JOB SATISFACTION OF DIETITIANS IN THE ARMY MEDICAL SPECIALIST CORPS

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DISSERTATION

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By

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CHAPTER I

INTRODUCTION

The literature of labor turnover and employee retention has become extensive in the last few years. Numerous studies have been conducted on techniques and procedures said to be useful in retaining employees. These studies emphasized the importance of motivation, job attitudes, and job satisfaction relative to improvement in retention rates and performance levels of employees in organizations. The earliest research studies pertaining to job satisfaction were primarily attempts to determine the general proportions of satisfied and dissatisfied workers. Then came more sophisticated approaches to the study of job satisfaction in which researchers compared such variables as age, education, length of employment, salary, sex, and marital status with degree of satisfaction.

During the 1950s, studies were directed toward assessing job satisfaction of the blue-collar and assembly-line workers. Recently, attention has been devoted to the possibility of job satisfaction/dissatisfaction existing among top level managers and individuals in the professional fields, to include college professors, nurses, presidents of universities, principals of high schools, and dietitians in hospital settings. The majority of the investigations have been conducted with focus on production or managerial workers in industrial settings. Few investigations of job satisfaction have been conducted in churches, hospitals, and educational institutions and an even

smaller number have been conducted in hospital dietetics. In fact, Morgan (1971) commented that food service managers use information from studies of personnel behavior in other industries, even though such studies may not be relevant, because data are not available from the food service industry.

The concern for the study of job satisfaction is important and necessary for the effective operation of contemporary institutions (Spalding and Wayne, 1971). One of the important institutions is the United States Army. While this institution has in recent years been undergoing changes in organizational and administrative procedures, there have been changes in personnel attitudes within military hospital settings. These changes may be attributed to the increased educational requirements, supervision, leadership style, or the rigid structure that exists in the army. Even though military dietitians constitute a small group of professionals in the medical profession in the United States Army, there exists a need for systematic study of variables which may influence dietitians' attitudes toward their professional activities and job satisfaction associated with these variables.

Most organizations, as well as the Army Medical Specialist Corps (AMSC), are concerned about improving job satisfaction and motivation of employees at all organizational levels. The concern relates to program efficiency, effectiveness, and management. Most dietitians in recruiting positions in the army wish to recruit and maintain well qualified and highly motivated interns or trained dietitians. The process of personnel selection, orientation, and training is quite

expensive. For this reason alone, it is often desirable to maximize satisfaction of army dietitians and work to reduce job dissatisfiers.

The Army Dietetic Intership Program, 39 weeks in length, is divided into two phases that follow a week of orientation during which interviews and pretests are conducted for assessment of intern status relative to professional development, interest, and aspirations. Phase I, General Dietetics, is approximately 24 weeks in length and includes first a week of introduction to the program, the environment and resources available, and the role of the dietitian in health care delivery systems. This is followed by basic clinical and classroom experiences in personnel management, financial management, menu planning and normal nutrition, and diet therapy. Introduced later in this phase are subsistence management, quantity food production, safety, sanitation, security, equipment and supply management, space design, education and training, community nutrition, and research methods. Phase II of the internship is designed to provide opportunity for dietetic interns to individually explore, in depth, a specific area in dietetics in which they have a special interest and where there is a recognized need of the army for dietitians with special expertise. During Phase II, interns are provided the opportunity for advanced study in one of the four major areas of interest in dietetics: General, Administrative, Clinical, and Community.

In May 1980, the Office of the Surgeon General provided the researcher with data which indicated that the estimated cost to train an army dietitian has increased on the average about 24 percent since 1975. The estimated cost of training a dietetic intern at

Brooke Army Medical Center, Fort Sam Houston, Texas, was listed as $17,271, while the estimated cost for training at Walter Reed Army Medical Center, Washington, D.C., was $19,890 per 10½ month period. This estimated cost was based on the following factors: (1) the number of interns trained during the year; (2) the interns' salaries while in the training program; (3) the rank and longevity of the staff responsible for the dietetic internship program; (4) the current prices for supplies; and (5) the distance to and length of stay of dietetic interns at affiliated hospitals, which includes temporary duty cost and the annual accreditation fee.

The cost of training Army dietitians is only one of the major reasons for the Army Medical Specialist Corps to develop enrichment activities to maximize job satisfaction and to increase the retention rate.

The productivity of personnel of an organization is contingent, to a large extent, on their motivation and there are many theories and factors that have been identified as contributors to employee motivation and productivity. Two of the most prominent theories to job satisfaction and motivation have been advanced by Maslow (1970) and Herzberg (1959 and 1971). Herzberg developed the Motivation-Hygiene Theory in which he identified both job satisfiers and job dissatisfiers. He hypothesized that the job satisfiers also served as job motivators.

Maslow's hierarchy of needs is an ascending scale from physiological needs to self-actualization needs. Davis (1967) attempted to

equate the top two levels of Maslow's hierarchy with Herzberg's job satisfiers.

Many extraneous variables can influence each of the identified variables in the theories. Therefore, it has been difficult to apply the theories, particularly Herzberg's theory, to the best advantage in everyday situations. No previous formal attempt has been made to apply Herzberg's theory of job satisfaction to dietitians in the Army Medical Specialist Corps.

In the mid-sixties, there were several programs to recruit dietitians for the army, and still today with the reduction of military strength, there exists a need for a recruitment program to replace dietitians who leave the army for one reason or another. There is evidence of low retention rate of dietitians in the army. However, no formal attempts have been made to determine the effectiveness of supervision and training the dietitians received, reasons they were attracted to the army, remained with the army or left the army. Similarly, there have been no formal attempts made to ascertain the level of job satisfaction and factors pertaining to job satisfaction on the part of professional dietitians in the AMSC.

Knowledge of factors affecting dietitians' satisfaction and dissatisfaction is a distinct need of the AMSC. The knowledge of job satisfiers and job dissatisfiers is important in order to identify methods by which the Corps can eliminate or reduce the causes of job dissatisfaction and provide an atmosphere where job satisfiers can be maximized so that professional dietitians in army hospitals can adequately perform their jobs and be satisfied with their performance.

1.1 Statement of the Problem

The industrial segment of society has attempted to identify those factors that influence employees' attitudes, job satisfaction, and performance. However, in the area of hospital dietetics, few studies have been conducted to evaluate the attitudes of dietitians toward their roles and activities within their field. To date, no systematic study has been conducted in the area of army hospital dietetics to identify variables that might influence job satisfaction of army dietitians. The specific problem to be investigated in this study may be stated as follows: What are the relationships between job motivator factors, job hygiene factors and selected demographic variables--sex, educational level, marital status, length of service--and overall job satisfaction of professional dietitians in the Army Medical Specialist Corps? Other variables such as professional position, rank, specialization, mobility, size of hospital, army internship participation, army sponsorship of graduate education programs, career plans, Officer Efficiency Report and informal semi-annual evaluation were investigated in this study.

Herzberg, Mausner, and Synderman (1959) identified five motivator factors (achievement, advancement, recognition, responsibility, and the work itself) and five hygiene factors (supervision, salary, interpersonal relations, working conditions, and policy and administration). Those ten job dimensions were measured in this study by a modified faculty job satisfaction/dissatisfaction scale developed by Olin R. Wood (1973).

1.2 Significance of the Study

Human resources are among the most important components of any organization. Robert and Savage (1973) contend that there are several reasons for being concerned about and measuring worker satisfaction. First, there is a growing concern about human as well as physical assets. Second, studies have suggested that personal satisfaction contributes to job performance. Third, there is evidence that satisfaction is negatively related to absenteeism and turnover, both costly to organizations. Finally, it is generally considered desirable for management to know how employees feel about their jobs. Different employees seek fulfillment of different needs from their jobs.

Cummings (1975) concluded that job satisfaction and dissatisfaction factors can be identified and measured with different groups. He also noted that organizational management can create motivational job satisfaction throughout the total organization if it is willing to determine influencing factors and then apply contemporary management methods.

The Army Medical Specialist Corps should be interested in the factors influencing job satisfaction. The effectiveness of the Corps is influenced in many ways by the ability of the Corps to retain the majority of the professional personnel for which it is responsible for recruiting and training. The researcher obtained data which revealed a low retention rate of army dietitians from May 1971 to June 1977. The data revealed that an average of 30 percent of army dietitians completing the army dietetic internship programs from

1971 to 1977 were still on active duty as of May 31, 1980. The resignation or departure rate ranged from 87 percent in June 1971, to 45 percent in June 1977. During the same time frame, the army was still recruiting and training approximately 12 or more dietetic interns each year. A breakdown of the retention rate of army dietitians from 1971 to 1977 is shown in Table 1.

The Army Medical Specialist Corps is responsible for staffing medical centers, hospitals, research and education units that require dietary services throughout the army. According to an October 1979 roster, the Corps provides dietary staff, in the United States, for 8 medical centers, 27 medical activities (hospitals), 3 research units, 4 educational units, 2 consultant assignments, 2 procurement assignments, 1 metabolic unit--clinical investigation unit, and 1 Chief of the Dietitian Section of the Surgeon General's Office. The Corps is responsible for staffing 10 army hospitals in Europe, 1 in Korea, and 1 in Panama. For this reason, it is important for the AMSC to maintain highly motivated dietitians to staff these positions and attempt to provide motivating factors which will assist in increasing retention rate of army dietitians.

The purpose of the study was to describe the job satisfaction of dietitians in the Army Medical Specialist Corps and add to the body of job satisfaction knowledge aspects concerning job satisfaction and professional personnel.

The findings of this study may be used in several functions of the AMSC. First, the findings may be used by the Chief of the Corps

Table 1

Retention Rate of Army Dietitians from 1971-1977

Army Dietetic Internship Completion Date	Number Completed	Number on Active Duty 31 May 1980	Retention Rate %
May 1971	13	4	30.77
June 1971	15	2	13.33
Aug 1971	10	2	20.00
Jan 1972	8	4	50.00
May 1972	16	7	43.75
Aug 1972	6	1	16.67
May 1973	14	3	21.43
Aug 1973	5	1	20.00
May 1974	15	4	26.67
May 1975	15	4	26.67
June 1976	10	3	30.00
June 1977	20	11	55.00
		Average Retention Rate	30.00

as empirical evidence indicating the extent to which army dietitians are satisfied with their positions and opportunities in the army.

Second, the findings of this study may be used by the medical training centers as a basis for adjusting and improving the training programs. Additionally, that data may be used by the directors of the dietary departments to initiate local staff development and enrichment programs.

Third, the data collected may be used by the Career Activities Office, responsible for all assignments or Permanent Change of Station (PCS) and career development in the Corps to assist in diagnosing factors which influence job satisfaction relative to dietitians' assignments and career development.

Finally, the Chief of the Dietitians' Section could modify the instrument, as needed, and assess job satisfaction of army dietitians on an annual basis in order to keep abreast of factors which may be contributing to job satisfaction and dissatisfaction among these dietitians. This type of information should enhance the Chief's understanding of the type of career preparation or adjustment needed for successful participation as a dietitian in the Army Medical Specialist Corps.

1.3 Objectives of the Study

The main purpose of this study was to describe the degree of job satisfaction of dietitians in the Army Medical Specialist Corps. The specific objectives were to:

1. Describe the demographic characteristics of registered (ADA) army dietitians.

2. Describe the relationships between selected motivator factors (achievement, advancement, recognition, responsibility, and the work itself) and job satisfaction of dietitians in the Army Medical Specialist Corps.

3. Describe the relationships between selected hygiene factors (interpersonal relations, policy and administration, salary, supervision, and working conditions) and job satisfaction of dietitians in the Army Medical Specialist Corps.

4. Describe relationships between the total motivator and total hygiene dimensions of the Motivator-Hygiene theory and job satisfaction.

5. Describe relationships that exist between army dietitians' levels of job satisfaction and their areas of specialization, managerial levels, evaluation system, frequency of permanent change of stations, size of army hospital currently assigned, rank or length of military service, age, educational level, sex, marital status, army internship participation, army sponsorship of graduate education programs, and career plans.

Independent and Dependent Variables

The major dependent variable in this study was job satisfaction score measured by a modified version of the "Job Satisfaction Index" developed by Brayfield and Rothe (1951). The ten dimensions of job satisfaction/dissatisfaction as identified by Herzberg, Mausner, and Snyderman (1959) were considered as dependent variables when their relationships with selected demographic variables were investigated. The ten dimensions were treated as independent variables when

considering their relationships with job satisfaction. Seventeen demographic variables were considered as independent variables: age, marital status, sex, rank, major area of interest, currently serving in major area of interest, educational level, army sponsored graduate education program(s), years of service, career plans in AMSC, size of army hospital, years at present assignment, rating on Officer Evaluation Report, OER plus quarterly or semi-annual evaluation report, number of permanent change of stations, whether or not the respondent participated in an army internship, and current position.

1.4 Definition of Terms

Achievement - The successful completion of a job, problem solution, and observation of the results of a task.

Advancement - Change in job status or military rank of dietitian.

Demographic Factors - Individual characteristics such as age, education, marital status, sex, or rank.

Hygiene Factors - Job dimensions which are associated with the job context but not the job content. Those factors that are functions of the environment--externally mediated. Herzberg, et al. (1959) identified five hygiene factors: working conditions, interpersonal relationships, supervision, salary, organizational policy and administration. Other terms used interchangeably are maintenance factors, extrinsic factors and context factors.

Interpersonal Relations - Professional relationships of military dietitians and other military staff members and civil service employees.

Job Dissatisfaction - Negative attitudes of workers brought about by discontent with their work and/or work situation.

Job Satisfaction - Positive attitudes of workers toward the organization, their job, their fellow workers, and other psychological objects in the work environment; measured by a score on the 14-item Brayfield-Rothe Scale.

Motivator Factors - Job dimensions which allow an individual to reach toward self-actualization through his work. Herzberg, et al. (1959) also identified five factors which were considered as motivator factors: achievement, recognition, growth or advancement, responsibility and work itself.

Motivator-Hygiene Theory - A dual continuum theory of job satisfaction developed by Herzberg, Mausner and Snyderman (1959).

Organizational Policy and Administration - Those components of a sequence of events in which some overall aspect of the institution (U.S. Army) is a factor.

Recognition - An act of identification by another individual or group regarding an endeavor or act. It can be in the form of praise, criticism, or blame.

Responsibility - The inherent duty to act, to carry out a task, or see that it is performed satisfactorily.

Supervision - Assistance provided by one in a superior position to influence job performance of subordinates.

Work Itself - The actual performance of a job or its tasks resulting in either positive or negative feeling.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this chapter is to present literature on the major theories of job satisfaction. There will be a brief overview of the major schools of thought or the historical trends concerning the factors believed to be most conducive to employee job satisfaction and a thorough discussion of the theories that dominate the contemporary scene. Two major theories have dominated the contemporary scene: Maslow's Need Hierarchy theory and Herzberg's Motivator-Hygiene theory. These theories have been explored in business, industry and education with minimum application to the dietetic or food service industry. However, the related literature discussed in this chapter refers to the theories and logic of job satisfaction and how they are applicable to dietetics.

Supportive studies on demographic information relative to job satisfaction will also be presented.

2.1 Theories of Job Satisfaction

While systematic attempts to study the nature and causes of job satisfaction as such did not begin until the 1930s, the important role played by a worker's "attitudes" in determining his actions in the job situation was recognized long before. Taylor, for example, said of scientific management in 1912:

> . . .in its essence, scientific management involves a complete mental revolution on the part of the workingman engaged in any particular establishment or industry. . . . And it involves the equally complete mental revolution on the part of those on the management's side. . . (Taylor, 1970).

