N	Mean	Grouping*
1,000 or more beds	13	30.38	A
300-999 beds	80	24.69	AB
100-299 beds	57	22.84	B
Fewer than 200 beds	18	22.00	B

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

QWL: Supervision on Present Job (SPJ)

The QWL dimension: Supervision on Present Job dealt with how individuals thought of the kind of supervision that they received on their job. According to the 168 management dietitians in this study, their supervision on their present job was up-to-date, tactful, and influential. The variables of age, sex, highest degree attained, R.D.

status, route to ADA membership, and position title did not significantly ($p = .10$) affect SPJ scores.

The analysis of variance (ANOVA) determination indicated that the institutional variables of goal and size did not significantly affect ($p = .10$) the SPJ scores of management dietitians. Management dietitians in institutions of 1,000 beds or more, however, scored significantly higher than dietitians working in institutions with either 100-299 or fewer than 100 beds (Table XVII). The QWL: SPJ scores of dietitians working in smaller institutions were below the total mean scores for SPJ (Figure 8).

TABLE XVII

DUNCAN MULTIPLE RANGE TEST FOR QWL: SUPERVISION ON PRESENT JOB SCORES AND SIZE OF INSTITUTION

Size Institution	N	Mean	Grouping*
1,000 or more beds	13	65.00	A
300-999 beds	80	58.96	AB
100-299 beds	57	52.61	B
Fewer than 100 beds	18	51.66	B

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

The variable of type of institution did significantly affect ($p = .0678$) the SRJ scores (Table XVIII). Although the Duncan Test for Mean Separation indicated no significant differences between scores according to type of institution, it can obviously be seen that those employed in "other" facilities tended to view their supervision more positively than those employed in long-term hospitals or university medical centers (Figure 8, Table XIX).

TABLE XVIII

ANALYSIS OF VARIANCE TABLE FOR QWL: SUPERVISION ON PRESENT JOB AND TYPE OF INSTITUTION

Source	DF	Sum of Squares	Mean Square	F-Value	Observed Significant Level
Type of Institution	5	3668.09	733.61	2.10	.0678
Error	162	56707.89	350.05		
Corrected Total	167	60375.99			

QWL: People in Present Job (PPJ)

The QWL dimension: People in Present Job dealt with how individuals related to or perceived other people in their jobs. According to

management dietitians (N=168) in this study, people in their present jobs were stimulating, ambitious, responsible, intelligent, loyal, and helpful. The variables of age, sex, highest degree attained, R.D. status, route to ADA membership, and position title did not significantly ($p = .10$) affect PPJ scores. The total mean score for PPJ was about 60, where the maximum score was 78 and the balance attitude score was 39 (Figure 8).

TABLE XIX

DUNCAN MULTIPLE RANGE TEST FOR QWL: SUPERVISION ON PRESENT JOB SCORES AND TYPE OF INSTITUTION

Type of Institution	N	Mean	Grouping*
Other	20	61.35	A
Full-service hospital with out-patient department	76	59.73	A
Nursing home	11	57.18	A
Community hospital with limited out-patient department	43	52.20	A
Long-term care hospital	4	50.50	A
University medical center	14	46.28	A

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

Management dietitians in this study perceived their co-workers who were mostly dietetic practitioners and/or perhaps individuals with service orientation or altruistic motives positively (Table XX). These results paralleled PPJ results of Agriesti-Johnson and Broski (1982), where the generalist and consultant dietitians scored lower than the administrative dietitians. In this study, a majority of the respondents held administrative titles and generally felt happy with dietitian colleagues.

TABLE XX

DUNCAN MULTIPLE RANGE TEST FOR QWL: PEOPLE IN PRESENT JOB SCORES AND POSITION TITLE

Position Title	N	Mean	Grouping*
Administrative Dietitian	18	63.83	A
Assistant Director	20	61.70	A
Director	96	60.24	A
Other	23	58.96	A
Consultant	5	58.00	A
Generalist Dietitian	6	41.50	B

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

The institutional variables of size, type, and financial goals did not significantly affect PPJ scores ($p = .10$), although dietitians in larger institutions scored higher (61.45 for those working in 1,000 or more beds, and 63.69 for those working in 300 to 999 beds), compared to those working in smaller facilities (58.12 for those in 100-299 beds and 55.61 for those employed in less than 100 beds).

The PPJ scores relative to institution type ranged from 53.80 for "other" to 62.25 for full-service hospitals with out-patient departments. Dietitians who worked in community hospitals with limited out-patient departments scored 60.49. PPJ scores relative to type of institutions came out opposite that of AWPJ and OFP scores relative to type of institutions as expected. Dietitians in more traditional settings felt more positively towards their colleagues compared to those in non-conventional settings. Perhaps in more traditional and larger hospitals, colleagues saw each other more often and had a chance to interact with one another. In less traditional settings, dietitians were not afforded the time to associate or interact with colleagues. With AWPJ and OFP scores, however, dietitians in less traditional settings perceived their jobs as having more challenges and more opportunities for promotion.

QWL: Job in General (JIG)

The QWL dimension: Job in General dealt with how individuals perceived all aspects of their job. According to management dietitians (N=168) in this study, their jobs in general were pleasant, good, better than most, excellent, and enjoyable (Figure 8). The variables of age, sex, route to ADA membership, and position title did not

significantly (p = .10) affect JIG scores; however, highest degree attained (p = .0717) (Table XXI) and R.D. status (p = .0618) (Table XXII) affected JIG scores significantly.

TABLE XXI

ANALYSIS OF VARIANCE TABLE FOR QWL: JOB IN GENERAL SCORES AND HIGHEST DEGREE ATTAINED

Highest Degree Attained	DF	Sum of Squares	Mean Square	F-Value	Observed Significance Level
Model	1	424.70	424.70	3.54	.0618
Error	166	19930.92	120.06		
Corrected Total	167	20355.62			

TABLE XXII

T-TEST PROCEDURE FOR QWL: JOB IN GENERAL SCORES AND R.D. STATUS

R.D. Status	N	Mean	Standard Error	t	Observed Significance Level
Grandfather Clause	83	45.16	1.20	1.88	.0618
Registration Examination	85	41.98	1.19		

Dietitians who attained R.D. status via the grandfather clause scored slightly higher and above the total mean score than those who took the R.D. examination (Figure 8, Table XXII). With regards to AWPJ and OFP scores, dietitians in less traditional settings, as indicated earlier, perceived their jobs as having more challenges and opportunities for promotion, but they scored lower for JIG nd PPJ.

Management dietitians with doctoral degrees (N=2) scored far below the total mean score (43.54) for JIG, compared to their colleagues with either the B.S. or M.S. degrees and the balance attitude scores (Figure 8, Table XXIII). Obviously, dietitians with doctorates were not happy with their jobs in general as dietitians with management responsibilities in health care delivery systems. Perhaps dietitians holding Ph.D. degrees are more challenged with teaching and/or research responsibilities, either in medical centers or other institutions of higher learning. Dietitians with B.S. or M.S. degrees, however, perceived their job positively.

The institutional variables of size, type, and financial goals did not significantly affect the JIG scores ($p = .10$); however, dietitians working in 300 to 999 bed facilities scored higher (44.62) than those employed in facilities (41.61) with 1,000 or more beds, and dietitians working in facilities with 100 to 299 beds scored about the same as facilities with 100 beds or less.

The JIG scores relative to institution type ranged from 45.41 for full-service hospitals with out-patient departments, to 39.00 for university medical centers. JIG scores relative to the institution resulted in the same scores as the PPJ, where dietitians in more traditional settings felt more positively towards their jobs in general,

compared to those in non-conventional settings, and also towards people on their present job. However, as expected, the scores were opposite that of AWPJ and OFP scores relative to institution type.

TABLE XXIII

DUNCAN MULTIPLE RANGE TEST FOR QWL: JOB IN GENERAL SCORES AND HIGHEST DEGREE ATTAINED

Highest Degree Attained	N	Mean	Grouping*
Master's	59	44.19	A
Bachelor's	107	43.52	A
Ph.D.	2	26.00	B

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

The financial goal mean scores of management dietitians in institutions for profit (N=32) was 43.96, while the mean scores of those in non-profit institutions (N=136) was 43.44. The t-test determination indicated that the goal orientation of the institutions did not significantly affect (p = .10) JIG scores.

QWL: Organization (ORG)

The QWL dimension: Organization dealt with how individuals felt

about the formal and informal organizational structure where they worked. According to the 168 management dietitians in this study, their organizations were somewhat progressive, a good organization to work for, and had a good reputation (Figure 8). The variables of age, sex, highest degree attained, R.D. status, route to ADA membership, and position title did not significantly ($p = .10$) affect ORG scores. The total mean score for ORG was 27.34, where the maximum score was 36 and the balance attitude score was 18.0 (Figure 8).

In this study, management dietitians perceived their organizations, which were mostly hospitals, as efficient and as good places to work in. The Duncan Multiple Range Test, which was run for mean separation, indicated no significant differences between scores according to age; however, it is interesting to note that the younger management dietitians scored below the total mean score for ORG (27.00) for the 20 to 29 age group and 26.80 for the 30-39 age group (Figure 8). A t-test determination for sex showed that females scored 27.56, while males scored below the total mean score (22.14). Management dietitians with B.S. and M.S. degrees scored higher than the respondents with Ph.D.'s. Also, respondents who attained R.D. status via the grandfather clause scored higher than respondents taking the examination, and their scores were above the total mean scores. Respondents whose route to ADA membership was the three year, preplanned work experience, scored higher than those respondents whose route was the CUP program. Traineeship and a master's degree, plus six months of work experience scored about the same, and internship was in a group by themselves.

Regarding position title, consultant dietitians scored the highest, but did not significantly differ from administrative dietitians, assistant directors, directors and others (Table XXIV). The scores of these groups of dietitians, however, differed significantly from the scores of the generalist dietitians. Obviously, management dietitians with generalist title, but functioning as dietitians with management responsibilities in health care, did not think positively about the organizations they worked for.

TABLE XXIV

DUNCAN MULTIPLE RANGE TEST FOR QWL: ORGANIZATION SCORES AND POSITION TITLE

Position Title	N	Mean	Grouping*
Consultant	5	29.40	A
Administrative Dietitian	18	28.83	A
Assistant Director	20	27.80	A
Director	96	27.36	A
Other	23	27.00	A
Generalist Dietitian	6	20.50	B

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

The institutional variables of size, type, and financial goals did not significantly affect ORG scores ($p = .10$); however, management dietitians working in facilities of 300 beds or more felt positively about their organizations than did respondents working in smaller facilities. The ORG scores relative to institution type ranged from 28.79 for full-service hospitals with out-patient departments, to 23.95 for "other." ORG scores indicated that management dietitians working in full-service hospitals and nursing homes are much happeir and pleased with their organizations. Also, respondents working in profit-making facilities scored slightly above the total mean score than did respondents working in non-profit facilities.

QWL: Performance Constraint Measure (PC)

The QWL dimension: Performance Constraint Measure dealt with how individuals perceived aspects of their work environments relative to resources, assistance, and support which promoted or hindered performance. According to management dietitians (N=168) in this study, the variables of age, sex, highest degree attained, R.D. status, route to ADA membership, and position title did not significantly ($p = .10$) affect performance constraint scores. The total mean score for PC is 18.70, where the maximum score is 27 and the balance attitude score is 13.5 (Figure 8). Dietitians in this study seemed contented with their work environment, and most had adequate resources with which to acomplish their jobs.

The analysis of variance (ANOVA) determination indicated that the institutional variables of size, type, and financial goals did not significantly affect ($p = .10$) the PC scores of management dietitians.

Management dietitians working in 300 beds or more, however, had a more positive attitude, which meant that less constraint existed in their jobs. Similar to the ORG scores, dietitians working in full-service hospitals with out-patient departments, "other," and nursing homes were much happier, indicating less performance constraints in their positions.

QWL: General Job Satisfaction (GJS)

The QWL dimension: General Job Satisfaction encompassed the attitude of individuals toward their jobs and their assessment of the different components of their work as an overall evaluation of their jobs. The standard statistical procedures used to analyze the data for this portion of the study included: t-test, ANOVA, Duncan Multiple Range Test for mean separation, and chi-square determination.

According to the management dietitians (N=168) in this study, they have not only good attitudes toward their jobs, but also a positive overall evaluation of all components of their work. Their mean score was 25.59 out of a possible 35 (Figure 8).

Although an ANOVA determination indicated no significant difference ($p = 0.10$) on GJS scores by age, the Duncan Multiple Range Test for mean separation indicated that management dietitians in the 50-59 age range scored the highest and were significantly different from those in the 20-29 age group (Table XXV).

Registration status (R.D.) was the only other variable that affected GJS scores ($p = .0269$). Management dietitians who attained their R.D. status via the grandfather clause scored higher than those who took the registration examination (Table XXVI).

TABLE XXV

DUNCAN MULTIPLE RANGE TEST FOR QWL: GENERAL JOB SATISFACTION SCORES AND AGE

Age	N	Mean	Grouping*
50-59	34	27.26	A
40-49	39	25.74	AB
60-69	18	25.55	AB
30-39	54	25.46	AB
20-29	23	23.17	B

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

TABLE XXVI

T-TEST PROCEDURE FOR QWL: GENERAL JOB SATISFACTION SCORES AND R.D. STATUS

R.D. Status	N	Means	Standard Error	t	Observed Significance Level
Grandfather Clause	83	26.72	.7135	2.23	.0269
Registration Examination	85	24.48	.7048		

Five statements comprised the GJS dimension and chi-square determinations were performed to determine which of the personal and institutional variables affected each of these five statements (Table XXVII).

Statement 1: Generally speaking, I am very satisfied with this job.

Statement 1, under the GJS, was affected by sex ($p = 0.0907$) (Table XXXI). Of the 161 female respondents, 114 "agreed" or "agreed strongly" with this statement. In contrast, only three out of seven male respondents did the same. One male dietitian "slightly agreed," while three others "disagreed" (Appendix D). Type of institution also impacted on Statement 1 ($p = 0.0533$) (Table XXVII). About three-fourths of those who were employed in full-service, community, and long-term hospitals tended to "agree" or "agree strongly" with Statement 1. Only slightly over or under half of those who were employed by university medical centers, nursing homes, and "other" facilities agreed with the same statement (Appendix D).

Statement 2: I frequently think of quitting this job.

The only variable found to significantly ($p = 0.0118$) affect GJS scores in terms of Statement 2 is type of institution (Table XXVII). About one-half of those who are employed in full-service and community hospitals, nursing homes, university medical centers, and "other" facilities tended to "disagree" or "disagree strongly" with Statement 2. In contrast, all four respondents employed in long-term hospitals stated that they "disagree" or "disagree strongly" with Statement 2 (Appendix D).

TABLE XXVII

CHI-SQUARE TABLE SHOWING ASSOCIATIONS BETWEEN GENERAL JOB SATISFACTION STATEMENTS AND SELECTED PERSONAL AND INSTITUTIONAL VARIABLES

Personal and Institutional Variables	Statement 1*	Statement 2	Statement 3	Statement 4	Statement 5
Personal					
P					
Sex					
χ^2	10.926				
DF	6				
P	0.0907				
Highest Degree Attained					
χ^2				35.24	
DF				12	
P				.0004	
R.D. Status				11.53	
				6	
				.0733	
Position Title					
χ^2					47.59
DF					30
P					.0217
Type of Facility					
χ^2	43.46	50.19			
DF	30	30			
P	.0533	.0118			

*For statements, see research instrument in Appendix B.

Statement 3: I am generally satisfied with the kind of work I do in this job.

None of the personal or institutional variables had any impact on GJS scores relative to Statement 3. Regardless of age, sex route to ADA membership, or position title; and size and type of institution and financial goals, management dietitians scored Statement 3 similarly.

Statement 4: Most people on this job are very satisfied with the job.

Scores for Statement 4 and the GJS were affected by highest degree attained ($p = .0004$) and R.D. status ($p = .0733$) (Table XXVII). About three-fourths of those management dietitians having a master's or bachelor's degree tended to "agree" or "agree strongly" with Statement 4. Only two respondents had doctorate degrees, and both stated that they "agree" or "agree strongly" with the statement (Appendix D). Fifty percent of the management dietitians who achieved the R.D. status by way of the grandfather clause (N=83) tended to "agree" or "agree strongly" with Statement 4, whereas only about one-fifth of the respondents who achieved the R.D. status via examination tended to "agree" or "agree strongly" with Statement 4 (Appendix D).

Statement 5: People on this job often think of quitting.

GJS scores relative to Statement 5 were affected by position title ($p = .0217$) (Table XXVII). About three-fourths of those who were employed as director, assistant director, and administrative dietitian tended to "disagree" and "disagree strongly" with the statement. In contrast, only one-fourth of those who were employed as generalist dietitian, consultant, and "other" disagreed with the same statement (Appendix D). Dietitians with administrative ranks or titles were

seemingly happier or secure with their positions, while dietitians with management responsibilities, yet carrying titles without the administrative designation, appeared to be less secure in their positions. This supported the job satisfaction and level of occupation relationship as reported by Kornhauser (1965) and Inkeles (1960).

Testing of the Hypotheses

QWL: Actual Work on Present Job

H_1 - There will be no significant difference in the QWL: Actual Work on the Present Job scores of management dietitians based on selected personal variables.

1. age
2. sex
3. highest degree attained
4. R.D. status
5. route to ADA membership
6. position title

Based on the association results shown in Tables V and VI, the researcher rejected H_1.