By "attitude" Taylor meant much more than just feelings; he meant the workers' philosophy concerning cooperation with management and their view of their own self-interest. He implicitly assumed that a worker who accepted the scientific management philosophy and who received the highest possible earnings with the least amount of fatigue would be satisfied and productive (Locke, 1976).

The problem of fatigue reduction which was a concern of both Taylor and Gilbreth (Taylor in Merrill, 1970) continued to be investigated during World War I and into the 1930s. The Industrial Health and Fatigue Boards in Great Britain carried out extensive investigations of the effects of hours of work and rest pauses on fatigue and performance. Other researchers in Great Britain, Germany, and the United States made extensive studies of such environmental factors as illumination, ventilation, and noise on fatigue (Locke, 1976).

The Hawthorne studies which Mayo and his colleagues initiated in the late 1920s also began a study of the effects of such factors as rest pauses and incentives on productivity. But the emphasis soon shifted to the study of "attitudes" when the employees failed to react in a mechanistic manner to changes. In short, the Hawthorne researchers discovered what Taylor had observed decades before: that workers have minds and that the appraisals they make of the work situation affect their reactions to it. As with Taylor, the

term attitude, as the Hawthorne researchers used it, referred to more than just job satisfaction. It included such things as the employees' view of management, of the economic situation at the time, their hypotheses about the purpose of the studies, and their moods (Locke, 1976).

Two years after Mayo's preliminary report on the Hawthorne studies appeared, Hoppock (1935) published the first intensive study of job satisfaction. Hoppock's orientation was not toward any particular management philosophy. Rather his results and interpretations emphasized the multiplicity of factors that could affect job satisfaction, including both factors that had been studied previously (fatigue, monotony, working conditions, supervision) and those which were only to be emphasized later (achievement) (Locke, 1976).

The Hawthorne studies rather than Hoppock's shaped the trend of research during the 1930s and 1940s, however. The outgrowth of the work of Mayo and colleagues, Hoppock, and the studies of leadership of the armed forces in World War II represented the "Human Relations" movement. This school of thought emphasized the role of good supervision, cohesive work groups and friendly employee-management relations. Leaders of this movement in the postwar years were industrial sociologists such as Homans and Whyte and psychologists Likert, Marrow, and Fleishman (Locke, 1976).

According to Locke (1976), the Human Relations movement may have reached the peak of its influence in the late 1950s or early 1960s.

The publication of Herzberg, Mausner, and Snyderman's monograph in 1959 signaled the beginning of a new trend which was to refocus attention on the work itself, a factor which had been ignored or de-emphasized by nearly everyone except the Industrial Health Research Board. The emphasis of the Herzberg group was on vertical rather than horizontal job enlargement. The new emphasis suggested that real satisfaction with the job could only be provided by allowing individuals enough responsibility and discretion to enable them to grow mentally. The contemporary Work Itself School of thought emphasizes the attainment of satisfaction through growth in skill, efficacy, and responsibility made possible by mentally challenging work (Locke, 1976).

Present day theories of job satisfaction have been divided by Campbell, et al. (1970) into two categories, content theories and process theories. Under content theories, Maslow's (1943) Needs Hierarchy Theory and its development by Herzberg into the two factor theory (motivator-hygiene) of job satisfaction will be considered under this heading. The process theories include such theories as those relative to needs, values, expectancies, group reference, and how variables combine to determine overall job satisfaction.

Content Theory

Content theories attempt to specify the particular needs that must be satisfied or the values that must be attained for an individual to be satisfied with his job. Two major theories have dominated the contemporary scene: Maslow's Need Hierarchy theory

and Herzberg's Motivator-Hygiene theory. These two theories will be discussed in this section.

In our contemporary culture, the role of the occupation has been linked to the worker's "needs." One of the first proponents of a specific theory pertaining to human motivations and needs was Abraham Maslow (1943). Maslow suggested that a relationship existed between an individual's occupational role and his "need levels." In his "Self-Actualization" theory Maslow developed a hierarchy of need levels which included: (1) physiological needs--air, water, food, sleep, and sex; (2) safety needs--freedom from physical threats and harm as well as economic security; (3) belongingness or love needs--identification, lover, and group interaction; (4) ego and esteem needs--the need for mastery and achievement and the need for recognition and approval of others; and (5) self-actualization needs--realization of one's full potential, continued self-development, and use of creative abilities. The basic assumptions of Maslow's theory are that a satisfied need is not a motivator of behavior and that some needs, if unmet, are more urgent than others (Maslow, 1943).

In support of the need theory approach, many studies have found that self-actualization and autonomy, or the highest need categories, were felt to be the most important and least fulfilled across most levels of management. A study by Porter (1962) involving perceptions of lower and middle-management positions indicated that lower-level management positions were more likely to produce deficiencies in fulfillment of psychological needs than were the middle-management positions. However, middle managers are almost as dissatisfied as

lower management in the highest order need--self-actualization. In addition, Porter concluded that the increasing dissatisfaction at lower and middle levels of management represented the increasing differences between what is expected and what the person perceives as equitable.

When need fulfillment is viewed in relation to occupational level within the industrial hierarchy, consistent results also emerged as confirmed by Centers and Bugental (1966). In interpreting their results relative to Maslow's need hierarchy, it could be said that individuals in lower-level occupations are most likely to be motivated by lower-order needs (pay, security) because these are not sufficiently gratified to allow higher-order needs to become prepotent. Man's unmet physiological needs are the most urgent and become the first determinants of behavior. If and when physiological needs are relatively satisfied, safety needs (freedom from threat of bodily and psychological harm) emerge as determinants of behavior. They become "prepotent," to use Maslow's term (Centers and Bugental, 1966).

When man's physiological needs are satisfied and he is no longer fearful about his physical welfare, his social needs become important motivators of his behavior--needs for belonging, for association, for acceptance by his fellows, for giving and receiving friendship and love. Above the social needs--in the sense that they do not become motivators until lower needs are reasonably satisfied--are the needs of greatest significance to management and to man himself. They are the egoistic needs and they are of two kinds:

(1) Those needs that relate to one's self-esteem--needs for self-confidence, for independence, for achievement, for competence, for knowledge. (2) Those needs that relate to one's reputation--needs for status, for recognition, for appreciation, for the deserved respect of one's fellows (McGregor 1972).

Unlike the lower needs, these are rarely satisfied; man seeks indefinitely for more satisfaction of these needs once they become important to him. But they do not appear in any significant way until physiological, safety, and social needs are all reasonably satisfied.

Finally, a capstone, as it were, on the hierarchy of man's needs --these are called the needs for self-fulfillment. These are the needs for realizing one's own potentialities, for continued self-development, for being creative in the broadest sense of that term.

Closely related to Maslow's theory is the Motivator-Hygiene theory developed by Herzberg, Mausner, and Snyderman (1959). Herzberg is an industrial psychologist, who formulated a theory of job motivation which has ideological similarities to Maslow's more general conceptualization. The theory resulted from a study which dealt with an attempt to find a convincing answer to what people want from their jobs. This study was designed to test the concept that man has two sets of needs: his need as an animal to avoid pain and his need as a human to grow psychologically. The Motivator-Hygiene theory of job attitudes began with a depth interview of over 200 engineers and accountants who represented a cross section of Pittsburgh's industry.

They were asked about events they had experienced at work which either had resulted in a marked improvement in their job satisfaction or had led to a marked reduction in job satisfaction. The interviewers began by asking the engineers and accountants to recall a time when they had felt exceptionally good about their jobs. Keeping in mind the time that had brought about the good feelings, the interviewers proceeded to probe for the reasons why the engineers and accountants felt as they did. The employees were asked also if the feelings of satisfaction in regard to their work had affected their performance, their personal relationships, and their well-being (Herzberg, Mausner and Snyderman, 1959).

Finally, the nature of the sequence of events that served to return the employees' attitudes to "normal" was elicited. Following the narration of a sequence of events, the interview was repeated, but this time the subjects were asked to describe a sequence of events that resulted in negative feelings about their jobs (Herzberg, et al., 1959).

From a review and an analysis of previous publications in the general area of job attitudes, a two-factor hypothesis was formulated to guide the original investigation: this hypothesis suggested that the factors involved in producing job satisfaction were separate and distinct from the factors that led to job dissatisfaction. Since separate factors needed to be considered depending on whether job satisfaction or job dissatisfaction was involved, it followed that these two feelings were not the obverse of each other. The opposite of job satisfaction would not be job dissatisfaction, but rather no

job satisfaction; and similarly, the opposite of job dissatisfaction is no job dissatisfaction--not job satisfaction (Herzberg, et al., 1959).

Herzberg, et al. (1959) identified five factors that stood out as strong determiners of job satisfaction--achievement, recognition, work itself, responsibility, and advancement--the last three being of greater importance to lasting change of attitudes. These five factors appeared very infrequently when respondents described events that paralleled job dissatisfaction feelings. Herzberg concluded that the first set of factors are closely associated with job satisfaction and that, indeed, if a manager wanted to provide incentives to motivate his workers, he should try to build these kinds of satisfaction into the job.

The most frequent factor relating to job satisfaction was achievement. The second and third most frequent factors were recognition and the work itself, respectively. The factor, the work itself, included challenging work, varied work, and the opportunity to do a complete job. The fourth factor, responsibility, included doing work without supervision, being responsible for one's own efforts, and being responsible for the work of others. Herzberg concluded that achievement can stand independently of recognition as a source of good feelings about the job. Recognition was somewhat less independent of achievement. The study by Herzberg noted that company policy and administration is the single most important factor in determining bad feelings about a job (Herzberg, et al., 1959).

When the factors involved in the job dissatisfaction events were coded, an entirely different set of factors evolved. These factors were similar to the satisfiers in their undimensional effect. This time, however, the factors served to bring about job dissatisfaction and were rarely involved in events that led to positive job attitudes. Also, unlike the "satisfiers," the "dissatisfiers" consistently produced short-term changes in job attitudes. The major "dissatisfiers" were company policy and administration, supervision, salary, interpersonal relations, and working conditions (Herzberg, et al., 1959).

Since the dissatisfier factors essentially describe the environment and serve primarily to prevent job dissatisfaction, while having little effect on positive attitudes, Herzberg chose to use the term "hygiene" factors. This is an analogy to the medical use of the term preventative and environmental. Another term for these factors in current use is "maintenance" factors. The "satisfiers" were named the "motivators," since other findings of the study suggested that they were effective in motivating the individual to superior performance and efforts (Herzberg, et al., 1959).

Most of the recent literature has been unclear as to the exact job factors that served as motivator and hygiene factors. The theory proposed by Herzberg and associates has been the subject of much controversy in the field of management. The findings of the studies have not been disputed as much as the methodology utilized in the studies. Replication of Herzberg's original study has been conducted

on a sizable number of groups with fairly similar results. Therefore, many of the criticisms concerning its reliability have been overcome.

Friedlander (1964) conducted a study which basically substantiated the findings of Herzberg, that "motivator" and "hygiene" factors were not on the same continuum. He found that "motivator" factors were more closely associated as being an index of personal growth and self-actualization, while "hygiene" factors were related to environmental and physical characteristics of the job. Friedlander's study failed to agree with part of Herzberg's theory in that intrinsic job characteristics were important in both satisfaction and dissatisfaction, while the extrinsic aspects were relatively unimportant as "motivator" and "hygiene" factors.

The four major "motivator" factors as identified by Herzberg, the work itself, achievement, recognition, and responsibility, were classified as motivating the individual to reach self-actualization in Maslow's hierarchy.

Davis (1967) developed a helpful comparison of Maslow's hierarchy of needs and Herzberg's Motivator-Hygiene Model. The model showed that motivational factors were primarily derived from the work content. The total group of motivator factors as identified by Herzberg (1959) was closely related to the self-actualization needs identified by Maslow (1970).

House and Wigdor (1967) conducted a review of studies based on Herzberg's Motivator-Hygiene Theory. They concluded that a given factor can lead to job satisfaction for one person and to job dissatisfaction for another or vice versa. House and Wigdor concluded

that variables that can partially determine whether factors will be a source of satisfaction or dissatisfaction on the job were job level, age of employee, sex of employee, formal education, culture, time dimension, and standing in the group. They further concluded that a given factor can cause job satisfaction or dissatisfaction in the same sample. They agreed with Herzberg that the intrinsic job factors are more important to job satisfaction.

Significance of Hygiene and Motivator Factors

In brief, the hygiene factors meet man's need to avoid unpleasantness. "I don't like to be treated this way; I don't want to suffer the deprivation of low salary; bad interpersonal relationships make me uncomfortable." In other words, Herzberg, et al., (1959) noted that employees want their lives to be hygienically clean. He also noted that attention to hygienic needs is important for without it any organization, as we know it, will reap the consequences of unhappy personnel. The error, of course, lies in assuming that prevention will unleash positive health and the returns of increased productivity, lowered absenteeism, turnover and all the other indices of manpower efficiency. The effect of improved hygiene lasts for only a short time. In fact, man's avoidance needs are recurrent and of an infinite variety, and as such, we will find that demands for improved salary, working conditions, interpersonal relations will continue to occupy the personnel administrator without any hope of escaping the "What have you done for me lately" (Herzberg, 1972). There is nothing wrong with providing the maximum of hygienic benefits to the employee, as

much as the society can afford. What is wrong is the summation of human needs in totally hygienic terms.

The motivator factors, on the other hand, make employees happy with their jobs because they serve man's basic and human need for psychological growth; a need to become more competent. The employee's gratification is accrued from accomplishment, from the expression of his own abilities, from the exercise of his own decisions. The job itself must provide sufficient variety, sufficient complexity, sufficient challenge and sufficient skill to engage the abilities of the employee. Morse (1953) noted that if there is one confirmed finding in all the studies of worker morale and satisfaction, it is the correlation between the variety and challenge of the job and the gratifications which accrue to workers.

Criticism of the Motivator-Hygiene Theory

Since the initial impact of Herzberg's theory, there has been much criticism of it. Some opponents feel that the classification system is oversimplified, rigid, and contrived and does not take enough individual difference into account. Wernimont (1966) found that both hygienes and motivators can cause either satisfaction or dissatisfaction with the motivators being the more potent variable in most cases.

Based upon a review of some forty studies related to Herzberg's Two-Factor theory of motivation, House and Wigdor (1967) have raised four criticisms of Herzberg's theory.

First, they state that the theory is methodologically bound. The critical incident method of Herzberg leads to this finding. People will respond in such a way to take credit for satisfactory events but will protect their self-images and blame failure on the environment. This leads, therefore, to the hygiene-motivator and satisfaction-dissatisfaction correspondence.

Second, the interpretation of the respondents' statements are evaluated by a rater under an uncontrolled condition. The findings, therefore, could be contaminated by evaluation method.

A third criticism is the lack of an overall measurement of job satisfaction. Any person could dislike a part of his job but like other parts and thus have an overall acceptability of the job. They indicate that Herzberg's measures would not show this.

Finally, the theory is not consistent with prior findings in research on satisfaction and productivity. House and Wigdor (1967), therefore, concluded that Herzberg's statement of motivation theory and job satisfaction is an oversimplification.

Vroom (1964) has been the chief critic of Herzberg's theory. He contended that differences between sources of satisfaction and dissatisfaction could be the result of factors within the individual. The essence of Vroom's argument was that people take credit for things when they are going well and try to protect themselves by blaming failure on other factors when things are going badly.

Vroom (1964) was also critical of the theory because of its inconsistency with other evidence. He noted research which refuted the dual continuum theory of job satisfaction and job dissatisfaction.

Whitsett and Winslow (1967) reviewed several studies which were critical of the Motivator-Hygiene Theory. Their review indicated that three primary mistakes were made in the studies: misinterpretation of the original theory, misinterpretation of results, and methodological weaknesses. They noted that when all the studies were taken in total, little evidence to disprove the validity of Herzberg's theory was provided. Even some of the most critical studies have provided, at least, partial support of the theory.

Process Theory

Process theorists see job satisfaction as being determined, not only by the nature of the job and its context, but by the needs, values, and expectations that individuals have in relation to their job. For example, some individuals have a greater need for achievement; such individuals are likely to be more frustrated than those whose need is less. Process theories attack the view that increases in job satisfaction simply arise by giving individuals more of a variable that normally leads to satisfaction, i.e., for money. If an individual expects a $10.00 pay raise, then a raise of $5.00 might well be positively dissatisfying. Yet, while all process theorists agree that job satisfaction depends on the relationship between the individual and his work environment, there are considerable differences of view as to which process relates to job satisfaction. At least three classes of theory have been put forward: that job satisfaction is determined by the extent of the discrepancy between what the job offers and what the individual expects, what the individual needs, and what the individual values (Gruneberg, 1979).

Expectancy and Equity Theory

The Expectancy and Equity theory argues that job satisfaction occurs when employees compare what they put into a job and the rewards they receive with those of others and find that they are equitably treated. There is a psychological contract between employer and employee, that for a given amount of effort, there should be a given amount of reward. Only where the rewards and efforts are seen as reasonable in terms of the rewards of other people is there satisfaction (Gruneberg, 1979).

What then happens when there is a discrepancy between the individual's effort and reward, and those of others? According to equity theory, the employee may well put less into his work, take extended coffee breaks, give poorer *quality* production and so on. He might decide to withdraw from the situation or he might change his expectations to be more in line with what he is receiving. Certainly the evidence of Lawler and O'Gara (1967), for example, is that when underpaid, individuals behave so as to increase outcomes but to reduce inputs. Subjects in their experiment increased the quantity but reduced the quality of their work in order to increase payments for less input. Other studies have confirmed that under-reward leads to dissatisfaction (Pritchard, Dunnette, and Jorgenson, 1972).

There have been a number of versions of expectancy theory which share common assumptions. One assumption is that individuals are proactive; that is, they anticipate consequences and act according to those anticipations, rather than just respond reactively to events as

they occur. Another assumption is that there is a built-in rationality to the way we relate the alternative behaviors open to us to our needs and, in turn, to our anticipations as to consequences. A third assumption of expectancy theory is that we modify our anticipations according to our experience (Bobbit, Breinholt, Doktor, and McNaul, 1978).

Essentially, expectancy theory proposes that we choose among alternative behaviors in a fashion that is analogous to Normative Decision-making Models. That is, we anticipate the possible outcomes, we judge the relative value of each possible outcome, and combine this with our assessment of the probabilities with which the alternative actions will lead to each outcome. We then choose the course of action that maximizes our expected values (Bobbit, Breinholt, Doktor, and McNaul, 1978).

In criticizing equity theory, Locke (1976) argued that the problem with this theory is not so much that it has been shown to be wrong but it is so loose that it is able to account for anything.

Reference Group Theory

Many theorists, such as Hulin and Blood (1968), have argued that an understanding of the groups to whom the individual relates (reference group) is of critical importance in understanding job satisfaction.

A study of Klein and Maher (1966) suggested the importance of reference groups. They found that college-educated managers have higher expectations of pay because of their education and that they related their salary to a different reference group, namely a highly

educated and highly paid group, compared to those of non-college educated managers who compared their salaries with other non-college educated and lower paid individuals.

Korman (1977) points out, however, reference group theory leaves many questions unanswered. How, for example, do individuals choose which reference group to relate to? Why reference groups have the expectations they do? What constitutes a reference group? Individuals differ in the reference group they choose because of their own individual personalities. Newcombe (1958), for example, in his famous study of attitude change among girls from conservative backgrounds, entering a liberal American college, found that while many girls took on their parents as reference points and remained conservative, such girls often appeared isolated and unable to relate to other students, and it may be that they were basically insecure individuals. On the other hand, Korman suggests that those most influenced by their reference groups are those with low self-esteem. Those with high self-esteem can afford to ignore the reference group to a large extent. At present the only certainty is that reference group theory is, at best, a partial explanation of how individuals regard the inputs and rewards of the job as equitable (Gruneberg, 1979).

Needs/Value Fulfillment Theory

A number of theorists have argued that it is the degree to which the job fulfills or allows the fulfillment of the individual's needs that determines his degree of job satisfaction (Lofquist and Davis, 1969; Morse, 1953; Porter, 1962; Schaffer, 1953; Wofford, 1971).

However few, if any, of the theorists who subscribe to this view provide an adequate definition of the concept of need; nor do they distinguish this concept from related concepts such as value.

The concept of need arises from the fact that the existence of living organisms is conditional; life depends upon a specific course of goal-directed action. The concept of need refers to those conditions which are required to sustain the life and well-being of a living organism. With respect to man, two interrelated categories of needs can be distinguished: (1) Physical needs: the requirements of a healthy, properly functioning body (e.g., food, water, air, rest); and (2) Psychological needs: the requirements of a healthy, properly functioning consciousness (e.g., sensory stimulation, self-esteem, pleasure). The reason *that man* has psychological as well as physical needs is that his mind (his cognitive capacity, his conceptual faculty) is his means of survival (Rand, 1964).

The concept of need must be distinguished from the concept of value. A value "is that which one acts to gain and/or keep" (Rand, 1964). It is that which one regards as conducive to one's welfare. A value is what a person consciously or subconsciously desires, wants, or seeks to attain. Thus, while needs are "objective" in that they exist regardless of what the person wants, values are "subjective" in the sense that they are "in consciousness" (that is, they are standards in the person's conscious or subconscious mind). While needs are innate, values are acquired. Thus, while all men have the same basic needs, men can (and do) differ in what they value. While his needs confront

man with the requirement of action, his values determine his actual choices and emotional reactions (Rand, 1964).

A number of theorists have stated explicitly that it is the job situation in relation to the individual's values that is the most direct determinant of job satisfaction (Katzell, 1964; Locke, 1969; Likert, 1961; Pelz and Andrews, 1966; Rosen and Rosen, 1955; Smith, Kendall, and Hulin, 1969).

Individuals differ in what they value in a job and this is likely to affect the degree to which they are satisfied. Kuhlin (1963), for example, conducted a study on the job satisfaction of schoolteachers. He found that male teachers wanted more from their job in terms of achievement than female teachers. This discrepancy between what men wanted from the job and what they got was related more to overall job satisfaction than was the discrepancy for women, for whom the job was not such an important aspect of life satisfaction.

Vroom (1964) examined two forms of the need fulfillment theory. The first, the subtractive model, argues that job satisfaction is negatively related to the degree of discrepancy between what the individual needs and the extent to which the job supplies these needs. The greater the total discrepancy, counting all needs, the less the satisfaction; the greater the congruence, the greater the satisfaction.

2.2 Demographic Variables

Numerous studies have been conducted that attempted to develop relationships between variables and level of job satisfaction. Increasing evidence seems to point to the fact that individual

characteristics, such as differences in personality, motivation, and expectation will assist in understanding employee job satisfaction. Some studies support the theory that age, sex, length of service, marital status, and intelligence of workers have an influence upon job satisfaction; other studies refute this relationship. If job satisfaction of the workers is indeed related to lower turnover among employees, increased tenure, and increased efficiency, it becomes imperative to understand which factors are related to higher degrees of job satisfaction among workers.

The demographic characteristics to be examined in this discussion are marital status, sex, age, tenure, and educational level. The organization related variables are organizational size and job level.

Age

Age and tenure have been theorized to have an influence on job satisfaction of employees. Most studies indicate that older people are generally more satisfied on their job. Salinas (1964) found this to be true in the case of satisfaction with pay. Hoppock (1960) compared the job satisfaction of men in 1932 with their feelings twenty-seven years later. Out of the 23 cases, 17 people had higher levels of satisfaction, and only two had lower. Others have believed that a U-shape function exists in that job satisfaction was originally high, dipped in middle age, and returned to a high status later. There are also a number of exceptions to the finding of a U-shaped curve describing the relationship between age and job satisfaction.

Hulin and Smith (1965) concluded that a linear correlation best described the relationship between job satisfaction and age.

Gardner and Moore (1950) concluded that older men are concerned with stability and security. Most factory workers are not likely to advance to higher grades of work or to learn new skills after the age of 40. They usually have adjusted to the work they are performing and are interested in maintaining their positions.

Herzberg (1957) maintained that there is a significant relationship between age and job satisfaction. Morale is high for the youthful employee immediately after employment, drops after the first few years and begins to increase as the workers continue their jobs. Gadel (1953) reported age to be related to motives or incentives. Younger women placed more importance upon interesting jobs with responsibility and the opportunities to use their abilities than older women.

Friedlander (1966) noted that the importance of the work, as a whole, generally increased for low performers until about age 30 with a leveling off during the middle years and a sharp decline after the age of 50 years. The U-shape trend in motivation with age tended to be reversed with higher performers. He concluded that a promotional type of reward tends to be less important to satisfaction of high performers than a sense of achievement and growth.

Saleh and Otis (1964) found that job satisfaction declined for some five years before retirement. They explained this decline as being due to a blockage in the possibilities of growth and achievement. Hoppock (1935) and Plank (1966) found positive relationships between age and job satisfaction of teachers. Fugler (1974) found a positive

relationship between overall job satisfaction and age of employees. A similar relationship existed between overall job satisfaction and length of service to the organization.

Marital Status

Rachman and Kemp (1962) found that married workers were more satisfied with their jobs than single people and that workers with two or more children were significantly more satisfied than those with fewer children. Blum and Russ (1942) concluded that married men considered security more important and placed less importance on advancement than single men. Married women attach more importance to shorter working hours than single women or married men do. Married men emphasize security more than married women do and security was found more important to single women than to single men.

Sex of Workers

The male-female differential in job satisfaction has some interesting, but unresolved aspects. Beer (1964) noted that general satisfaction was low in divisions of a company which had a large proportion of male workers. In a study of sex differences in job satisfaction conducted by Hulin and Smith (1964), a tendency was found for female workers to be less satisfied than male workers. They concluded that it was not sex, per se, that was the crucial factor, rather, it was the entire constellation of variables including pay, job level, promotional opportunities within the company, and societal norms.

Part of the problem of sex differences in job satisfaction studies was interpreted by Ivancevich and Donnelly (1968) as linked to the

differential treatment of women and men with identical credentials. They note the Civil Rights Act of 1964 as a possible step to eliminate the discrepancies so that a clearer conclusion in regard to the existence or non-existence of a sex differential in job satisfaction can be reached.

Zaleznik, Christensen, and Roethlisberger (1958) found women to be more satisfied than men with the same pay and with the same social position.

Herzberg (1959) felt that the greater variability in the attitudes of women can be attributed to the multiple roles assumed by women when they accepted a position outside the home. He further suggested that women's job satisfaction may depend upon factors other than those which affect men.

In addition to studying an absolute sex differential, some researchers have focused on other male-female work differences. In a study of blue-collar workers, Kilbridge (1961) found that males have a higher turnover rate than females, but the women have a higher absentee rate. Champagne and King (1967) concluded that men have a greater need to prove themselves on a job and consider steady work more important. Women, on the other hand, are more concerned with liking their work and having a fair boss.

Wood (1973) found job satisfaction higher for females than for males in the North Carolina Community College system.

Hollen and Gemmill (1976) in studying job satisfaction levels of community college professors found that significant differences did exist between males and females. They found that females generally

experienced less perceived participation in decision making, less job involvement, and less overall job satisfaction.

Fugler (1974) noted in a study that there was no difference in level of job satisfaction in Louisiana Extension Agents when compared by sex.

In general, these male-female distinctions seem to be bound to specific situations and cannot be generalized from one occupation to another or even from one company to the next.

Length of Service

Closely related to age is the variable of tenure or length of service with the organization. As with advancing age, increased tenure seems to correlate with higher job satisfaction. In their study of buyers, Rachman and Kemp (1964) found the happiest buyers were with the company for over 20 years. Similarly, Form and Geschwender (1962) found that workers with ten or more years tenure were significantly more satisfied than those with less.

Alderfer (1967), in his study of blue-collar workers and first-line management workers, found that with increasing seniority a worker is significantly more satisfied with his pay and his opportunity to use his skills and abilities. Job satisfaction has been shown by Hulin and Smith (1965) to increase with increased tenure. Gibson and Klein (1970), however, showed a decrease in satisfaction with increased tenure and attributed this to a realization that the rewards on the job are not going to be as great as they expected.

Educational Level

Vollmer and Kinney (1955) demonstrated that college trained workers expect "more out of life," more favorable working conditions, and more understanding supervision than workers of high school backgrounds.

Similar findings to those of Vollmer and Kinney were reported by Klein and Maher (1966) who studied the pay satisfaction of college-educated and non-college educated managers. Again they found non-college-educated managers to be more satisfied with pay than college-educated managers. Klein and Maher point to the importance of reference groups and argue that college-educated managers will relate their pay to their college contemporaries.

Keffer (1976) discovered that the educational level of field staff of Virginia's Cooperative Extension Service was not related to job satisfaction. Both Warner (1973) and Wood (1973) found a generally positive relationship between educational level of individuals in educational agencies and their overall job satisfaction. However, Wood found those with doctoral degrees expressed somewhat lower levels of job satisfaction.

Organizational Size

In the case of the relationship between organizational size and job satisfaction, the evidence is not clear and is sometimes contradictory. However, behavioral science research has shown that size of the organization does influence work values and/or job satisfaction of employees. Beer (1964) found a relationship between size of a

company and job satisfaction. He notes, however, that there are many intervening variables such as organizational structure, leadership and worker needs, and expectations which qualify this relationship. A mediating variable examined by Porter (1963) is the size of the work group opposed to the size of the overall company:

> Increasing the size of the total organization and thereby achieving the technical advantage of large scale organization, will not necessarily tend to reduce the job satisfaction and morale of employees, as long as intraorganizational units are kept small.

Porter (1963) suggested that there is a point in the organizational hierarchy, somewhere in the middle management levels, at which the disadvantages of working for a large corporation are outweighed by the advantages.

Kast and Rosenweig (1970) noted that organizations are becoming increasingly complex, and Porter, et al., (1975) have found that larger subunits seem to be negatively related to job satisfaction and an individual's tendency to stay on the job.

Job Level

The research in job satisfaction has fairly consistently shown that the level of a worker's job within the industrial hierarchy or status of his occupation holds a direct and strong relationship with the degree of worker satisfaction. Porter and Mitchell (1967) found a relationship in the professional military, i.e., the higher the rank of the officer, the higher the level of satisfaction.