H_2 - There will be no significant difference in the QWL: Actual Work on Present Job scores of management dietitians based on selected institutional variables.

1. size
2. type of facility
3. financial goals

The institutional variables of size, type, and goals did not

significantly (p = .10) affect QWL: AWPJ scores; hence, the researcher failed to reject H_2.

QWL: Pay and Benefits

H_3 - There will be no significant difference in the QWL: Pay and Benefit scores of management dietitians based on selected personal variables.

1. age
2. sex
3. highest degree attained
4. R.D. status
5. route to ADA membership
6. position title

Based on the results showing associations described in Table XI, the researcher rejected H_3.

H_4 - There will be no significant difference in the QWL: Pay and Benefit scores of management dietitians based on selected institutional variables.

1. size
2. type of facility
3. financial goals

The institutional variables of size, type, and financial goals did not significantly affect QWL: PB; therefore, the researcher failed to reject H_4.

QWL: Opportunities for Promotion

H_5 - There will be no significant difference in the QWL: Opportunities for Promotion scores of management dietitians based on selected personal variables.

1. age
2. sex
3. highest degree attained
4. R.D. status
5. route to ADA membership
6. position title

Based on the association results shown in Table XIII, the researcher rejected H_5.

H_6 - There will be no significant difference in the QWL: Opportunities for Promotion scores of management dietitians based on institutional variables.

1. size
2. type of facility
3. financial goals

The institutional variables of size, type, and financial goals did not significantly affect QWL: OFP; therefore, the researcher failed to reject H_6.

QWL: Supervision on Present Job

H_7 - There will be no significant difference in the QWL: Supervision on Present Job scores of management dietitians based on selected personal variables.

1. age
2. sex
3. highest degree attained
4. R.D. status
5. route to ADA membership
6. position title

No association was found between the personal variables and QWL: SPJ scores; hence, the researcher failed to reject H_7.

H_8 - There will be no significant difference in the QWL: Supervision on Present Job scores of management dietitians based on selected institutional variables.

1. size
2. type of facility
3. financial goals

The institutional variables of size and goal did not significantly affect SPJ scores; however, the variable type of institution did significantly affect ($p = .0678$) SPJ scores; therefore, the researcher rejected H_8.

QWL: People in Your Present Job

H_9 - There will be no significant difference in the QWL: People in Your Present Job scores of management dietitians based on selected personal variables.

1. age
2. sex
3. highest degree attained
4. R.D. status
5. route to ADA membership
6. position title

The personal variables identified in the study did not significantly ($p = .10$) affect QWL: PPJ scores; hence, the researcher failed to reject H_9.

H_{10} - There will be no significant difference in the QWL: People in Your Present Job scores of management dietitians based on institutional variables.

1. size
2. type of facility
3. financial goals

The institutional variables of size, type, and goals did not significantly ($p = .10$) effect QWL: PPJ scores; therefore, the researcher failed to reject H_{10}.

QWL: Job in General

H_{11} - There will be no significant difference in the QWL: Job in General scores of management dietitians based on selected personal variables.

1. age
2. sex
3. highest degree attained
4. R.D. status
5. route to ADA membership
6. position title

Associations between highest degree attained ($p = .0717$) (Table XXI) and R.D. status ($p = .0618$) (Table XXII); therefore, the researcher rejected H_{11}.

H_{12} - There will be no significant difference in the QWL: Job in General scores of management dietitians based on selected institutional variables.

1. size
2. type of facility

3. financial goals

The institutional variables of size, type, and financial goals did not significantly (p = .10) affect QWL: JIG scores; hence, the researcher failed to reject H_{12}.

QWL: Organization

H_{13} - There will be no significant difference in the QWL: Organization scores of management dietitians based on selected personal variables.

1. age
2. sex
3. highest degree attained
4. R.D. status
5. route to ADA membership
6. position title

None of the personal variables had an impact on QWL: Organization scores; hence, the researcher failed to reject H_{13}.

H_{14} - There will be no significant difference in the QWL: Organization scores of management dietitians based on selected institutional variables.

1. size
2. type of facility
3. financial goals

The institutional variables identified in this study did not significantly affect (p = .10) QWL: Organization scores; therefore, the researcher failed to reject H_{14}.

QWL: Performance Constraint Measure

H_{15} - There will be no significant difference in the QWL:

Performance Constraint Measure scores of management dietitians based on selected personal variables.

1. age
2. sex
3. highest degree attained
4. R.D. status
5. route to ADA membership
6. position title

No association was found between the personal variables and QWL: Performance Constraint scores; hence, the researcher failed to reject H_{15}.

H_{16} - There will be no significant difference in the QWL: Performance Constraint Measure scores of management dietitians based on institutional variables.

1. size
2. type of facility
3. financial goals

The three institutional variables did not impact on the QWL: Performance Constraint scores; therefore, the researcher failed to reject H_{16}.

QWL: General Job Satisfaction

H_{17} - There will be no significant difference in the QWL: General Job Satisfaction scores of management dietitians based on selected personal variables.

1. age
2. sex
3. highest degree attained
4. R.D. status
5. route to ADA membership

6. position title

Associations were found between sex and Statement 1 ($p = .0907$); highest degree attained ($p = 0.0004$), and R.D. status ($p = .0733$) and Statement 4; and position title ($p = .0217$) and Statement 5 (Table XXVII; Appendix D); therefore, the researcher failed to reject H_{17}.

H_{18} - There will be no significant difference in the QWL: General Job Satisfaction scores of management dietitians based on selected institutional variables.

1. size
2. type of facility
3. financial goals

Associations were found between type of institutions and Statement 1 ($p = .0533$), and also with Statement 2 ($p = .0118$) (Table XXVII; Appendix D); hence, the researcher failed to reject H_{18}.

Summary of Results

To compare QWL mean scores in this study with the findings of Agriesti-Johnson and Broski (1982), which used the short JDI form with only five dimensions with mean scores based on a maximum score of 54, adjustments had to be made, since the maximum scores in the present study varied from 35 to 78. The adjusted mean scores for all nine dimensions were shown in Table IV.

A comparison of the mean scores, adjusted mean scores, and the Agriesti-Johnson and Broski (1982) study mean scores was illustrated in Figure 8. Except for OFP scores, the adjusted QWL mean scores in this study indicated that dietitians with management responsibilities in health care delivery systems were happier and felt somewhat more

positive towards their jobs than the sample in the Agriesti-Johnson and Broski study.

The reader is reminded, however, that the 1982 study involved all dietitians (N=529), while the present study only dealt with one practice group (N=168). The QWL of the ADA dietitians with management responsibilities in health care delivery systems based on the scores on the nine dimensions used in this study were all below the maximum score of 54, with the exception of OFP, which was exactly 27 (balance attitude score or one-half of the maximum score). All other scores were above the balance attitude score.

CHAPTER V

SUMMARY, RECOMMENDATIONS, AND IMPLICATIONS

There are very limited studies on the measurement of the quality of worklife (QWL) of health care professionals, specifically dietitians; hence, the intent of this research was to measure the quality of worklife (QWL) of dietitians with management responsibilities in health care delivery systems. Eighteen hypotheses were postulated to determine if selected personal and work-related variables affected QWL of management dietitians.

The literature abound with articles concerning job satisfaction; workers' behaviors; and labor productivity such as tenure, absenteeism, effects of age, sex, and education; and other factors impacting on the workers' ability to perform the job. An attempt was made to group these articles into two major areas: QWL, which included organizational behavior; and job satisfaction. Research to discover mutually agreed upon definitions and parameters to assess attainment of affective responses of professionals toward their work is needed. Until behavioral scientists develop better definitions and ways to measure QWL, these two areas: QWL (including organizational behavior); and job satisfaction, will need to be reviewed and certain dimensions or aspects be integrated into the management of departments involving human resources.

The sample used was randomly drawn from the membership list of the ADA Practice Group: "ADA Members With Management Responsibilities in Health Care Delivery Systems." Data obtained from the 168 usable questionnaires were analyzed using frequencies, percentages, t-test, ANOVA, Duncan Multiple Range Test, and chi-square.

Summary

Characteristics of Respondents

About three-fourths of the respondents were 30 to 59 years of age, while one-fourth were 20 to 29 and 60 to 69 years of age. One hundred and sixty-one of the 168 respondents were females and seven were males. Sixty percent of the respondents had bachelor of science degrees, 40 percent had attained master's degrees, and only one respondent had a doctorate degree.

One-half of the respondents earned their R.D. status by the registration examination, and the other half via the grandfather clause. Sixty percent of the respondents' routes to ADA membership was the dietetic internship, while 33 percent became ADA members via the master's plus six months of work experience, CUP, or three years of pre-planned work experience. The remaining seven percent completed a traineeship to meet the ADA membership requirements.

The predominant position title of the respondents was that of director. Respondents under "other" included: foodservice managers, chief of dietetic services, corporate coordinating dietitian, and assistant dietitian. Other position titles included: assistant director, administrative and generalist dietitian, and consultant.

A little over half of the respondents worked in their present jobs from less than one year to five years; the remaining worked from 6 to 10 years or 11 or more years. Two-thirds worked in general dietetics for less than one to five years; one-third worked 6 more years. About one-half of the respondents had experiences in administrative dietetics from less than one year to five years; the other half from 6 to 10 years or 11 or more as administrative dietitians.

Characteristics of the Institutions

Management dietitians in this study worked predominantly in full-service hospitals with out-patient departments, while about one-fourth worked in community hospitals with limited out-patient departments, university medical centers, nursing homes, and long-term care hospitals. Eighty-three percent of the respondents were employed in non-profit institutions, and the remainder worked in profit-making institutions. About one-half of the respondents worked in medium sized facilities, while almost one-third worked in hospitals with 100 to 299 beds. The remaining respondents worked in small facilities with 100 beds or less or in large facilities with 1,000 or more beds.

The workplace of the respondents were located in cities with a population ranging from 2,000 to 10 million, with the predominant size of location being under 100,000. One-half of the institutions had only one administrative dietitian, and one-fourth had two administrative dietitians on staff. In contrast, one-fourth of the facilities employed only one clinical dietitian, while another one-fourth employed between two or three dietitians on staff.

About three-fifths of the institutions hired from one to five supervisors, and one-fifth hired from six to eight supervisors. About one-third of the institutions had only one clerical person, while 19 of the institutions did not employ clerical staff at all. About half of the institutions had two to six clerical staff, and only one facility indicated having 21 clerks. The total number of personnel in the dietary department ranged from 1 to 340, with about half the institutions hiring from 1 to 80 dietary employees. Two-fifths of the institutions employed from 81 to 200, while only one facility hired 326 dietary personnel.

QWL of Dietitians With Management Responsibilities in Health Care Delivery Systems

The QWL expected scores under various assumptions such as Actual Work on Present Job (AWPJ), Pay and Benefits (PB), Opportunities for Promotion (OFP), Supervision on Present Job (SPJ), People in Your Present Job (PPJ), Organization (ORG), Performance Constraint Measures (PC), and General Job Satisfaction (GJS) are illustrated in Table IV. Management dietitian jobs in this study were somewhat fascinating, pleasant, and creative. Female dietitians scored higher than did their male counterparts in items describing actual work on their present jobs. Respondents who attained their R.D. status via the grandfather clause scored higher in AWPJ, indicating that they thought more positively toward their work than those who attained R.D. status by examination. Age did not affect AWPJ scores. Those who completed the three years of pre-planned work experience or the traineeship scored higher than those whose routes to ADA membership were the

internship, CUP, or master's degree plus six months of work experience. Dietitians who completed the three years of pre-planned work experience and traineeship appeared to think more positively about their jobs than did CUP graduates. AWPJ scores showed that consultants, "others," and directors scored higher than those with the title of generalist dietitian. In other words, consultants, "others," and directors thought more positively about their work than generalist dietitians (Figure 8). Perhaps generalist dietitians preferred working with a variety of responsibilities than with the more specialized and increasingly complex responsibilities of management dietitians.

Dietitians employed in larger institutions thought more positively about their jobs than those employed by smaller institutions. Perhaps more challenges are available in larger institutions. Meanwhile, dietitians working in nursing homes scored above the AWPJ mean score, while dietitians in full-service hospitals with out-patient departments scored the lowest in AWPJ.

According to management dietitians in this study, their pay and benefits were perhaps good, adequate, and above average. Dietitians who attained R.D. status via the grandfather clause scored slightly higher than those who attained R.D. status by way of examination; however, the difference was not significant. Dietitians whose R.D. status was via the grandfather clause seemed happier and thought more positively towards their current pay and benefits. Dietitians in the 50 to 59 age group scored higher in PB than those in the 20 to 29 year age group, indicating that the older dietitians were more content with their pay and benefits than the younger group of dietitians.

Management dietitians in this study believed that their opportunities for promotion were about average. Only one variable, position title, affected OFP scores. Consultant dietitians' mean scores for OFP were significantly different from those of generalist dietitians. Mean scores of assistant directors, administrative dietitians, and "other" were not significantly different from one another and were in a group by themselves. Dietitians who attained their ADA membership by the traineeship route scored significantly higher than those whose membership route was the master's degree plus six months of work experience. The three year work experience, CUP or internship, were in a group by themselves. Dietitians whose route was either internship or master's degree plus six months of work experience scored lower than the total mean on the balance attitude score, so obviously these two groups perceived their work situation as having less than average OFP. Also, dietitians working in larger institutions scored significantly higher than those who worked in fewer than 100 bed or 100 to 299 bed institutions. Perhaps larger institutions provided better opportunities for promotion for their staffs.

The Supervision on Present Job, according to management dietitians in this study, were up-to-date, tactful, and influential. The personal variables did not affect SPJ scores. Management dietitians working in institutions of 1,000 beds or more scored significantly higher than dietitians in institutions with either 100 to 299, or fewer than 100 beds. The type of institution did affect SPJ scores. Those employed in "other" facilities tended to view their supervision more positively than those employed in long-term hospitals or university medical centers.

According to respondents in this study, people in their present job were stimulating, ambititious, responsible, intelligent, loyal, and helpful. Management dietitians perceived their co-workers positively. A majority of the respondents held administrative titles and generally felt happy with dietitian colleagues. Dietitians in larger institutions scored higher compared to those working in smaller facilities. PPJ scores relative to type of institutions came out opposite that of AWPJ and OFP scores, relative to type of institutions as expected. Dietitians in more traditional settings felt more positively toward their colleagues compared to those in non-conventional settings.

Dietitians perceived their jobs, in general, as pleasant, good, better than most, and enjoyable. Highest degree attained and R.D. status affected JIG scores significantly. Dietitians who attained R.D. status via the grandfather clause scored slightly higher and above the total mean score than those who took the R.D. examination. Management dietitians with doctoral degrees scored far below the total mean score for JIG compared to their colleagues with either the B.S. or M.S. degree. Obviously, dietitians with doctorates were not as happy with their jobs in general. Perhaps dietitians holding Ph.D. degrees were often more challenged with teaching and/or research responsibilities, either in medical centers or other institutions of higher learning. In contrast, dietitians with B.S. or M.S. degrees perceived their jobs positively. The JIG scores, relative to institution type, resulted in the same scores as those for PPJ, where dietitians in more traditional settings felt more positively towards their jobs in general when compared to those in non-conventional settings,

and also towards people on their present jobs; however, the scores were opposite that of AWPJ and OFP scores relative to institution type, as expected. With regards to AWPJ and OFP scores, dietitians in less traditional settings indicated earlier, perceived their jobs as having more challenges and opportunities for promotion, but they scored lower for JIG and PPJ.

The QWL dimension: Organization dealt with how individuals felt about the formal and informal organizational structure where they work. In this study, management dietitians perceived their organization as somewhat progressive, a good organization to work for, and one with a good reputation. Younger dietitians scored below the total mean score for ORG. Females scored above the total mean score and males scored below the total mean score. Management dietitians with B.S. and M.S. degrees scored higher than those with Ph.D.'s. Also, respondents who attained R.D. status via the grandfather clause scored higher than respondents who took the R.D. examination. Dietitians whose route to ADA membership was the three year, pre-planned work experience, scored higher than those respondents whose route was the CUP program. Traineeship and master's degree plus six months of work experience scored about the same, and internship was in a group by themselves. Consultant dietitians scored the highest, but did not significantly differ from administrative dietitians, assistant directors, and directors. The scores of these groups of dietitians, however, differed significantly from the scores of the generalist dietitians. Obviously, management dietitians with generalist titles, but functioning as dietitians with management responsibilities in health care, did not think positively about the organizations they

worked for. Also, dietitians working in 300 or more bed facilities felt more positively about their organizations than respondents working in smaller facilities. ORG scores also indicated that management dietitians working in full-service hospitals and nursing homes were much happier and pleased with their organizations.

The Performance Constraint measure (PC) dealt with how individuals perceived aspects of their work environment relative to resources, assistance, and support which promotes or hinders performance. None of the variables affected performance constraint scores. Dietitians in this study seemed content with their work environment and apparently had adequate resources with which to accomplish their jobs. Management dietitians working in 300 or more bed facilities, however, had a more positive attitude, which meant less constraint existed in their jobs. Similar to the ORG scores, dietitians working in full-service hospitals with out-patient departments, "other," and nursing homes were much happier, indicating less performance constraints in their positions.