Blausner (1960), in his analysis of industrial trends in modern society, attempts to explain differences in work attitudes

across different occupations and industries in terms of four factors: occupational prestige, control, integrated work groups and occupational communities. It should be noted that the level of skill the job entails, the degree of education or training necessary, and the income typically received play a mediating role on occupational prestige.

Job Satisfaction in Hospital Dietetics

Tansiongkun and Ostenso (1968) conducted a study in job satisfaction in hospital dietetics to investigate: (1) the difference in job satisfaction and importance of psychological needs between vertical levels and managerial positions within the hospital dietary hierarchy; (2) to determine the area of psychological needs which were least fulfilled but of greatest importance to hospital dietitians; and (3) to evaluate deficiencies in fulfillment of psychological needs and their importance to hospital dietitians by rank order. One hundred and twenty-five hospital dietitians replied to a questionnaire on how well their positions met psychological needs classified in five categories: "Security," "Social," "Esteen," "Autonomy," and Self-actualization." The findings of this study included: (a) within the managerial hierarchy, vertical position on the organizational ladder was important in assessing the psychological needs, (b) psychological needs in terms of job satisfaction and their importance were more critical with lower-level managers, i.e., administrative and therapeutic dietitians than to chief or only dietitians, (c) the higher-order needs of self-actualization and autonomy produced greater differences between managerial levels, and

(d) greater gaps in psychological needs between managerial levels were indicated when data were classified by type of hospital control and volume of daily operation than by age or years of professional experience.

Swartz and Vaden (1978) examined work values of women hospital food service workers in relation to several biographical and demographic variables. A significant finding revealed as a result of this research was the strong need, especially among younger workers, for recognition for work accomplished and the desire for work that developed special abilities.

2.3 The consequences of Job Satisfaction/Dissatisfaction

So far the effects of variables on job satisfaction have been reviewed. The aim of this section is to consider how job satisfaction affects a variety of factors. They include: productivity, absence, turnover, counter-productive behavior, and other actions, such as, complaints, grievances, lateness, leaving early, and taking longer than authorized breaks.

Job Satisfaction and Productivity

The literature revealed a fragmentation of opinions concerning the relationship between job satisfaction and productivity. Herzberg (1958, 1971), Maslow (1970), Clegg (1963), and others believed that satisfaction led to productivity. Atchison and Lefferts (1972) conversely contended that productivity led to satisfaction. They based their statements on works by Porter and Lawler. Porter and Lawler believed that productivity is a result of perceiving that certain

behaviors lead to rewards (Atchison and Lefferts, 1972). In this scheme, satisfaction was a result of the individual's rewards matching the individual's perceptions of what was fair and equitable. March and Simon (1958) noted that participation was based on equity. In other words, a person's participation is based on the contributions to be received versus the inducements that are involved.

Bleasco and Alutto (1972) noted that industrial research showed a definite positive relationship between employee productivity and participation in organizational decision-making. In essence, they said that an employee who feels that he has something to say about his job and is recognized for his ability to make decisions will demonstrate greater productivity.

Job Satisfaction and Absence/Turnover

One apparently self-evident result of job dissatisfaction is to increase the likelihood that the individual will withdraw from the work situation, either temporarily, by absenting himself for a short period of time, or permanently by escaping from the organization. When examining the relationship between absence and turnover, Lyons (1972) found support for the view that absence was indeed a predictor of future termination of employment. Typical of the studies which he examined is one by Roman (1963) in which 62 apprentices who left a program over a ten-year period had higher absenteeism than the 137 who stayed. Unfortunately, the evidence is by no means unanimous. Argyle, et al., (1957), for example, found no significant correlation between absence and turnover in 98 work groups, and a number of other studies have

also failed to find any relationship. One reason for the contradictory nature of the results might be that only in a situation in which job alternatives are available are absence and turnover likely to be correlated (Locke, 1976).

Porter and Steers (1973) examined fifteen studies published between 1955 and 1972, and found a positive relationship in all but one. One of the studies that they examined was that of Hulin (1966) who examined the relationship between satisfaction and turnover in a group of female clerical workers. He compared those who left the company and those who stayed over a 12-month period, on a number of dimensions, including their scores on a job satisfaction scale which had previously been administered. The results indicated that those who left the company had substantially lower levels of job satisfaction before leaving the organization than those who stayed. Subsequently, the company introduced changes in salary and promotion with the effect of increasing satisfaction and reducing turnover from 30 percent to 12 percent.

Job Satisfaction and Counter-Productive Behavior

In considering the economic implications of job satisfaction, one area of cost considered by Mirvis and Lawler is that of counter-productive behavior. Mangoine and Quinn (1975) have recently called into question some of the "scaring" statistics produced. They argue that many reports refer only to alarming incidents and suggest that many reports fail to present any adequate statistics on the subject.

Mangoine's and Quinn's (1975) study involved a national sample of 1,327 wage-earners and salaried workers and demonstrated a significant relationship between expressed job satisfaction and self-reports of counter-productive behavior of different kinds. The correlations are not large, but many are statistically significant, indicating that job dissatisfaction can have economic effects over and above those of turnover and absence (Gruneberg, 1979).

Job Satisfaction and Other Actions

There are other actions that could, under certain circumstances, result from job satisfaction or dissatisfaction. Lateness, leaving early, and taking longer than authorized lunch, coffee, and/or rest breaks are ways of temporarily avoiding the job situation. Those types of actions have not been studied, probably because of the difficulty of obtaining valid measurements of them.

There is only slight evidence for a relationship between dissatisfaction and accidents (Vroom, 1964). Hersey (1952) argued for a casual relationship between the presence of high or low emotional status and employee accidents. One possible mechanism by which such states might affect accident rate would be through distraction of the individual's attention from the job and/or distorting his judgment. Alternatively, certain traits in the individual, such as hostility or alcoholism (Hadden, Suchman, and Klein, 1964), might predispose him to be both dissatisfied with his job and prone to engage in accident-producing behaviors.

Complaints and grievances are by definition a response to perceived dissatisfaction with some aspect of the work situation. Fleishman and Harris (1962) found that high grievance rates were found in departments where the supervisors were rated low in consideration and high in initiating structure, a combination which presumably results in dissatisfaction with the supervisor (Locke, 1976).

2.4 Summary

In this chapter, there was a discussion of the major theories of job satisfaction and the extent to which demographic variables are related to job satisfaction. A brief overview of the major schools of thought was presented, which included Taylor's philosophy on job satisfaction, the Hawthorne studies, and the Human Relations Movement.

Theories of job satisfaction were divided by Campbell, et al. (1970) into two categories, content theories and process theories. Content theories give an account of factors with influence on job satisfaction; Maslow's (1943) Needs Hierarchy Theory and its development by Herzberg into the two-factor (Motivator-Hygiene) theory of job satisfaction were discussed under this heading. Process theories try to give an account of the process by which variables such as expectations, needs, and values interact with the characteristics of the job to produce job satisfaction.

The importance or significance of motivator-hygiene factors were briefly discussed. Various criticisms of the Herzberg Motivator-Hygiene Theory were noted. House and Wigdor (1967) raised four criticisms of Herzberg's theory. First, they stated that the theory

is methodologically bound. Second, the interpretation of the respondent's statements are evaluated by a rater under an uncontrolled condition. A third criticism is the lack of an overall measurement of job satisfaction. Finally, the theory is not consistent with prior findings in research on satisfaction and productivity.

Numerous studies were found that showed relationships between demographic variables and levels of job satisfaction but not without inconsistencies. Rachman and Kemp (1962) found that married workers were more satisfied with their jobs than single workers. Wood (1973) found job satisfaction higher for females than for males in the North Carolina Community College System. Hollen and Gemmill found females to be less satisfied among community college professors. Fugler (1974) noted in a study that there was no difference in levels of job satisfaction in Louisiana Extension Agents when compared by sex.

Most studies indicated that the level of job satisfaction increased with age. Salinas (1964) found this to be true in the case of satisfaction with pay. Hoppock (1960) compared the job satisfaction of men in 1932 with their feelings 27 years later. Out of 23 cases, 17 people had high levels of satisfaction and only two had lower.

Closely related to age is the variable tenure or length of service with the organization. As with advancing age, increased tenure seems to correlate with higher job satisfaction. Alderfer (1967), in his study of blue-collar workers and first-line management workers, found that with increasing seniority a worker is significantly more satisfied with his pay and his opportunity to use his skills and abilities. Some

researchers, such as, Gibson and Klein (1970) have shown a decrease in satisfaction with increased tenure and attributed to a realization that rewards on the job are not going to be as great as they expected.

Klein and Maher (1966) found that college-educated managers were more satisfied than non-college educated managers. Keffer (1976) discovered that the educational level of field staff of Virginia's Cooperative Extension Service was not related to job satisfaction. Porter and Mitchell (1967) found a relationship in the professional military hierarchy, i.e., the higher the rank of the officer, the higher the level of satisfaction.

The review of literature provided support and evidence that the logic relative to job satisfaction as applied in business or industrial settings is not limited to those specific fields and that it may be applied to hospital dietetics or the food service industry. It may be noted that this chapter only touches the surface of the number of studies that have been conducted and published on job satisfaction.

CHAPTER III

METHODOLOGY

This research was designed to analyze variables that may have some influence on the level of job satisfaction of dietitians in the Army Medical Specialist Corps. The methodology for this study consisted of five phases: (1) description of the population, (2) instrumentation, (3) data collection, (4) scale analysis, and (5) data analysis.

The procedures used in this study were based primarily upon information ascertained from the review of literature, especially the idea to use a questionnaire to obtain the information needed for analysis. As a result of the review of literature, it was evident that such variables as sex, age, tenure, educational level, organizational size, marital status, and job levels influenced job satisfaction of managers in industrial settings; therefore, some of the same variables might influence job satisfaction of dietitians in army hospital settings. Related literature also revealed that most of the theory and studies previously conducted indicated that there were five factors closely associated with job satisfaction: achievement, advancement or growth, recognition, responsibility, and the work itself. Five other factors were identified as being closely associated with job dissatisfaction: supervision, salary, working conditions, interpersonal relationships, and organizational policy and administration. Other

factors relevant to dietitians in the Army Medical Specialist Corps were also investigated in this study including professional position, rank, specialization, mobility, size of hospital, army internship participation, army sponsorship of graduate education programs, career plans, Officer Efficiency Report and informal semi-annual evaluation.

3.1 Population

The target population for this study was 188 dietitians in the Army Medical Specialist Corps. All members of the AMSC had obtained, at least, a B.S. degree in Food and Nutrition or a related curriculum. Participants in this study were registered members of The American Dietetic Association. Aproximately 78 percent of the participants were female, while 22 percent were males. Fifty-three percent of the population were married, while 47 percent were single. Twenty-four percent of the married army dietitians were married to other military members.

Fifteen dietetic interns were excluded from the study because they were not registered members of The American Dietetic Association. Five of the population indicated that they did not want to participate in the study and did not send the researcher their addresses. The researcher was also a part of the frame, but was excluded from the study; therefore, a total of 21 members of the frame did not participate in the survey. Thus, the population total for this study was 167 army dietitians. The distribution of the population by rank is presented in Table 2.

Table 2

Distribution of the Population by Rank

Rank	Number	Percent
2LT	27	16.2
1LT	26	15.6
CPT	63	37.7
MAJ	29	17.3
LTC	14	8.4
COL	8	4.8
Total	167	100.0

3.2 Instrumentation

In order to assess the level of job satisfaction of dietitians in the AMSC, an instrument was utilized that consisted of three parts. Part I of the instrument was a modified 79-item Job Satisfaction/ Dissatisfaction Scale developed by Wood (1973) and modified by the researcher for army dietitians. Part II of the instrument was the Brayfield-Rothe "Job Satisfaction Index" as modified by Warner (1973). This section of the instrument was used to measure job satisfaction when all facets of the job were considered. Part III of the instrument was developed by the researcher to solicit demographic data such as age, sex, marital status, level of education, and other variables related to dietitians in the AMSC.

Part I of the instrument was utilized to measure army dietitans' satisfaction with the motivator and hygiene factors. This section of the instrument was the Faculty Job Satisfaction/Dissatisfaction Scale developed by Wood (1973). The scale was primarily developed for measuring job satisfaction/dissatisfaction of North Carolina Community College System instructors. It was based on the ten primary dimensions of the motivator-hygiene theory developed by Herzberg, Mausner, and Snyderman (1959). This section of the instrument was used in this research to describe the perception of army dietitians in regard to the following factors: (1) achievement, (2) advancement, (3) recognition, (4) responsibility, (5) the work itself, (6) supervision, (7) salary, (8) interpersonal relations, (9) policy and administration, and (10) working conditions.

One of the main reasons for using this instrument was the similarity between the items on the Faculty Job Satisfaction/Dissatisfaction Scale and the responsibilities and functions of dietitians in the AMSC. A second reason for using the instrument was that the instrument had been designed to measure all ten of Herzberg's motivator-hygiene factors.

The researcher reviewed the instrument and determined that some of the terminology in Wood's instrument was not applicable to dietitians in the AMSC and that minor modifications were needed to make the instrument more relevant to dietitians in the army. Therefore, permission was requested from Wood (see Appendix A) to modify and use his instrument to measure the ten dimensions of Herzberg's motivator-hygiene theory relative to army dietitians. After permission was

granted by Wood (see Appendix A) to modify and use his instrument, the researcher modified the instrument for army dietitians using terminology that was appropriate for the dietetic professional in the army. Five items on the Wood 69-item instrument were considered inappropriate for dietitians in the army and were deleted which resulted in the use of 64 of the original 69 items of the Faculty Job Satisfaction/Dissatisfaction Scale developed by Wood (1973). Fifteen items were added after consulting The Ohio State University Faculty in the Department of Human Nutrition and Food Management and air force dietitians who felt that the Wood instrument did not sufficiently address job related factors characteristic of dietitians in the AMSC.

Part II of the instrument was a modified 14-item Brayfield-Rothe "Job Satisfaction Index." This scale is probably the most widely used scale in which an index of job satisfaction is determined. The 14-item scale has an odd-even product-moment reliability corrected by the Spearman-Brown formula to .870. The Brayfield-Rothe scale was used in this study to obtain a score on job satisfaction for army dietitians when all facets of the job were considered. There were no changes made on this instrument as modified by Warner (1973).

The demographic section constituted Part III of the instrument. This section of the instrument was developed by the researcher to ascertain the following demographic variables relevant to dietitians in the AMSC: age, marital status, sex, rank, major area of interest, current service in major area of interest, level of education, army sponsorship of master's and/or doctorate education programs, years of service as an army dietitian, career in AMSC, size of army hospital,

years at present assignment, Officer Efficiency Report, annual OER plus informal semi-annual evaluation, number of permanent change of stations, participation in army internship program, and current position.

Field Test

After the study had been approved by the dissertation reading committee on July 10, 1980, and the Human Subjects Committee of The Ohio State University on July 25, 1980, a field-test was initiated using 40 dietitians--21 from The Ohio State University hospital, 9 from state hospitals surrounding Columbus, Ohio, and 10 dietitians from the United States Air Force hospitals.

The field-test was conducted to accomplish four objectives: (1) to identify problems associated with the questionnaire relative to instructions, clarity, and ease of response; (2) to determine whether or not the respondents thought that the content of the questionnaire was sufficient and relevant to dietitians employed in hospitals; (3) to establish an estimated time it would take to complete the questionnaire; and (4) to secure an estimate of reliability of the Wood (1973) Faculty Job Satisfaction/Dissatisfaction Scale and Brayfield-Rothe (1951) "Job Satisfaction Index" after modifications had been implemented for army dietitians.