The General Job Satisfaction dimension measures not only attitudes towards the job, but also includes the overall evaluation of all components of work. Management dietitians in the 50 to 59 age range scored the highest in GJS and were significantly different from those in the 20 to 29 age group. Dietitians who attained R.D. status via the grandfather clause scored higher than those who took the registration examination.

Five statements comprised the GJS dimension and chi-square determinations were performed to determine which personal and institutional variables affected each of these five statements (Table XXVII).

Statement 1: "Generally speaking, I am very satisfied with this job" was affected by sex. Of the 161 female respondents, 114 agreed with the statement; in constrast, only three out of seven male respondents did the same. One male dietitian slightly agreed, while three others disagreed. Also, type of institution impacted on the statement. About three-fourths of those who were employed in full-service, community, and long-term hospitals tended to agree with Statement 1. Only slightly over or under half of those employed by university medical centers, nursing homes, and "other" facilities agreed with the same.

Type of institutions affected scores for Statement 2: "I frequently think of quitting this job." About one-half of those employed in full-service and community hospitals, nursing homes, university medical centers, and "other" facilities disagreed or disagreed strongly with Statement 2. In contrast, all four respondents in long-term hospitals disagreed or disagreed strongly with the same statement.

None of the personal or institutional variables had any impact on GJS Statement 3: "I am generally satisfied with the kind of work I do in this job." Management dietitians scored Statement 3 similarly. Scores for Statement 4: "Most people on this job are very satisfied with the job" was affected by highest degree attained and R.D. status. Three-fourths of those management dietitians having a B.S. or M.S. degree agreed or agreed strongly with the statement. Two respondents with doctorate degrees also agreed or agreed strongly with the statement. Fifty percent of the respondents who achieved the R.S. status via the grandfather clause agreed or agreed strongly, whereas only about one-fifth of the respondents who achieved R.D. status via the examination agreed or agreed strongly with Statement 4.

Scores for Statement 5: "People on this job often think of quitting" were affected by position title. Three-fourths of those dietitians employed as director, assistant director, and administrative dietitians disagreed and disagreed strongly with the statment, while only one-fourth of those employed as generalist dietitians, consultants, and "other" disagreed with the statement.

Testing the Hypotheses

A summary of associations between QWL dimension scores and personal and institutional variables is shown in Table XXVIII. The accepted level of significance was $p \leq .10$. Out of the 18 hypotheses tested, the researcher rejected seven and failed to reject 11.

Recommendations

Surrogate measures of QWL are being utilized, not only in the manufacturing industry, but in the service industry as well. Examples of these are measures of absenteeism, tardiness, attitudes toward work, and job satisfaction. QWL is a much more comprehensive concept, and may encompass not only the nine dimensions included in this study, but perhaps others as well. Additional work is needed to search for the most carefully constructed, valid, reliable, objective, and usable research instrument to measure QWL.

In this study the Job Descriptive Index (JDI) was used as the base of the research instrument, and three dimensions were added. Under the General Job Satisfaction (GJS) section, perhaps additional statements could be included based on future literature review. Under Performance Constraint (PC), which is a measure of frustration, stress,

TABLE XXVIII

SUMMARY OF ASSOCIATIONS BETWEEN QWL DIMENSION SCORES AND PERSONAL/INSTITUTIONAL VARIABLES

Hypotheses	Association Between QWL Dimensions and Variables		Observed Level of Significance	Action Taken*
1	Actual work in present job	Personal		
		sex	0.0975	
		R.D. status	0.0160	R
		route to ADA membership	0.0561	
2	Actual work in present job	Institutional		
		none		FTR
3	Pay and Benefits	Personal		
		R.D. status	0.0830	R
4	Pay and Benefits	Institutional		
		none		FTR
5	Opportunities for Promotion	Personal		
		position title	0.0384	R
6	Opportunities for Promotion	Institutional		
		none		FTR
7	Supervision on Present Job	Personal		
		none		FTR
8	Supervision on Present Job	Institutional		
		type	0.0678	R

TABLE XXVIII (Continued)

Hypotheses	Association Between QWL Dimensions and Variables		Observed Level of Significance	Action Taken
9	People on Present Job	Personal		
		none		FTR
10	People on Present Job	Institutional		
		none		FTR
11	Job in General	Personal		
		highest degree attained	0.0717	R
		R.D. status	0.0618	
12	Job in General	Institutional		
		none		FTR
13	Organization	Personal		
		none		FTR
14	Organization	Institutional		
		none		FTR
15	Performance Constraints	Personal		
		none		FTR
16	Performance Constraings	Institutional		
		none		FTR

TABLE XXVIII (Continued)

Hypotheses	Association Between QWL Dimensions and Variables		Observed Level of Significance	Action Taken
17	General Job Satisfaction	Personal		
		R.D. status	0.0269	
	Statement 1	sex	0.0907	
	Statement 2	none		
	Statement 3	none		
	Statement 4	highest degree attained	0.0004	R
	Statement 5	position title	0.0217	
18	General Job Satisfaction	Institutional		
	Statement 1	type	0.0533	
	Statement 2	type	0.0118	R

*R = Reject; FTR = Fail to Reject

and/or fatigue level could be added. The impact of salary levels on the QWL dimensions needs to be investigated.

A follow-up procedure should be instituted, sending reminder postcards or letters accompanied by copies of the instruments, which may elicit more response than the 42 percent response in this study. Another research in the department (Taylor, 1984) investigated the QWL of Dietitians in Business and Industries using the same research instrument but with a different list of personal and institutional variables. Perhaps other ADA practice groups should also be studied. In addition, the endorsement of the practice group chairpersons should be solicited. A cover letter from these individuals may increase the response rate of the surveys.

Implications

A number of trends are evolving in the work environment of professionals. These are: job sharing, flexitime, shorter work week, extended vacation/leisure time, "cafeteria style" fringe benefits, stress as related to traditional vs. nontraditional jobs for men and women, wellness centers, non-mandatory retirement age, and others. Many of these trends may impact on QWL scores. Perhaps these trends should be investigated, and additional dimensions may ultimately be added to the QWL questionnaire. On the other hand, additional research in the field may indicate a different set of dimensions altogether in defining QWL. Since human resource is the most important resource in any organization, studies to enhance the QWL of personnel should perhaps be given its due share, time-wise or attention-wise, by all organizations.

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APPENDIXES

APPENDIX A

CORRESPONDENCE

Oklahoma State University

Department of Food, Nutrition and Institution Administration

STILLWATER, OKLAHOMA 74078
(405) 624-5039

February 15, 1984

Dear Colleague:

As management dietitians, you are well aware that quality of worklife (QWL) has been linked with work performance. The QWL of many professional groups and blue collar workers have been measured, however, to date, only one study have involved dietitians in general. At Oklahoma State University, we are conducting several research projects on organizational performance measures and two students are concentrating on QWL of professionals. A colleague will survey DIBI, while I plan to survey ADA dietitians with management responsibilities in health care delivery systems.

The questionnaire encompasses several QWL issues: feelings and commitment toward the organization, pay and benefits, job security, management, relations with your immediate supervisor, advancement issues, co-worker relations, and the job itself. Information gained from this study can hopefully assist human resource managers, and dietitians in management in improving the QWL of professionals involved in health care.

A summary of the findings will be shared with you in the newsletter Market Link. The forms are coded for analysis only and results will not be identified with you or your organization at any time. After completing the questionnaire, please fold, staple and return it to us on or before March 9, 1984. If you have questions, please call us at (405)624-5039. Your assistance is appreciated.

Sincerely,

Denise K. Leche

Denise K. Leche
Graduate Student &
ADA Member

Lea L Ebro

Lea L. Ebro, Ph.D., R.D.
Associate Professor
(Member DEP, DIBI, and ADA Dietitians with Management Responsibilities in Health Care Delivery Systems Practice Groups).