On July 28, 1980, 21 questionnaires for the field-test were hand carried to dietitians located at The Ohio State University hospital; 9 questionnaires were distributed by dispatcher to dietitians located in state hospitals surrounding Columbus, Ohio, and 10 questionnaires

were distributed to air force dietitians--4 to dietitians at Wright Patterson Air Force Base, Fairborn, Ohio, and 6 to dietitians at Andrews Air Force Base in Maryland. Each questionnaire was accompanied by a letter of instruction (see Appendix A). The questionnaires were completed and returned seven days after distribution.

Two separate reliability coefficients were computed for the field-test data. One was computed using 30 civilian dietitians employed at The Ohio State University hospital and surrounding state hospitals. Because of the close resemblance of responsibilities and functions of air force dietitians with those of army dietitians, a second reliability coefficient was computed for the ten air force dietitians. A summary of the analysis is presented in Table 3.

After the field-test data were analyzed and changes incorporated, the questionnaire was finalized for distribution to the population.

3.3 Data Collection

The Dietitians' Section of the Office of the Surgeon General prepares an annual roster of all army dietitians' assignments throughout the United States, Korea, Europe, and Panama. This roster was used to obtain the name, address, rank, and date of assignment of each army dietitian on active duty as of the date of publication of the roster (November 1979). A telephone call to the Career Activities Office, Washington, D.C., was made to confirm the accuracy of the roster. This roster was used for the frame of the study.

On August 15, 1980, a cover letter and the questionnaire (see Appendix B) were mailed along with a stamped, self-addressed, return

Table 3

Reliability Coefficients for Job Satisfaction/Dissatisfaction Scale Modified for Dietitians and Brayfield-Rothe Job Satisfaction Index Using Field-Test Data

Sub-Scale	Number of Items	Cronbach's Alpha Coefficient Civilian n=30	Air Force n=10
Wood Job Satisfaction/ Dissatisfaction Scale Modified for Dietitians			
Achievement	5	.78	.71
Advancement	7	.76	.57
Recognition	7	.76	.82
Responsibility	6	.82	.85
Work Itself	5	.50	.69
Interpersonal Relations	7	.68	.81
Policy and Administration	10	.57	.84
Salary	6	.64	.75
Supervision	13	.95	.62
Working Conditions	6	.31	.51
Overall	72	.95	.94
Brayfield-Rothe Job Satisfaction Index (1951)	14	.84	.87

envelope to 167 army dietitians in such positions as Chief, Food Service Division; Chief, Production and Service Branch; Chief, Clinical Dietetic Branch; education officers, consultants, project officers, and other staff members. An individual package of Sanka coffee was included with the questionnaire to assist in promoting a high rate of return for the questionnaire. Code numbers were used to enhance follow-up activities; no name was required on the questionnaire. Subjects were asked to return the completed questionnaires no later than September 8, 1980.

Follow-up

To induce army dietitians to return the questionnaire, a follow-up form letter (see Appendix A) was developed and mailed September 18, 1980, four weeks after the initial mailing of the questionnaire. This follow-up letter requested the non-respondents to indicate their status relative to the questionnaire. Information requested on the follow-up letter included: whether or not the participants received the questionnaire, whether or not they wanted to participate in the study, and whether or not the questionnaire had been returned to the researcher.

3.4 Analysis of Scales

The Faculty Job Satisfaction/Dissatisfaction Scale developed by Wood (1973) was primarily for measuring job satisfaction/dissatisfaction, utilizing the ten dimensions of Herzberg's Motivator-Hygiene theory. Wood's original instrument was a 116-item scale which he finally condensed to a 69-item scale. A Likert-type scale was used

to measure job satisfaction on Wood's instrument. Respondents were asked to indicate whether they were (6) very satisfied, (5) moderately satisfied, (4) slightly satisfied, (3) slightly dissatisfied, (2) moderately dissatisfied, or (1) very dissatisfied with items on the instrument. Values on the Wood's scale ranged from one to six with one coded "very dissatisfied" and six "very satisfied." This section of the instrument was scored by adding the scores for each item and then dividing by the number of items on the scale to yield a respondent's job satisfaction score on the motivator-hygiene factors. Wood ran reliability coefficients for internal consistency and concluded that the instrument had an adequate level of refinement, validity, and reliability. A summary of the internal consistency and test-retest data as found by Wood is presented in Table 4.

One of the most widely used job satisfaction scales is the index of job satisfaction developed by Brayfield-Rothe (1951). This scale had a Spearman-Brown Coefficient of .82 before it was modified by Warner (1973). The Brayfield-Rothe Scale was developed by using a combination of Thurston and Likert scaling methods. Its evidence of high validity is based on the nature of the items, their construction and their power to differentiate. Warner (1973) reported that studies of the Brayfield-Rothe scale had shown four items to reflect low score value difference ratios. Misinterpretation of those items were also made by respondents. Warner removed the four items which resulted in a split-half correlation of 0.87 as compared to an original correlation of 0.82.

Table 4

Reliability Coefficients for Faculty Job Satisfaction/ Dissatisfaction Scale as Determined by Wood (1973)

Sub-Scale	Number of Items	Internal Consistency Coefficients	Test Retest Coefficients
Achievement	7	.81	.91
Growth	7	.86	.85
Interpersonal Relations	8	.93	.92
Policy and Administration	8	.95	.95
Recognition	5	.85	.94
Responsibility	6	.88	.90
Salary	6	.92	.93
Supervision	11	.96	.95
Work Itself	5	.86	.90
Working Conditions	6	.87	.95
All Sub-scales	69	.98	.99

The Brayfield-Rothe (1951) Scale as modified by Warner (1973) provides a reliable, valid measure of job satisfaction. It was used in this study to ascertain a score on job satisfaction for each subject in the study. The Brayfield-Rothe Index consists of 14 negative and positive statements on a five-point scale ranging from strongly agree to strongly disagree. A respondent who strongly agreed with a positive statement was coded a value of "five." If a respondent

strongly disagreed with the same statement a value of "one" was assigned. For negative statements, "strongly agree" was coded a "one," while "strongly disagree" was coded a five." A scale for the 14 items could range from 14 to 70 since the values for the 14 items were summed.

3.5 Analysis of Data

The major statistical techniques used to analyze the data are presented in this section. The data for this study consisted of scores on the Faculty Job Satisfaction/Dissatisfaction Scale developed by Wood (1973), scores on the Job Satisfaction Index developed by Brayfield-Rothe (1951), and information on 17 selected demographic variables. Each questionnaire item was coded for computer data processing utilizing the Program of the Statistical Package for the Social Sciences (SPSS), computer package developed by Nie, et al. (1975 and SPSS update by Hull and Nie 1979). The computer facilities of the Instructional and Research Computer Center of The Ohio State University were utilized for calculations and data analysis.

The data collected, using both Wood Faculty Job Satisfaction/ Dissatisfaction Scale and the Brayfield-Rothe "Job Satisfaction Index," were considered interval data. When the 79 items on the Wood scale were used to compute the ten dimensions of the Herzberg (1957) Motivator-Hygiene theory, each of the dimensions was considered interval datum. The variable job satisfaction derived from the 14 items on the Brayfield-Rothe "Job Satisfaction Index" was also considered interval datum. The variables age, years in service as an army dietitian,

years at present assignment, size of hospital, and the number of permanent change of stations were also assumed interval data. The subprograms Pearson Corr and scattergram were used to test for linear relationships when two interval level variables were correlated.

The variables sex, marital status, current service in major area of interest, army sponsorship of master or doctorate education program, career in AMSC, OER plus informal semi-annual evaluation, participation in army internship program, major area of interest, and present position were considered nominal data, while rank, level of education, and OER were treated as ordinal data.

Descriptive statistics concerning frequencies, measures of central tendency, measures of variability, and measures of relationship were developed. Point-Biserial Correlation Coefficient was determined in analyzing relationships between variables with nominal-dichotomous data, while one way analysis of variance (subprogram one-way) was utilized in analyzing relationships among variables when three or more groups were compared. Spearman Rank Correlation Coefficient was utilized in analyzing relationships between variables with ordinal data. The subprogram Breakdown was utilized in calculating sums, means, standard deviations, and variances of job satisfaction scores (dependent variable) among the selected demographic variables (independent variables).

The subprogram Regression was used to construct a multiple regression model to determine which of the demographic variables explained more variance in the dependent variable, job satisfaction. A multiple regression model was constructed to determine whether the

five motivator factors (achievement, advancement, recognition, responsibility, and work itself) explained more variance in the dependent variable, job satisfaction, than did the five hygiene factors (interpersonal relations, policy and administration, salary, supervision, and working conditions).

CHAPTER IV

FINDINGS

The results of the research and analyses used in meeting the objectives and fulfilling the purpose of this study are presented in this chapter. In the first section of this chapter, characteristics of the respondents in the study, scores for motivator-hygiene factors, and scores on the Brayfield-Rothe "Job Satisfaction Index" will be described. The second and final section will include the presentation, analysis, and interpretation of job satisfaction data.

One hundred and sixty-seven questionnaires were mailed to the total population of registered dietitians in the Army Medical Specialist Corps (AMSC). One hundred and thirty-three of the 167 subjects responded to the questionnaire. The researcher learned that of the thirty-four nonrespondents, two had resigned from the army during the time frame that the questionnaires were distributed. The two separations reduced the total population to 165 with 32 choosing not to respond to the questionnaires. Therefore, the total number of respondents was 81 percent and nonrespondents was 19 percent.

As of September 18, 1980, four weeks after the questionnaires were mailed, 76 percent of the army dietitians had returned the questionnaire, a follow-up form (see Appendix A) was mailed on the above date. This follow-up resulted in an additional 5 percent return making the response rate 81 percent on October 4, 1980. Data

collection was terminated two weeks after the follow-up. A comparison between respondents and nonrespondents by rank was computed to determine how closely related the percentage of respondents and nonrepondents were to the percentages of rank classifications in the population. A summary of the comparison between respondents and nonrespondents by rank is presented in Table 5.

Table 5

Comparison of Respondents and Nonrespondents by Rank

Rank	Population		Adjustment after Promotions and Separations		Returns		Nonrespondents	
	n	%	n	%	n	%	n	%
2LT	27	16.2	17	10.3	13	9.8	4	12.5
1LT	26	15.6	32	19.4	32	24.1	0	--
CPT	63	37.7	60	36.4	50	37.6	10	31.3
MAJ	29	17.3	30	18.2	24	18.0	6	18.6
LTC	14	8.4	18	10.9	8	6.0	10	31.3
COL	8	4.8	8	4.8	6	4.5	2	6.3
Total	167	100.0	165	100.0	133	100.0	32	100.0

Before analyzing the data, the researcher reviewed the questionnaires for completeness. Usable questionnaires were returned by all army dietitians with only one respondent leaving six items blank. Of the 133 subjects responding to Part I of the instrument (the

79-item Job Satisfaction/Dissatisfaction Scale Modified for Army Dietitians), a cummulative total of 27 items were left blank. The items left blank were not concentrated in any one section of the questionnaire. No respondent left any of the items blank on the Brayfield-Rothe "Job Satisfaction Index"which constituted Part II of the instrument.

The demographic data from Part III of the instrument were coded and the responses for all items from all three parts of the instrument were keypunched on IBM cards. After the data were keypunched on IBM cards, they were subjected to a program called Statistical Package for the Social Sciences (SPSS). SPSS is an integrated system of computer programs designed for the analysis of social science data. The system provides a unified and comprehensive package that enables the user to perform many different types of data analysis in a simple and convenient manner. As the data were keypunched, blanks were recorded for missing values; SPSS procedures treat blanks as zeros. In computing scale scores for the ten dimensions, a method was incorporated which accurately reflected missing values. The SPSS Update Manual by Hull and Nie (1979) suggested the use of a subprogram to handle missing values. Any respondent leaving 25 percent or more of the items on the scale blank is deleted from any calculations, while any respondent leaving 24 percent or less of the items on the scale blank is included in the calculations. When keypunching the 14-items on the Brayfield-Rothe "Job Satisfaction Index," the correct values were assigned to each item, thus eliminating the need to recode the negative statements.

Reliability coefficients were computed for the Brayfield-Rothe "Job Satisfaction Index," the Wood Job Satisfaction/Dissatisfaction Scale Modified for Army Dietitians, and the following sub-scales on the instrument: (1) the motivator factors, individually and collectively--achievement, advancement, recognition, responsibility, and work itself; and (2) the hygiene factors, individually and collectively--interpersonal relations, policy and administration, salary, supervision, and working conditions. When the reliability coefficients were computed for the scales, the SPSS package automatically removed from all reliability calculations any items left blank by the respondent.

The SPSS subprogram Reliability Model Alpha was utilized to calculate the reliability coefficients for the two scales. Model Alpha calculated a Cronbach's Alpha Coefficient which Hull and Nie (1975) felt was the most widely used coefficient of reliability in educational research. No item was left blank by 20 percent or more of the army dietitians; therefore, every item on the Wood and Brayfield-Rothe scales was included in the calculations of the reliability coefficients. A summary of the reliability data is presented in Table 6. For the Wood scale, the coefficients ranged from a low of .72 for working conditions to a high of .95 for supervision; on the Brayfield-Rothe "Job Satisfaction Index" the reliability coefficient was .94.

Table 6

Reliability Coefficients for Wood Job Satisfaction/ Dissatisfaction Scale Modified for Dietitians and Brayfield-Rothe Job Satisfaction Index (n = 133)

Sub-scale	Number of Items	Cronbach's Alpha Coefficient
Wood's Job Satisfaction/Dissatisfaction Scale Modified for Dietitians		
Motivator Factors		
Achievement	5	.81
Advancement	7	.82
Recognition	7	.89
Responsibility	6	.79
Work Itself	5	.80
Hygiene Factors		
Interpersonal Relations	7	.78
Policy and Administration	10	.77
Salary	11	.84
Supervision	13	.95
Working Conditions	7	.72
Overall	78	.96
Brayfield-Rothe Job Satisfaction Index (1951)	14	.94

4.1 Characteristics of the Respondents

One of the primary purposes of the demographic variables was to provide data to permit a description of some general characteristics of the army dietitians. A secondary purpose was to describe the relationships between motivator-hygiene factors and job satisfaction of dietitians in the AMSC. Data concerning the respondents were organized around the following variables: (1) age, (2) marital status, (3) sex, (4) rank, (5) major area of interest, (6) current service in major area of interest, (7) level of education, (8) army sponsorship of Master or Ph.D. education program, (9) years of service as a dietitian, (10) career plans in the AMSC, (11) size of hospital (12) years of service at present assignment, (13) recent *Officer Evaluation Report*, (14) OER plus an informal semi-annual evaluation report, (15) number of Permanent Change of Stations, (16) participation in army internship program, and (17) current position.

Age of Army Dietitians

The data concerning distribution of army dietitians across six age categories are presented in Table 7. The mean age of all army dietitians responding to this study was 29.9 years with a range of 31. Twenty-nine percent of the subjects were in the 22-25 age category, while less than 10 percent were in the over 42 category. Respondents between the ages of 22 and 29 years of age totaled 54.1%. The youngest respondent was 22 years old and the oldest was 53 years of age.