APPENDIX B

RESEARCH INSTRUMENT

APPENDIX B

RESEARCH INSTRUMENT

ORGANIZATION

Think about the organization you work for. In the blank beside each word below, put:

Y if it describes your organization
N if it does NOT describe it
? if you cannot decide

___Too big
___Feel you belong
___Has a good reputation
___Progressive
___Needs some fresh people at the top
___Higher management keeps us in the dark about things we ought to know
___Efficient
___Too much class distinction
___Looks after employees well
___Too many rules and regulations
___Insufficient coordination between departments
___A good organization to work for

PAY AND BENEFITS (Copyright, Bowling Green State University, 1975, 1983)

Think of the pay and benefits you get now. How well does each of the following words describe your present pay? In the blank beside each word, put:

Y if it describes your pay
N if it does NOT describe it
? if you cannot decide

___Income adequate for normal expenses
___Satisfactory profit sharing
___Barely live on income
___Bad
___Income provides luxuries
___Insecure
___Less than I deserve
___Highly paid
___Underpaid
___Fair
___Good benefits
___Too long between pay days
___Steady work
___Well paid
___Too little vacation
___Clear pay policy
___Above average for job
___Unfair
___Errors in payment
___Not enough increases

SUPERVISION ON PRESENT JOB (Copyright, Bowling Green State University, 1975, 1983)

Think of the kind of supervision that you get on your job. How well does each of the following words describe this supervision? In the blank beside each word below, put:

Y if it describes the supervision you get on your job
N if it does NOT describe it
? if you cannot decide

___Asks my advice
___Hard to please
___Impolite
___Praises good work
___Tactful
___Influential
___Up-to-date
___Doesn't supervise enough
___Quick tempered
___Tells me where I stand
___Annoying
___Stubborn
___Knows job well
___Bad
___Intelligent
___Leaves me on my own
___Around when needed
___Lazy
___Has favorites
___Good listener
___Tells me how I'm doing
___Interferes with my work
___I'm unsure who supervises me
___Keeps me informed
___Poor planner
___Gives clear directions

OPPORTUNITIES FOR PROMOTION (Copyright, Bowling Green State University, 1975, 1983)

Think of the opportunities for promotion that you have now. How well does each of the following words describe these? In the blank beside each word put:

Y for "Yes" if it describes your opportunities
N for "No" if it does NOT describe them
? if you cannot decide

___Good opportunities for promotion
___Opportunity somewhat limited
___Promotion on ability
___Dead-end job
___Good chance for promotion
___Unfair promotion policy
___Infrequent promotions
___Regular promotions
___Fairly good chance for promotion
___Clear promotion policy
___Rather stay on present job
___Consistent promotion policy
___Could be worse
___Others have better opportunities
___Promotion depends on who you know
___Less than elsewhere

PEOPLE IN YOUR PRESENT JOB (Copyright, Bowling Green State University, 1975, 1983)

Think of the majority of the people that you work with now or the people you meet in connection with your work. How well does each of the following words describe these people? In the blank beside each word below put:

Y if it describes the people you work with
N if it does NOT describe them
? if you cannot decide

___Stimulating
___Boring
___Slow
___Ambitious
___Stupid
___Responsible
___Fast
___Intelligent
___Easy to make enemies
___Talk too much
___Smart
___Lazy
___Unpleasant
___No privacy
___Active
___Narrow interests
___Loyal
___Hard to meet
___Work well together
___Do their share
___Prejudiced
___Helpful
___Willing to listen
___Stubborn
___Interfere with my work
___Gossipy

ACTUAL WORK ON PRESENT JOB (Copyright, Bowling Green State University, 1975, 1983)

Think of the actual work you do on your present job. What is it like most of the time? In the blank beside each word given below, write:

Y for "Yes" if it describes your work
N for "No" if it does NOT describe it
? if you cannot decide

___Fascinating
___Routine
___Satisfying
___Boring
___Good
___Creative
___Respected
___Hot
___Pleasant
___Useful
___Tiresome
___Healthful
___Challenging
___On your feet
___Frustrating
___Simple
___Endless
___Gives sense of accomplishment
___Repetitive
___Hectic
___Well defined duties
___Too much to do
___Tiring
___Physically uncomfortable
___Pressured

JOB IN GENERAL (Copyright, Bowling Green State University, 1975, 1983)

Now, think of your job in general. What is it like most of the time? In the blank beside each word given below, write:

Y for "Yes" if it describes your job
N for "No" if it does NOT describe it
? if you cannot decide

___Pleasant
___Bad
___Ideal
___Waste of time
___Good
___Undesirable
___Worthwhile
___Worse than most
___Acceptable
___Like to leave
___Better than most
___Disagreeable
___Makes me content
___Inadequate
___Excellent
___Rotten
___Enjoyable
___Poor

PERFORMANCE CONSTRAINT MEASURE

The following statements are designed to assess your perceptions of various aspects of work situations. In the space provided beside each statement below, put:

Y for "Yes" if it describes your situation
N for "No" if it does NOT describe it
? if you cannot decide

___Job related information (from supervisors, peers, subordinates, patients, organization rules, policies, and procedures, etc.) needed to do the job assigned is readily available.

___The specific tools, equipment, and machinery needed to do the job are sufficient.

___The materials and supplies needed to do the job are difficult to obtain.

___Financial resources and budgetary support necessary to accomplish tasks that are a part of the job are adequate.

___The services, assistance, and support from others needed to do the job assigned are available.

___Time needed to do the job assigned is available, taking into consideration both the time limits imposed and the interruptions, unnecessary meetings, non-job related distractions, etc.

___Do you feel there is a conflict of interests between your job responsibilities and your standards of professional responsibility as an ADA member?

___The physical aspects of the immediate work environment interfere with rather than facilitate with doing the assigned tasks (not too noisy, too cold, or too hot, inappropriate work area, poorly lit, unsafe, etc.).

___There is an adequate number of qualified personnel to select from when a vacancy exists.

GENERAL JOB SATISFACTION

Write a number in the blank for each statement, based on this scale:

How much do you agree with the statement?

1	2	3	4	5	6	7
Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly

___1. General speaking, I am very satisfied with this job.
___2. I frequently think of quitting this job.
___3. I am generally satisfied with the kind of work I do in this job.
___4. Most people on this job are very satisfied with the job.
___5. People on this job often think of quitting.

Please make sure you have completed both the front and back portions of each page. Your participation is very much appreciated. Please fold the questionnaire into thirds and staple it closed. After closing, the return address should be visible, and postage is provided. Thank you.

APPENDIX C

QUESTIONNAIRE ANSWER KEY

ORGANIZATION

Think about the organization you work for. In the blank beside each word below, put:

Y if it describes your organization
N if it does NOT describe it
? if you cannot decide

N Too big
Y Feel you belong
Y Has a good reputation
Y Progressive
N Needs some fresh people at the top
N Higher management keeps us in the dark about things we ought to know
Y Efficient
N Too much class distinction
Y Looks after employees well
N Too many rules and regulations
N Insufficient coordination between departments
Y A good organization to work for

PAY AND BENEFITS (Copyright, Bowling Green State University, 1975, 1983)

Think of the pay and benefits you get now. How well does each of the following words describe your present pay? In the blank beside each word, put:

Y if it describes your pay
N if it does NOT describe it
? if you cannot decide

Y Income adequate for normal expenses
Y Satisfactory profit sharing
N Barely live on income
N Bad
Y Income provides luxuries
N Insecure
N Less than I deserve
Y Highly paid
N Underpaid
Y Fair
Y Good benefits
N Too long between pay days
Y Steady work
Y Well paid
N Too little vacation
Y Clear pay policy
Y Above average for job
N Unfair
N Errors in payment
N Not enough increases

SUPERVISION ON PRESENT JOB (Copyright, Bowling Green State University, 1975, 1983)

Think of the kind of supervision that you get on your job. How well does each of the following words describe this supervision? In the blank beside each word below, put:

Y if it describes the supervision you get on your job
N if it does NOT describe it
? if you cannot decide

Y Asks my advice
N Hard to please
N Impolite
Y Praises good work
Y Tactful
Y Influential
Y Up-to-date
N Doesn't supervise enough
N Quick tempered
Y Tells me where I stand
N Annoying
N Stubborn
Y Knows job well
N Bad
Y Intelligent
Y Leaves me on my own
Y Around when needed
N Lazy
N Has favorites
Y Good listener
Y Tells me how I'm doing
N Interferes with my work
N I'm unsure who supervises me
Y Keeps me informed
N Poor planner
Y Gives clear directions

OPPORTUNITIES FOR PROMOTION (Copyright, Bowling Green State University, 1975, 1983)

Think of the opportunities for promotion that you have now. How well does each of the following words describe these? In the blank beside each word put:

Y for "Yes" if it describes your opportunities
N for "No" if it does NOT describe them
? if you cannot decide

Y Good opportunities for promotion
N Opportunity somewhat limited
Y Promotion on ability
N Dead-end job
Y Good chance for promotion
N Unfair promotion policy
N Infrequent promotions
Y Regular promotions
Y Fairly good chance for promotion
Y Clear promotion policy
N Rather stay on present job
Y Consistent promotion policy
Y Could be worse
N Others have better opportunities
N Promotion depends on who you know
N Less than elsewhere

PEOPLE IN YOUR PRESENT JOB (Copyright, Bowling Green State University, 1975, 1983)

Think of the majority of the people that you work with now or the people you meet in connection with your work. How well does each of the following words describe these people? In the blank beside each word below put:

Y if it describes the people you work with
N if it does NOT describe them
? if you cannot decide

Y Stimulating
N Boring
N Slow
Y Ambitious
N Stupid
Y Responsible
Y Fast
Y Intelligent
N Easy to make enemies
N Talk too much
Y Smart
N Lazy
N Unpleasant
N No privacy
Y Active
N Narrow interests
Y Loyal
N Hard to meet
Y Work well together
Y Do their share
N Prejudiced
Y Helpful
Y Willing to listen
N Stubborn
N Interfere with my work
N Gossipy