Table 7

Respondents Classified by Age Categories

Age Category	Number	Percent
22-25	39	29.3
26-29	33	24.8
30-33	24	18.1
34-37	20	15.0
38-41	9	6.8
42 and over	8	6.0
Total	133	100.0

Marital Status and Sex

The questionnaire contained four marital status classifications which were collapsed to produce the classes of married and single categories. The married respondents totaled 63.9% and 36.1% were single. The single classification represents the respondents who indicated that they were unmarried, divorced, or separated.

More than 79 percent of the dietitians in the AMSC are females. Of the 133 army dietitians who participated in this study, 77.4% were female while only 22.6% were male. The proportion of male-female respondent rate was similar to the distribution of males and females in the population. Data representing the respondents by marital status and sex are presented in Table 8.

Table 8

Respondents by Marital Status and Sex

Category	Number	Percent
Married	85	63.9
Single	48	36.1
Total	133	100.0
Male	30	23.0
Female	103	77.0
Total	133	100.0

Rank

The breakdown of army dietitians in this study by current rank is presented in Table 9. Of the dietitians responding to the questionnaire, 37.6% held the rank of captain while only 4.5% were colonels.

After collapsing the classifications to form company grade officers (2LT, 1LT, CPT) and field grade officers (MAJ, LTC, COL), the company grade officers represented 71.4% of the respondents and field grade officers represented 28.6%.

Table 9

Respondents Classified by Rank

Rank	Number	Percent
2LT	13	9.8
1LT	32	24.1
CPT	50	37.6
MAJ	24	18.0
LTC	8	6.0
COL	6	4.5
Total	133	100.0
Company Grade	95	71.4
Field Grade	38	28.6
Total	133	100.0

Major Area of Interest

Major area of interest of respondents is presented in Figure 1. Of the respondents 54.9% were interested in administrative positions while 27.8% were interested in clinical positions. According to the data collected, 14.3% were interested in education or teaching positions and 3.1% were interested in positions classified as other which include such positions as consultants and recruiters.

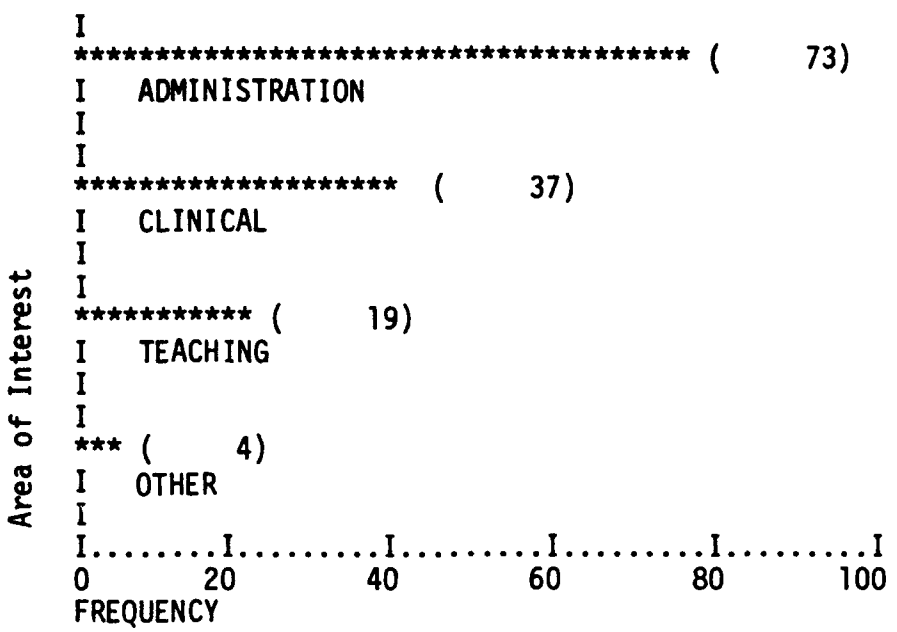


Figure 1. Frequency Distribution of Respondents by Major Area of Interest

Currently Serving in Major Area of Interest

Because of the limited number of positions in army hospitals, it is not always possible to assign all army dietitians to positions in their major area of interest. However, of the 133 respondents in this study, 76.7% were currently serving in positions of their major area of interest while 23.3% were assigned to positions outside their major area of interest.

Level of Education

The minimum requirements for a career in the AMSC, as a dietitian, is a Bachelor of Science degree from an accredited college or university in Foods and Nutrition or related curriculum, plus completion of an approved dietetic internship within the army or a civilian institution. Of the respondents, 33.1% had a Bachelor of Science degree

while 57.9% had a Bachelor of Science degree, and B.S. degree plus additional hours, Master's degree, Master's degree plus hours and Ph.D. degrees were held by 42.1% of the respondents. The distribution of army dietitians by level of education is presented in Figure 2.

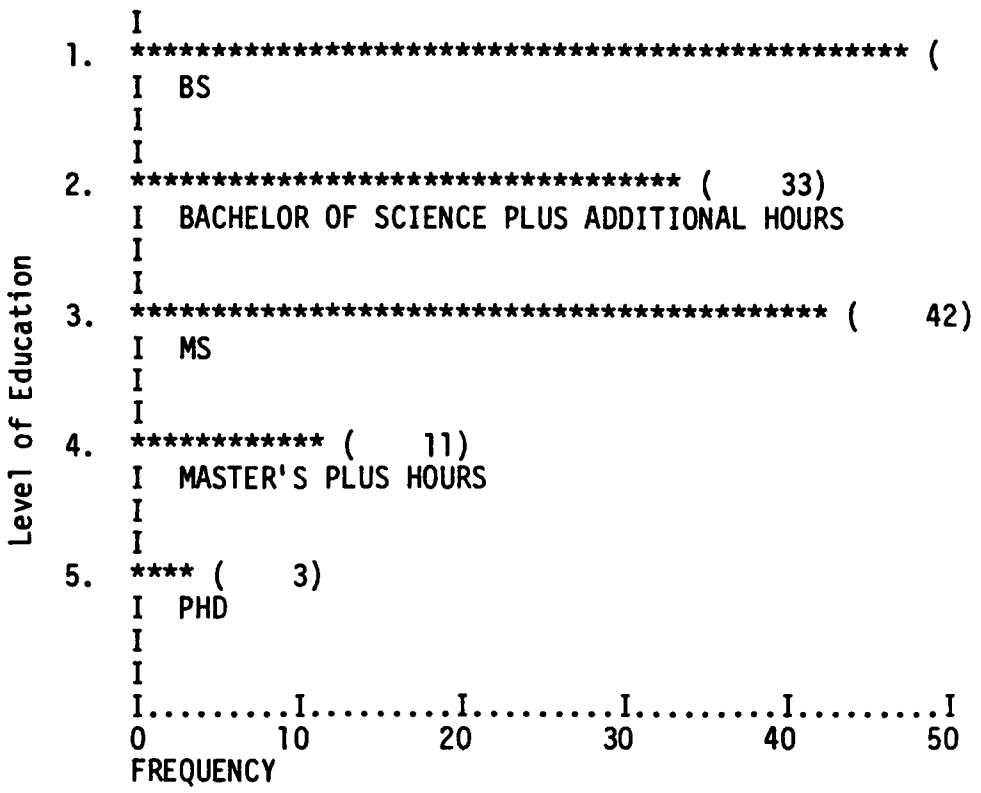


Figure 2. Frequency Distribution of Respondents by Level of Education

Sponsorship of Graduate Education Programs

The data revealed that 51 percent of the respondents had not participated in an army sponsored graduate education program and did not have advanced degrees. The discrepancy between the 57.9% who had not attained an advanced degree in the preceding section and the 51 percent in this section is explained by the fact that some of the

respondents who had not attained an advanced degree have participated in graduate education (Tuition Assistance Programs) sponsored by the army and had not received their degrees. Of the respondents with a Master's or higher degree (Ph.D.), 52 percent participated in army sponsored graduate education programs while 48 percent did not participate in such programs.

Years of Service as an Army Dietitian

Distribution of responding army dietitians by years of service is shown in Table 10. Forty-seven percent of the subjects fall within the 1-4 year category while 3 percent were in the "over 21" category. Most army dietitians can retire after 20 years of service, those army dietitians who do not have a Regular Army Commission are forced to retire after 20 years of service, which accounts for the low percentage of respondents in the "over 21" category. The range of years of service for respondents participating in this study was 26 years. The mean length of service was 7.4 years; the maximum number of years was 27 and the minimum was one year.

Career Plans in the AMSC

Of the 133 respondents participating in the study, 68.4% indicated that they planned to pursue a career in the AMSC as a dietitian, 29.3% indicated that they were not planning a career in the Corps. Three respondents were undecided.

Table 10

Respondents Classified by Years of Service as a Dietitian

Years of Service	Number	Percent
1-4	62	47.0
5-8	16	12.0
9-12	29	22.0
13-16	14	11.0
17-20	7	5.0
Over 21	5	3.0
Total	133	100.0

Size of Hospital

The distribution of respondents by size of army hospital is shown in Table 11. Thirty-one percent of all army dietitians responding to the questionnaire were assigned to large medical centers with operating beds of 501 and over while 15 percent were assigned to smaller hospitals with less than 100 operating beds.

Years of Service at Present Assignment

Army dietitians are a highly mobile group of professionals; in fact, they are transferred approximately every three years. Years of service at present assignment were grouped into six categories. "Zero" category represents those dietitians who had served in their present assignments less than a year. Data in this study revealed

Table 11

Respondents Classified by Size of Hospital

Size (Number of Beds)	Number	Percent
Under 100	20	15.0
101 - 200	20	15.0
201 - 300	25	18.8
301 - 400	7	5.3
401 - 500	15	11.3
Over 501	41	30.8
Other Assignment	5	3.8
Total	133	100.0

that only three respondents had been in their present assignments for five years and 31 percent had been in their present assignment for two years. With reference to the total population, 96.9% were reassigned every three years or less while the most frequent change of assignment was every two years. The distribution of army respondents by years at present assignment is shown in Table 12.

Officer Evaluation Report

The major function of the Officer Evaluation Report is to provide information from the organizational rating chain to the Department of the Army for officer personnel decisions.

Table 12

Respondents Classified by years of Service at Present Assignment

Number of years	Number	Percent
0 = less than a year	29	22.0
1	37	28.0
2	41	31.0
3	21	16.0
4	2	1.0
5	3	2.0
Total	133	100.0

After considering the army's officer requirements, the information is used, along with the individual officer's background, experience, and expertise, to provide a basis for officer personnel actions such as promotion, elimination, retention in grade, retention on active duty, reduction in force, school selection, assignment, speciality designation, and regular army integration. Information on the report is also used by successive members of the rating chain in making their evaluations of the rated officer.

The evaluation process starts at the beginning of the rating period, when the rated officer is assigned to the organization or unit. The rated officer is notified of his rating chain and a discussion of duties and objectives between the rater and the rated officer is

initiated. The rating officer has the responsibility for performance counseling or "coaching." Periodic evaluations should be conducted throughout the rating period to inform the rated officer of the progress of his performance. At the end of the rating period (normally one year), the rated officer receives a copy of the completed evaluation report and a copy is forwarded to the Department of the Army to be placed in the rated officer's permanent "201" file (personnel file).

Part V of the OER contains descriptive terminology used to describe the rated officer's performance of his present duty. In this research, the officer was asked to indicate his most recent rating in this section of his evaluation report. The description of the ratings included: Outstanding, Superior, Excellent, Effective, Marginal, and Inadequate.

One hundred and thirty-three respondents provided information concerning their most recent Officer Evaluation Report. Seventy percent of the subjects received an "outstanding" on their last evaluation while 30 percent received "superior" or lower rating. It should be noted that an "outstanding" rating is the highest rating that an officer can receive in the army. Distribution of the officer evaluation ratings is summarized in Table 13.

The Officer Evaluation Report provides the opportunity for the rated officer to receive feedback information during the rating period with reference to his performance and in many cases this practice is fully utilized. Because of the uncertainty of this practice among dietitians in the AMSC, the researcher incorporated an item on the

Table 13

Distribution of Respondents by
Recent Officer Evaluation Rating

Rating	Number	Percent
Not Received an OER	3	2.3
Inadequate	2	1.5
Marginal	0	0.0
Effective	3	2.3
Excellent	10	7.5
Superior	22	16.5
Outstanding	93	69.9
Total	133	100.0

questionnaire to determine what percentage of army dietitians preferred a quarterly or semi-annual evaluation report.

Of the 133 army dietitians responding to this study, 70.9 percent indicated that they preferred an OER plus an informal semi-annual evaluation and 28.3% indicated that they did not want an additional informal evaluation. One respondent left this question blank.

Number of Permanent Change of Stations

The distribution of army dietitians across three PCS categories is shown in Table 14. Of the 133 respondents, 71 percent of the respondents had made at least five change of stations during their careers in the army while 19 percent had made 6-8 changes and 10 percent

had made 9 or more changes, 5.5% indicated that they had never made a change of station since joining the army. The mean for the respondents' PCS was 3.4 while the mode was one. The range for the respondents' PCS was 14.

Table 14

Respondents by the Number of Permanent Change of Stations

Number of PCS	Number of Dietitians	Percent
0-2	61	45.0
3-5	35	26.0
6-8	24	19.0
9 and over	13	10.0
Total	133	100.0

Participation in the Army Internship Program

Most army dietitians enter the army through accepting and successfully completing an army sponsored dietetic internship. Once completing the internship each officer is obligated to serve three years of service in the army.

Of the 133 respondents, 85.8% participated in the army sponsored dietetic internship program and 13.4% did not. One respondent left the question blank.

Current Position

Of the 133 respondents, 27.1% were Chiefs of Food Service Departments and 32.3% were either Chief of the Production and Service or Clinical Dietetic Branches. Of the remaining dietitians, 20.3% were staff clinical dietitians in the clinical branches while only 3.8% were assigned as staff administrative dietitians in the production and service branches. Distribution of the respondents by current position is shown in Figure 3.