ACTUAL WORK ON PRESENT JOB (Copyright, Bowling Green State University, 1975, 1983)

Think of the actual work you do on your present job. What is it like most of the time? In the blank beside each word given below, write:

Y for "Yes" if it describes your work
N for "No" if it does NOT describe it
? if you cannot decide

Y Fascinating
N Routine
N Satisfying
N Boring
Y Good
Y Creative
Y Respected
N Hot
Y Pleasant
Y Useful
N Tiresome
Y Healthful
Y Challenging
N On your feet
N Frustrating
N Simple
N Endless
Y Gives sense of accomplishment
N Repetitive
N Hectic
Y Well defined duties
N Too much to do
N Tiring
N Physically uncomfortable
N Pressured

JOB IN GENERAL (Copyright, Bowling Green State University, 1975, 1983)

Now, think of your job in general. What is it like most of the time? In the blank beside each word given below, write:

Y for "Yes" if it describes your job
N for "No" if it does NOT describe it
? if you cannot decide

Y Pleasant	N Like to leave
N Bad	Y Better than most
Y Ideal	N Disagreeable
N Waste of time	Y Makes me content
Y Good	N Inadequate
N Undesirable	Y Excellent
Y Worthwhile	N Rotten
N Worse than most	Y Enjoyable
Y Acceptable	N Poor

PERFORMANCE CONSTRAINT MEASURE

The following statements are designed to assess your perceptions of various aspects of work situations. In the space provided beside each statement below, put:

Y for "Yes" if it describes your situation
N for "No" if it does NOT describe it
? if you cannot decide

Y Job related information (from supervisors, peers, subordinates, patients, organization rules, policies, and procedures, etc.) needed to do the job assigned is readily available.

Y The specific tools, equipment, and machinery needed to do the job are sufficient.

N The materials and supplies needed to do the job are difficult to obtain.

Y Financial resources and budgetary support necessary to accomplish tasks that are a part of the job are adequate.

Y The services, assistance, and support from others needed to do the job assigned are available.

Y Time needed to do the job assigned is available, taking into consideration both the time limits imposed and the interruptions, unnecessary meetings, non-job related distractions, etc.

N Do you feel there is a conflict of interests between your job responsibilities and your standards of professional responsibility as an ADA member?

N The physical aspects of the immediate work environment interfere with rather than facilitate with doing the assigned tasks (not too noisy, too cold, or too hot, inappropriate work area, poorly lit, unsafe, etc.).

Y There is an adequate number of qualified personnel to select from when a vacancy exists.

GENERAL JOB SATISFACTION

Write a number in the blank for each statement, based on this scale:

How much do you agree with the statement?

1	2	3	4	5	6	7
Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly

7 1. General speaking, I am very satisfied with this job.
1 2. I frequently think of quitting this job.
7 3. I am generally satisfied with the kind of work I do in this job.
7 4. Most people on this job are very satisfied with the job.
1 5. People on this job often think of quitting.

Please make sure you have completed both the front and back portions of each page. Your participation is very much appreciated. Please fold the questionnaire into thirds and staple it closed. After closing, the return address should be visible, and postage is provided. Thank you.

APPENDIX D

CHI-SQUARE TABLES

LIKELIHOOD RATIO CHISQUARE 26.251 DF= 24 PROB=0 3405

SAS 10:09 SATURDAY, MAY 26, 1984 11

TABLE OF SEX BY GJS1

SEX GJS1

FREQUENCY EXPECTED CELL CHI2 PERCENT ROW PCT COL PCT	1	2	3	4	5	6	7	TOTAL
1	7	6	13	2	19	73	41	161
	6.7	7.7	13.4	1.9	19.2	70.9	41.2	
	0.0	0.4	0.0	0.0	0.0	0.1	0.0	
	4 17	3 57	7.74	1.19	11.31	43 45	24.40	95.83
	4.35	3.73	8.07	1.24	11 80	45.34	25.47	
	100.00	75.00	92.86	100.00	95.00	98.65	95.35	
2	0	2	1	0	1	1	2	7
	0.3	0.3	0 6	0.1	0.8	3.1	1.8	
	0.3	8.3	0.3	0.1	0 0	1.4	0.0	
	0.00	1.19	0.60	0.00	0.60	0.60	1 19	4.17
	0 00	28.57	14.29	0.00	14.29	14.29	28.57	
	0.00	25.00	7.14	0.00	5.00	1.35	4.65	
TOTAL	7	8	14	2	20	74	43	168
	4 17	4.76	8.33	1.19	11.90	44.05	25.60	100.00

STATISTICS FOR 2-WAY TABLES

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

CHI-SQUARE	10.926	DF= 6	PROB=0.0907
PHI	0.255		
CONTINGENCY COEFFICIENT	0.247		
CRAMER'S V	0.255		
LIKELIHOOD RATIO CHISQUARE	7 282	DF= 6	PROB=0.2956

SAS

TABLE OF TYPE BY GJS1

TYPE GJS1

FREQUENCY EXPECTED CELL CHI2 PERCENT ROW PCT COL PCT	1	2	3	4	5	6	7	TOTAL
1	3 3 2 0.0 1 79 3.95 42.86	1 3.6 1.9 0.60 1.32 12.50	7 6.3 0.1 4.17 9.21 50.00	1 0.9 0.0 0.60 1.32 50.00	10 9.0 0.1 5.95 13.16 50.00	27 33.5 1.3 16.07 35.53 36.49	27 19.5 2 9 16 07 35.53 62 79	76 45.24
2	0 1 8 1.8 0.00 0.00 0.00	1 2.0 0.5 0.60 2.33 12.50	5 3.6 0.6 2.98 11.63 35.71	0 0 5 0.5 0.00 0.00 0.00	5 5.1 0.0 2.98 11.63 25.00	25 18.9 1.9 14.88 58.14 33 78	7 11.0 1.5 4.17 16.28 16.28	43 25 60
3	1 0 2 4.2 0.60 25.00 14 29	0 0.2 0.2 0 00 0.00 0.00	0 0.3 0.3 0.00 0.00 0.00	0 0.0 0.0 0.00 0.00 0.00	0 0.5 0.5 0.00 0 00 0.00	2 1.8 0.0 1.19 50.00 2.70	1 1.0 0.0 0.60 25.00 2.33	4 2.38
4	0 0.6 0 6 0.00 0.00 0 00	3 0 7 8.2 1.79 21.43 37.50	0 1.2 1.2 0.00 0.00 0.00	1 0.2 4.2 0.60 7.14 50.00	1 1.7 0.3 0.60 7.14 5.00	6 6.2 0.0 3 57 42.86 8.11	3 3.6 0.1 1 79 21.43 6.98	14 8.33
5	1 0 5 0 6 0.60 9.09 14 29	1 0.5 0.4 0.60 9.09 12.50	2 0.9 1.3 1.19 18.18 14.29	0 0.1 0.1 0.00 0 00 0.00	0 1.3 1.3 0.00 0.00 0.00	5 4.8 0.0 2.98 45.45 6.76	2 2.8 0.2 1.19 18.18 4 65	11 6.55
6	2 0 8 1 6 1.19 10.00 28.57	2 1.0 1.2 1 19 10.00 25.00	0 1.7 1.7 0.00 0.00 0.00	0 0.2 0.2 0.00 0.00 0.00	4 2.4 1 1 2.38 20.00 20.00	9 8 8 0 0 5.36 45 00 12.16	3 5.1 0.9 1.79 15 00 6.98	20 11.90
TOTAL	7 4.17	8 4 76	14 8.33	2 1.19	20 11.90	74 44 05	43 25 60	168 100 00

STATISTICS FOR 2-WAY TABLES

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

CHI-SQUARE	43 469	DF= 30	PROB=0.0533
PHI	0.509		
CONTINGENCY COEFFICIENT	0.453		
CRAMER'S V	0 227		
LIKELIHOOD RATIO CHISQUARE	42.962	DF= 30	PROB=0.0591

SAS

TABLE OF TYPE BY GJS2

TYPE / GJS2	1	2	3	4	5	6	7	TOTAL
1	33	13	6	7	11	2	4	76
	24.0	16.7	5.9	6 8	12.2	5.0	5.4	
	3 4	0.8	0.0	0.0	0.1	1.8	0.4	
	19.64	7 74	3.57	4 17	6.55	1.19	2 38	45.24
	43.42	17 11	7.89	9.21	14.47	2.63	5 26	
	62.26	35.14	46.15	46.67	40.74	18 18	33 33	
2	7	10	5	4	13	3	1	43
	13 6	9.5	3.3	3.8	6.9	2.8	3.1	
	3.2	0.0	0.8	0.0	5.4	0.0	1.4	
	4.17	5.95	2.98	2.38	7.74	1.79	0.60	25.60
	16.28	23.26	11.63	9 30	30.23	6.98	2.33	
	13 21	27.03	38.46	26.67	48.15	27.27	8.33	
3	3	1	0	0	0	0	0	4
	1.3	0.9	0.3	0.4	0.6	0.3	0 3	
	2.4	0.0	0.3	0 4	0.6	0.3	0.3	
	1 79	0.60	0.00	0.00	0.00	0.00	0.00	2 38
	75.00	25.00	0.00	0.00	0.00	0.00	0 00	
	5.66	2.70	0.00	0 00	0.00	0.00	0.00	
4	1	6	2	0	0	2	3	14
	4.4	3.1	1.1	1.3	2.3	0.9	1.0	
	2 6	2.8	0.8	1.3	2 3	1.3	4.0	
	0.60	3.57	1.19	0.00	0.00	1.19	1.79	8.33
	7.14	42.86	14.29	0.00	0.00	14.29	21 43	
	1.89	16.22	15.38	0 00	0.00	18.18	25.00	
5	3	2	0	2	2	0	2	11
	3 5	2.4	0.9	1.0	1.8	0.7	0 8	
	0.1	0.1	0 9	1.1	0.0	0.7	1.9	
	1 79	1.19	0.00	1 19	1.19	0.00	1 19	6.55
	27.27	18.18	0.00	18.18	18.18	0.00	18.18	
	5.66	5.41	0.00	13.33	7.41	0.00	16.67	
6	6	5	0	2	1	4	2	20
	6.3	4.4	1.5	1.8	3.2	1.3	1.4	
	0.0	0.1	1.5	0.0	1.5	5.5	0.2	
	3 57	2 98	0.00	1 19	0.60	2.38	1.19	11.90
	30 00	25.00	0.00	10 00	5.00	20 00	10.00	
	11.32	13.51	0.00	13.33	3.70	36.36	16 67	
TOTAL	53	37	13	15	27	11	12	168
	31.55	22 02	7.74	8.93	16.07	6 55	7 14	100 00

STATISTICS FOR 2-WAY TABLES

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

CHI-SQUARE	50.193	DF= 30	PROB=0.0118
PHI	0 547		
CONTINGENCY COEFFICIENT	0 480		
CRAMER'S V	0.244		
LIKELIHOOD RATIO CHISQUARE	54.715	DF= 30	PROB=0.0038

SAS

TABLE OF HD BY GJS4

HD GJS4

FREQUENCY EXPECTED CELL CHI2 PERCENT ROW PCT COL PCT	1	2	3	4	5	6	7	TOTAL
1	2 1 9 0 0 1 19 1 87 66 67	9 11.5 0.5 5 36 8.41 50 00	16 11.5 1.8 9.52 14.95 88.89	14 14.6 0.0 8.33 13.08 60.87	20 19.7 0.0 11.90 18.69 64.52	38 40.1 0.1 22.62 35 51 60.32	8 7.6 0.0 4.76 7.48 66.67	107 63.69
2	0 1 1 1.1 0 00 0.00 0.00	9 6.3 1.1 5.36 15 25 50 00	2 6.3 3.0 1.19 3.39 11.11	9 8.1 0.1 5.36 15.25 39 13	11 10.9 0.0 6 55 18 64 35.48	24 22.1 0.2 14.29 40.68 38.10	4 4 2 0.0 2 38 6 78 33.33	59 35.12
3	1 0 0 26.0 0 60 50 00 33.33	0 0.2 0.2 0.00 0.00 0.00	0 0.2 0.2 0.00 0.00 0.00	0 0.3 0.3 0.00 0.00 0.00	0 0.4 0.4 0 00 0.00 0.00	1 0.8 0.1 0.60 50.00 1.59	0 0.1 0.1 0.00 0.00 0.00	2 1.19
TOTAL	3 1.79	18 10.71	18 10.71	23 13.69	31 18.45	63 37.50	12 7.14	168 100.00

STATISTICS FOR 2-WAY TABLES

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

CHI-SQUARE	35.242	DF=	12	PROB=0.0004
PHI	0 458			
CONTINGENCY COEFFICIENT	0 416			
CRAMER'S V	0 324			
LIKELIHOOD RATIO CHISQUARE	16.993	DF=	12	PROB=0.1499

SAS

TABLE OF RD BY GJS4

RD	GJS4							
FREQUENCY EXPECTED CELL CHI2 PERCENT ROW PCT COL PCT	1	2	3	4	5	6	7	TOTAL
1	1 1.5 0.2 0.60 1.20 33 33	5 8.9 1.7 2.98 6.02 27.78	12 8.9 1.1 7.14 14.46 66.67	7 11 4 1.7 4.17 8 43 30.43	15 15.3 0.0 8.93 18.07 48.39	35 31.1 0.5 20.83 42.17 55.56	8 5.9 0.7 4 76 9 64 66.67	83 49 40
2	2 1.5 0.2 1.19 2.35 66 67	13 9.1 1.7 7.74 15.29 72.22	6 9.1 1.1 3.57 7.06 33.33	16 11.6 1.6 9 52 18.82 69 57	16 15.7 0.0 9.52 18.82 51.61	28 31.9 0.5 16.67 32.94 44 44	4 6.1 0.7 2 38 4.71 33.33	85 50 60
TOTAL	3 1.79	18 10.71	18 10.71	23 13.69	31 18.45	63 37.50	12 7.14	168 100.00

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE	11.532	DF=	6	PROB=0.0733
PHI	0.262			
CONTINGENCY COEFFICIENT	0.253			
CRAMER'S V	0.262			
LIKELIHOOD RATIO CHISQUARE	11 826	DF=	6	PROB=0 0660

SAS

TABLE OF TITLE BY GJS5

TITLE GJS5

FREQUENCY / EXPECTED / CELL CHI2 / PERCENT / ROW PCT / COL PCT	1	2	3	4	5	6	7	TOTAL
1	17	31	9	15	14	7	3	96
	14.9	30.9	11.4	16.0	9.1	9 1	4.6	
	0 3	0.0	0.5	0.1	2.6	0.5	0 5	
	10 12	18.45	5.36	8.93	8.33	4.17	1.79	57 14
	17 71	32.29	9.38	15.63	14.58	7 29	3.13	
	65.38	57.41	45.00	53.57	87 50	43.75	37 50	
2	1	8	4	2	0	5	0	20
	3.1	6.4	2.4	3.3	1.9	1.9	1 0	
	1.4	0.4	1.1	0.5	1.9	5.0	1 0	
	0.60	4.76	2.38	1.19	0.00	2.98	0.00	11 90
	5.00	40.00	20.00	10.00	0.00	25.00	0 00	
	3 85	14.81	20 00	7.14	0 00	31.25	0.00	
3	5	4	2	5	0	1	1	18
	2.8	5.8	2.1	3.0	1.7	1.7	0.9	
	1.8	0.6	0.0	1.3	1.7	0.3	0.0	
	2.98	2.38	1.19	2.98	0.00	0 60	0.60	10.71
	27 78	22.22	11.11	27 78	0 00	5.56	5.56	
	19 23	7.41	10.00	17.86	0.00	6.25	12.50	
4	0	2	0	2	0	1	1	6
	0.9	1.9	0.7	1.0	0.6	0.6	0.3	
	0.9	0.0	0.7	1.0	0.6	0.3	1 8	
	0.00	1.19	0.00	1.19	0.00	0.60	0.60	3.57
	0.00	33 33	0.00	33 33	0.00	16.67	16.67	
	0.00	3.70	0.00	7.14	0.00	6.25	12.50	
5	0	2	0	2	0	0	1	5
	0 8	1.6	0.6	0.8	0.5	0 5	0 2	
	0.8	0.1	0.6	1.6	0.5	0.5	2 4	
	0.00	1.19	0.00	1.19	0.00	0.00	0 60	2.98
	0 00	40.00	0.00	40.00	0.00	0 00	20 00	
	0 00	3.70	0.00	7.14	0.00	0.00	12 50	
6	3	7	5	2	2	2	2	23
	3 6	7.4	2.7	3.8	2.2	2 2	1 1	
	0.1	0.0	1.9	0.9	0.0	0 0	0.7	
	1 79	4.17	2.98	1.19	1.19	1 19	1 19	13.69
	13 04	30.43	21.74	8 70	8.70	8.70	8 70	
	11 54	12 96	25.00	7 14	12.50	12.50	25 00	
TOTAL	26	54	20	28	16	16	8	168
	15 48	32 14	11 90	16 67	9 52	9 52	4 76	100 00

STATISTICS FOR 2-WAY TABLES

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

CHI-SQUARE	47.596	DF= 30	PROB=0.0217
PHI	0.532		
CONTINGENCY COEFFICIENT	0 470		
CRAMER'S V	0.238		
LIKELIHOOD RATIO CHISQUARE	45.532	DF= 30	PROB=0 0344

VITA

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