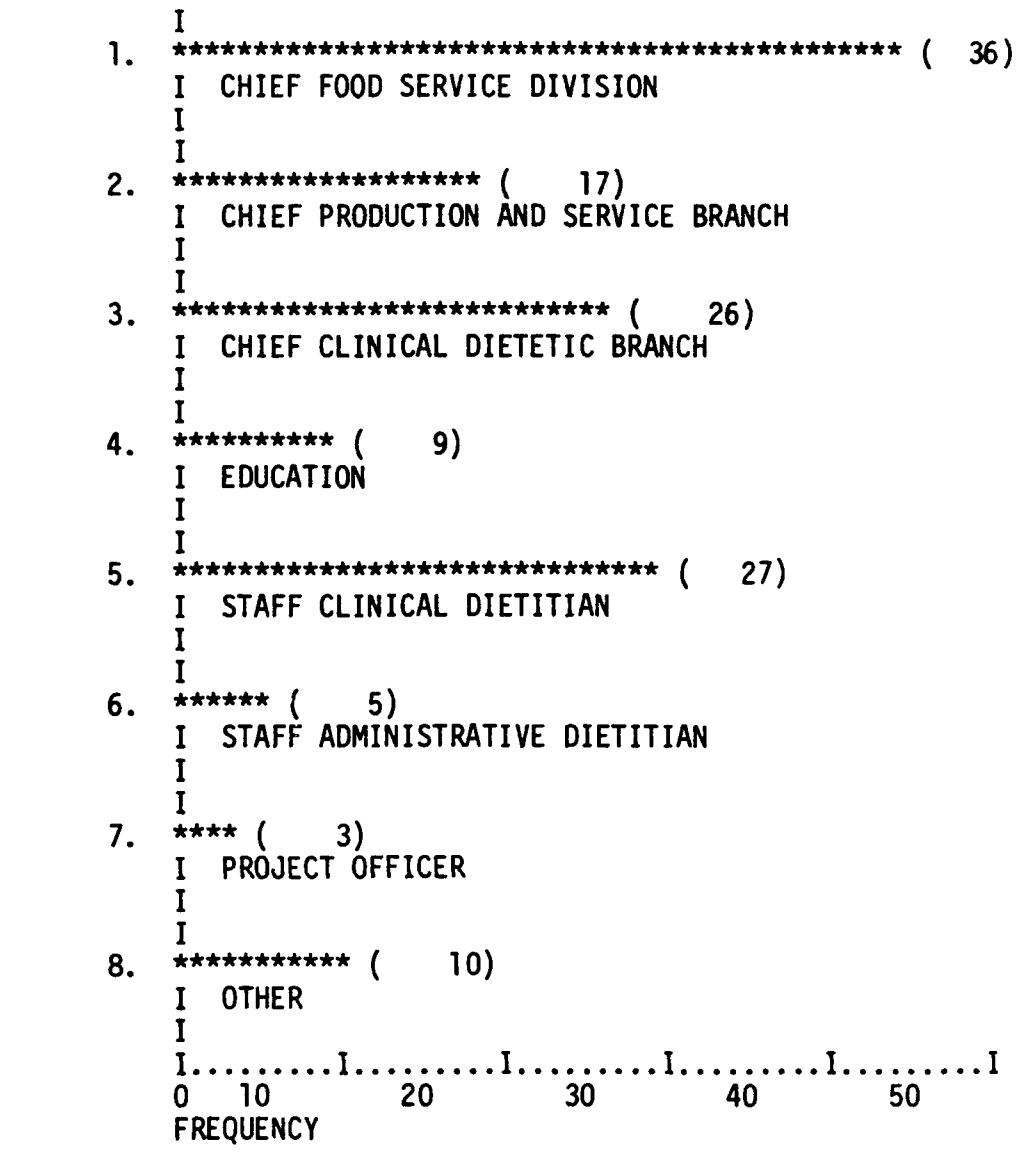


Figure 3. Frequency of Distribution of Respondents by Current Position

Summary - Characteristics of Army Dietitians

The researcher utilized 17 variables in this study to provide a foundation for generalizing relative to the characteristics of dietitians in the army. Some of these variables are general in nature in that they are applicable to professionals in other industries, as well as army dietitians, and some are specific to members of the dietetic profession in the army.

From data collected in this study, the following picture can be drawn to describe dietitians in the AMSC who were participants in this research. Dietitians in the AMSC are registered members of The American Dietetic Association and are likely to be between 22 and 53 years of age with over half of the population between 22 and 29 years of age. A majority of army dietitians have less than ten years experience. The fact that most of the members of the Corps are relatively young is also reflected in the large number of officers in the ranks of 2LT, 1LT, and CPT. Dietitians in the army are more likely to be married than single and females outnumber males by more than three to one; in fact, 77 percent are female. Army dietitians are well educated, with 40 percent having Master's degrees and Master's degrees plus additional graduate credit hours.

Over half the population of army dietitians are interested in the administrative aspects of dietetics and are predominately assigned in their major area of interest. They enter the army by accepting and completing a dietetic internship sponsored by the army and more than half of the dietitians plan to spend "career time" in the AMSC. Dietitians in the army are expected to be transferred frequently

during their career; in fact, data collected revealed that dietitians were transferred every two to three years, indicating that the population is highly mobile.

Most dietitians in the AMSC receive "outstanding" ratings on their annual Officer Evaluation Report and most of the dietitians preferred some type of informal evaluation which would serve as a vehicle for informing the officer of his performance before the official annual evaluation report is due.

4.2 Mean Scores and Standard Deviations For Respondents on Motivator-Hygiene Factors and Job Satisfaction

The army dietitians responded to the 79 items in Part I of the questionnaire according to a six-point scale. The scale was scored as follows: (6) very satisfied, (5) moderately satisfied, (4) slightly satisfied, (3) slightly dissatisfied, (2) moderately dissatisfied, and (1) very dissatisfied. Mean values ranging from one to six were calculated for the motivator and hygiene factors. There were 30 items that comprised the motivator factors and 48 items made up the hygiene factors. One item was for the respondents' self-appraisal of job satisfaction and the scale also ranged from one to six. The respondents' mean scores and standard deviations for the motivator-hygiene factors, job satisfaction measured by the Brayfield-Rothe "Job Satisfaction Index" and their self-appraisal of job satisfaction are presented in Table 15.

There were 14 items on the Job Satisfaction Index developed by Brayfield and Rothe (1951) that were utilized in Part II of the

Table 15

Mean Scores and Standard Deviations for Respondents on Motivator-Hygiene Factors, Brayfield-Rothe's Index and Job Satisfaction

Dimensions	Mean n = 133	Standard Deviation
Job Satisfaction (Brayfield-Rothe Index)	57.71	8.75
Motivator Factors	4.64	.65
Hygiene Factors	4.57	.63
Job Satisfaction (Self-Appraisal)	4.89	.82

questionnaire to measure the level of job satisfaction. Positive items on the scale were coded from five to one with negative coded from one to five. If a respondent selected "strongly agree" on a positive item, it was coded a "five" and if the respondent selected "strongly disagree" on a negative item, it was also coded a five. The possible range was from 14 to 70. Almost half (48 percent) of the army dietitians had job satisfaction scores of 60 or higher with a maximum of 70. A range of 45 points was calculated and the minimum score was 25. A mode of 61 for the respondents indicated that the distribution was negatively skewed because of the large number of army dietitians with high job satisfaction scores.

The researcher interpreted the mean scores to indicate that army dietitians have a relatively high level of job satisfaction as reflected on the Brayfield-Rothe Index and how they scored their

overall job satisfaction on the one item pertaining to their level of job satisfaction. These dietitians tended to be equally satisfied with both the motivator and hygiene factors.

4.3 Presentation, Analysis, and Interpretation of Job Satisfaction Data

This section is devoted to discussion of the findings with respect to the population of army dietitians for this study. The discussion will focus on descriptive statistics that were utilized, the results of statistical tests, and interpretation of the findings.

When describing different correlation coefficients, specific terminology will be used throughout to describe the strength of the association or relationship between variables. The following terms will be used:

Coefficient	Description
.70 or Higher	Very Strong Association (Relationship)
.50 to .69	Substantial Association
.30 to .49	Moderate Association
.10 to .29	Low Association
.01 to .09	Negligible Association

Scores for the Motivator-Hygiene Factors and Job Satisfaction

In considering the rating of motivator factors by army dietitians, almost 70 percent were either moderately or very satisfied with their opportunity to achieve in the AMSC. Only 8.3% indicated any dissatisfaction with achievement. Fifty-eight percent of respondents

were moderately or very satisfied with their advancement opportunities, while 12 percent indicated dissatisfaction with advancement. Ten percent of respondents were very satisfied with recognition, 47 percent were moderately satisfied, and 13.6% showed dissatisfaction with recognition. Of the 133 army dietitians, none were very satisfied with their responsibilities, 46 percent were only slightly satisfied, and 23 percent demonstrated dissatisfaction with responsibility. The data revealed that army dietitians were highly satisfied with the challenges that the work itself provides, in fact, 64.8% were either moderately or very satisfied with this factor. Summary of the scores on the motivator factors is presented in Table 16.

Among the hygiene factors, army dietitians were more satisfied with interpersonal relations than any other factor in this category. Seventy-nine percent were either moderately or very satisfied with this factor. Only 2.2% were very satisfied with policy and administration, while 85 percent were either slightly or moderately satisfied, and 13 percent showed dissatisfaction with this factor. Army dietitians are generally satisfied with their salary and benefits in the army. In fact, 25 percent were very satisfied while only 7 percent showed dissatisfaction with salary. The most dissatisfaction among army dietitians was shown for the hygiene factor "supervision." Over 18 percent were dissatisfied with the type of supervision they received. However, 60 percent were either moderately or very satisfied with their supervision. More than 42 percent were moderately satisfied with their working conditions and 15.3% were dissatisfied with this factor. Summary of scores on hygiene factors are presented in Table 17.

Table 16

Distribution of Respondents by Level of Satisfaction with Motivator Factors

Level of Satisfaction	MOTIVATOR FACTORS									
	Achievement		Advancement		Recognition		Responsibility		Work Itself	
	n	%	n	%	n	%	n	%	n	%
Very Dissatisfied (0.0 - 1.49)	-	-	1	0.8	2	1.5	-	-	-	-
Moderately Dissatisfied (1.50 - 2.49)	1	0.8	2	1.5	5	3.8	6	4.8	2	1.6
Slightly Dissatisfied (2.50 - 3.49)	10	7.5	13	19.7	11	8.3	24	18.2	8	6.1
Slightly Satisfied (3.50 - 4.49)	29	21.8	39	29.3	39	29.6	61	46.0	37	27.5
Moderately Satisfied (4.50 - 5.49)	72	54.1	63	47.4	62	47.0	42	31.0	56	42.2
Very Satisfied (5.50 - 6.00)	21	15.8	15	11.3	13	9.8	-	-	30	22.6
Total	133	100.0	133	100.0	132*	100.0	133	100.0	133	100.0
*One missing case										
Summary Statistics										
Mean		4.77		4.57		4.41		4.08		4.76
Mode		5.20		4.71		5.00		4.43		5.00
Median		4.89		4.72		4.60		4.28		4.82
Max		5.80		5.82		6.00		5.14		6.00
Min		2.20		1.43		1.00		1.86		2.00

Table 17

Distribution of Respondents by Level of Satisfaction with Hygiene Factors

Level of Satisfaction	HYGIENE FACTORS									
	Interpersonal Relations		Policy Administration		Salary		Supervision		Working Conditions	
	n	%	n	%	n	%	n	%	n	%
Very Dissatisfied (0.0 - 1.49)	-	-	-	-	-	-	1	0.8	-	-
Moderately Dissatisfied (1.50 - 2.49)	-	-	1	0.8	1	0.8	8	6.0	1	0.8
Slightly Dissatisfied (2.50 - 3.49)	4	3.0	16	12.0	8	6.2	16	12.0	19	14.5
Slightly Satisfied (3.50 - 4.49)	21	16.0	56	42.1	36	27.3	29	21.2	45	33.9
Moderately Satisfied (4.50 - 5.49)	69	52.0	57	42.9	54	40.7	54	41.0	57	42.5
Very Satisfied (5.50 - 6.00)	39	29.0	3	2.2	33	25.0	25	19.0	11	8.3
Total	133	100.0	133	100.0	132*	100.0	133	100.0	133	100.0
*One missing case										
Summary Statistics										
Mean		5.05		4.32		4.78		4.47		4.39
Mode		5.57		4.40		4.54		4.92		4.12
Median		5.14		4.40		4.82		4.76		4.50
Max		6.00		5.70		6.00		6.00		5.87
Min		3.14		2.30		2.45		1.38		2.12

The data in Table 18 revealed that army dietitians expressed the highest degree of satisfaction with a hygiene factor Herzberg termed interpersonal relations. A mean score of 5.05 on a scale of one to six, with one being very dissatisfied and six very satisfied, suggested that army dietitians were moderately to very satisfied with the persons they encounter in their job environment. The factor rated by the army dietitians to be second most satisfying was salary, another hygiene factor. A mean score of 4.78 for this factor indicated that army dietitians are moderately satisfied with their salary and benefits package available to army dietitians. Achievement and work itself had the next highest mean scores of 4.77 and 4.76 respectively.

Table 18

Mean Scores for Herzberg's
Ten Motivator-Hygiene Factors
(n = 133)

Scale	Mean	SD
MOTIVATOR FACTORS		
Achievement	4.77	.74
Advancement	4.57	.86
Recognition	4.41	.95
Responsibility	4.08	.72
The Work Itself	4.76	.88
HYGIENE FACTORS		
Interpersonal Relations	5.05	.64
Policy & Administration	4.32	.71
Salary	4.78	.80
Supervision-technical	4.47	1.11
Working Conditions	4.39	.79

Relationship Between Job Satisfaction and Motivator-Hygiene Factors

Pearson Product-Moment Correlation Coefficients were calculated to determine the strength of the relationship between job satisfaction and the motivator-hygiene factors. The data in Table 19 depict significant correlation coefficients which indicated that in the population of army dietitians, job satisfaction and each of Herzberg's five motivator factors were correlated. Coefficients ranged from r = .21 for advancement to r = .64 for work itself. The coefficient for the factor work itself r = .64 and achievement r = .61 revealed substantial relationships between these motivator factors and job satisfaction. All of the motivator factors, except advancement, showed a moderate to substantial relationship between job satisfaction and motivator factors while advancement showed a low relationship.

The researcher interpreted the correlation coefficients for achievement and work itself to mean that army dietitians were substantially satisfied with their opportunities to achieve in the Army Medical Specialist Corps and that they were involved and satisfied with their work experience.

On the other hand, the lower relationship for advancement indicated that army dietitians were somewhat less satisfied with their opportunities for advancement. This may be attributed to the time in grade and service before dietitians can earn promotions. This was also reflected in their mean score for the items on the questionnaire concerning the amount of time spent in grade and service for promotion. The mean score for this item was among the lowest scores for the total 79 items (see Appendix D).

Table 19

Relationship Between Job Satisfaction
and Motivator and Hygiene Factors

	n = 133	
Factors	r	Sig
Motivator Factors	.60	.001
Achievement	.61	.001
Advancement	.22	.005
Recognition*	.44	.001
Responsibility	.37	.001
Work Itself	.64	.001
HYGIENE FACTORS	.44	.001
Interpersonal Relations	.45	.001
Policy & Administration	.35	.001
Salary*	.13	.06
Supervision	.34	.001
Working Conditions	.45	.001

r = Pearson Correlation Coefficient

*One missing case

When analyzing the motivator factors collectively, there was a correlation coefficient of r = .60 for the total motivator factors which indicated a substantial relationship between job satisfaction and the total motivator factors among army dietitians.

The data (Table 19) also depict significant correlation coefficients which indicated that in the population of army dietitians, job satisfaction and each of Herzberg's five hygiene factors were correlated. Correlation coefficients for the hygiene factors ranged from r = .13 for salary to r = .45 for interpersonal relations and working conditions.

There was a low relationship between job satisfaction and salary. A moderate relationship was noted in the remaining three factors: supervision, interpersonal relations, policy and administration.

Under the salary section of the questionnaire, specific items were added pertaining to specific benefits that army dietitians receive as members of the army. They included retirement benefits, medical benefits, annual leave, life insurance, commissary and exchange privileges and Tuition Assistance Programs. Even with the above items added, the relationship between job satisfaction and salary was less than any of the other hygiene factors.

It also has possible meanings that the benefits package that once played a significant role relative to career plans of dietitians entering the army were no longer serving as an incentive. Further, the fact that numerous publications indicated that salaries of army personnel were not keeping up with the inflation rate and were lagging behind salaries of personnel in civilian industries who perform similar jobs could have had some bearing on the strength of the relationship between job satisfaction and salary.

Of the total hygiene factors, interpersonal relations and working conditions had the highest correlation $r = .45$ which means that levels of job satisfaction are related more closely to relations with personnel encountered in the environment and they are satisfied with their working conditions. When analyzing the hygiene factors collectively, a moderate relationship was noted.

The data also revealed that both motivator and hygiene factors contributed to job satisfaction. The findings tended to partially

confirm the Herzberg (1959) dual continuum theory. Herzberg theorized that motivator factors contribute to job satisfaction and no job dissatisfaction. This portion of his theory appears to be somewhat supported in this study.

Herzberg (1959) further theorized that hygiene factors would contribute to job dissatisfaction or no job dissatisfaction but not to job satisfaction. This part of the theory is not substantiated in the findings of this study. The data revealed that the hygiene factors were moderately related to job satisfaction but to a lesser extent than the motivator factors.

The data collected and analyzed in this study supported the Herzberg Motivator-Hygiene theory. When all the motivator and hygiene factors were correlated collectively, the motivator factors demonstrated a substantial relationship $r = .60$ with job satisfaction while the hygiene factors demonstrated a moderate relationship $r = .44$.

Relationship Between Total Motivator Factor Scores and Each Motivator Dimension

Analyses of data were undertaken to determine the relationship between the individual dimensions and the total motivator factor scores. A very strong relationship exists between total motivator factor scores and the five dimensions--achievement, advancement, recognition, responsibility, and work itself (Table 20). The correlations ranged from a low of $r = .72$ for achievement to a high of $r = .80$ for recognition.

Table 20

Relationship Between Total Motivator Factor Scores and Motivator Dimensions

n = 133		
Dimensions	r	Sig
Achievement	.71	.001
Advancement	.73	.001
Recognition	.80	.001
Responibility	.73	.001
Work Itself	.75	.001

The analysis revealed that the strongest association with total motivator factor scores is first with recognition and second with work itself. The other three dimensions showed very similar associations with all three in the 70 range.

Relationship Between Total Hygiene Factor Scores and Each Hygiene Dimension

A distribution of the relationship between total hygiene factor scores and each hygiene dimension is depicted in Table 21. Two very strong relationships were found in this study between the dimensions of policy and administration, supervision, and total hygiene factor scores. All dimensions showed a very strong relationship with the exception of salary. Salary showed a substantial relationship with total hygiene factor scores.

Table 21

Relationship Between Total Hygiene Factor Scores and Hygiene Dimensions

n = 133		
Dimensions	r	Sig
Interpersonal Relations	.76	.001
Policy & Administration	.83	.001
Salary	.64	.001
Supervision	.82	.001
Working Conditions	.72	.001

Regression Anlaysis for Job Satisfaction by Herzberg's Ten Motivator-Hygiene Factors

Intercorrelation coefficients for the ten Herzberg motivator-hygiene factors are presented to help evaluate the regression of job satisfaction on motivator-hygiene factors. The intercorrelation coefficients ranged from r = .16 to r = .67. All coefficients were significant at the .05 alpha level which indicated that in the population of dietitians in the army, none of the intercorrelation coefficients were equal to zero. However, the data revealed low association or relationship between achievement and salary r = .16, achievement and supervision r = .29, advancement and supervision r = .22, responsibility and salary r = .19, work itself and salary r = .24, and salary and supervision r = .23. All the remaining coefficients were either

in the moderate relationship category (30-49), or the substantial relationship category (50-69). A summary of the intercorrelation coefficients for the ten motivator-hygiene factors is presented in Table 22.

The researcher also felt it important to indicate which of the motivator and hygiene factors explained variance in the dependent variable, job satisfaction. Thus, a stepwise regression analysis developed by Kim and Kohourt (1975) in the SPSS manual was conducted for job satisfaction by motivator-hygiene factors identified by Herzberg (1959).

The data depicted in Table 23 revealed that the regression of job satisfaction on the motivator factors was statistically significant in explaining variance in mean scores of job satisfaction. Data in Table 24 disclose an F value for the model of 30.12 with 5 and 127 degrees of freedom. The multiple correlation coefficient of .74 indicated that the five motivator factors explained over 54 percent of the variance in the dependent variable, job satisfaction. The work itself, achievement, and advancement factors explained a significant proportion of the variance in the job satisfaction scores when the other two motivator factors (recognition and responsibility) were held constant. The work itself explained 40 percent of the variance in job satisfaction for army dietitians while achievement explained 10.5% and advancement explained 2.4% of the variance. The dimensions responsibility and recognition were not significant in explaining variance. Multiple regression analysis did not confirm Herzberg's theory that achievement was the most important factor toward predicting

Table 22

Summary Data for Regression of Job Satisfaction
on Motivator and Hygiene Factors
(n = 133)

Factors	Job Sat	Intercorrelations AC	AD	REC	RES	WI	IR	PA	SA	SU	WC	MEAN	SD
Job Satisfaction		.61	.22	.44	.39	.64	.45	.35	.13	.34	.45	57.71	8.75
MOTIVATOR FACTORS													
Achievement (AC)			.38	.51	.44	.50	.50	.37	.16	.29	.32	4.76	.75
Advancement (AD)				.42	.37	.52	.37	.51	.30	.22	.42	4.56	.84
Recognition (REC)					.53	.47	.66	.67	.33	.63	.42	4.39	.97
Responsibility (RES)						.38	.58	.55	.19	.53	.30	4.74	.85
Work Itself (WI)							.45	.41	.24	.44	.46	4.76	.88
HYGIENE FACTORS													
Interpersonal Relations (IR)								.65	.37	.58	.46	5.04	.64
Policy & Administration (PA)									.44	.59	.52	4.30	.71
Salary (SA)										.23	.51	4.77	.80
Supervision (SU)											.39	4.47	1.11
Work Conditions (WC)											--	4.30	.87

Critical values of r for selected values of alpha (two-tailed test)

Alpha	r
.05	.196
.01	.256
.001	.324

Table 23

Regression of Job Satisfaction on Motivator Factors
n= 133

Factor	Multiple R	R^2	R^2 Change	Partial Regression Coefficient	F
Work Itself	.63	.409	.409	5.12	43.65*
Achievement	.71	.51	.105	4.30	23.57*
Advancement	.73	.537	.024	-1.85	7.71*
Responsibility	.74	.541	.004	.57	.56
Recognition	.74	.543	.002	.48	.46
(Constant)				17.47	

* $p < .01$

Table 24

Analysis of Variance: Regression
of Job Satisfaction on Motivator Factors

Source	df	SS	MS	F
Regression	5	5479.86	1095.97	30.12*
Residual	127	4621.29	36.39	
Total	132	10,101.15		

* $p < .001$

job satisfaction. Analysis, in this study, revealed that work itself was the most important factor in predicting job satisfaction, with achievement being the second most important predictor of job satisfaction.

Two of the five hygiene factors were found to explain a significant amount of the variance in the job satisfaction scores. Interpersonal relations explained 19.1% of the variance in the dependent variable, job satisfaction, while working conditions explained 5.3% of the variance as presented in Table 25. Data in Table 26 indicated the multiple regression model used to regress job satisfaction on the five hygiene factors was significant at the .001 level. The F value 8.91 exceeded the value needed for significance at an alpha of .001 for 5 and 127 degrees of freedom.

Table 25

Regression of Job Satisfaction on Hygiene Factors
n = 133

Factor	Multiple r	R^2	R^2 Change	Partial Regression Coefficient	F
Interpersonal Relations	.44	.191	.191	3.99	7.40*
Working Conditions	.49	.244	.053	3.04	9.55*
Salary	.51	.256	.011	-1.41	1.96
Supervision	.51	.259	.003	.49	.39
Policy and Administration	.51	.260	.000	.27	.04
(Constant)				27.91	

* $p < .01$

Table 26

Analysis of Variance: Regression of Job Satisfaction on Hygiene Factors

Source	df	SS	MS	F
Regression	5	2622.31	524.46	8.91*
Residual	127	7478.84	58.89	
Total	132	10101.15		

* $p < .001$

It should also be noted that when job satisfaction was regressed on all ten of Herzberg's factors, four of the five factors identified as motivator factors had more impact on job satisfaction than all hygiene factors combined. The four motivator factors included work itself, achievement, advancement, and responsibility. Working conditions was the only hygiene factor that explained a significant proportion of the variance in the dependent variable, job satisfaction. Recognition in this analysis explained the least amount of variance when all ten of Herzberg's motivator-hygiene factors were regressed on job satisfaction.

Relationships Between Job Satisfaction and Selected Demographic Variables

This section includes breakdowns of mean scores and standard deviations for motivator-hygiene factors and satisfaction scores for the Brayfield-Rothe "Job Satisfaction Index" by selected demographic

variables. In addition, the relationships between job satisfaction and selected demographic variables will be presented. All correlations between job satisfaction and selected demographic variables are presented in Appendix C.

Age

The levels of scores for job satisfaction and for motivator-hygiene factors by age categories are shown in Table 27. The highest level of job satisfaction on the Brayfield-Rothe "Job Satisfaction Index" was found for the 9 dietitians in the 38 to 41 age category, while the 34 to 37 age category scored the highest on the motivator factors.

Table 27

Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factors by Age

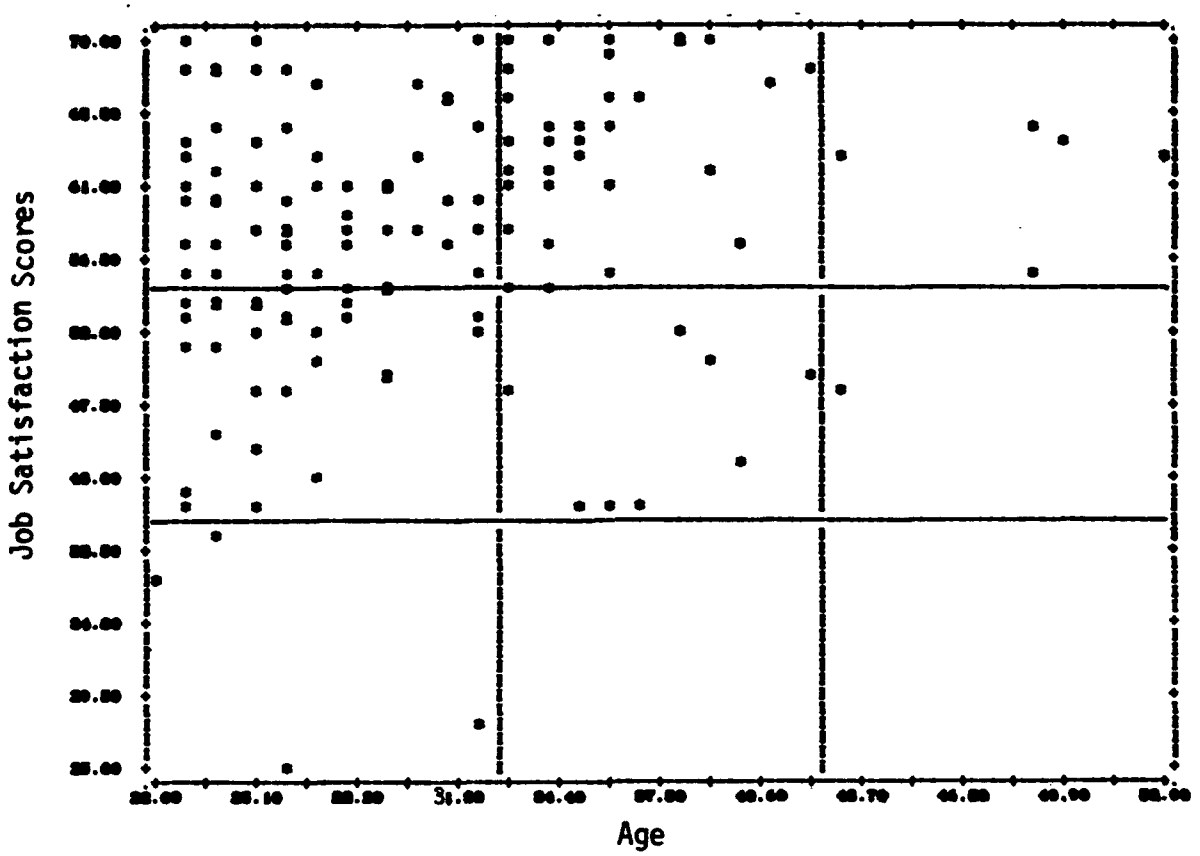
Age Category		Mean Scores					
		Job Satisfaction		Motivator Factors		Hygiene Factors	
	n	Mean	SD	Mean	SD	Mean	SD
22 - 25	39	56.21	8.97	4.46	.51	4.49	.51
26 - 29	33	55.55	7.73	4.44	.64	4.37	.68
30 - 33	24	59.63	8.89	4.84	.59	4.76	.73
34 - 37	20	60.10	9.20	5.05	.80	4.64	.74
38 - 41	9	60.22	9.88	4.96	.58	4.80	.56
42 and Over	8	59.50	7.58	4.46	.51	4.85	.41
Total	133						

Participants in the 42 and over age category had the highest mean score for hygiene factors. The lowest level of satisfaction was noted in the 22 to 25 and 26 to 29 age categories. Herzberg (1957) maintained that job satisfaction is high for youthful employees immediately after employment, drops after the first few years and begins to increase as the workers continue their jobs. The findings in this study revealed that army dietitians in the early years of their careers had somewhat less, but still fairly high levels of satisfaction with their jobs. After age 30, the level of job satisfaction for army dietitians tended to increase until age 42, and then slightly declined.

Most of the literature revealed consistencies in the theoretical relationship between job satisfaction and the demographic variable age. Most studies indicated that there is a positive relationship between job satisfaction and age, that is, as age increases so does job satisfaction. In this study, when the Pearson Product-Moment Correlation Coefficient was calculated to determine the strength of the relationship between job satisfaction and age, a correlation of $r = .19$ was noted. This indicated a low positive relationship between age and the level of job satisfaction for army dietitians. The correlation is presented in Figure 4.

Marital Status

A study in the review of related literature by Rachman and Kemp (1962) found that married workers were more satisfied with their jobs than single people. In this study, the single respondents scored all ten of Herzberg's factors a fraction higher than married respondents.



Statistics

Correlations:	r = .19
Significance:	.015
Plotted Values:	133
Missing Values:	0

Figure 4. Relationship Between Job Satisfaction and Age

On the Brayfield-Rothe "Job Satisfaction Index," the mean score for respondents was 59.13, while the mean score for married respondents was 56.92 which indicated that single dietitians in the army appeared slightly more satisfied than married dietitians. The distribution of mean scores for job satisfaction and scores for the motivator-hygiene factors for respondents by marital status are presented in Table 28.

Table 28

Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factors by Marital Status

		Mean Scores					
Marital Status	n	Job Satisfaction Mean	SD	Motivator Factors Mean	SD	Hygiene Factors Mean	SD
Married	85	56.92	9.28	4.60	.66	4.52	.67
Single	48	59.13	7.60	4.71	.61	4.67	.54

One factor that may have some influence on job satisfaction of married army dietitians is that most of them, especially females, are married to army personnel in other military professions and when re-assignments are made, the married couples may be separated. This is often the case even though great efforts are made to assign the couples together. The inability to always be assigned together coupled with other problems associated with highly mobile populations, in the researcher's opinion, greatly influence job satisfaction of married army dietitians. A Point Biserial Correlation Coefficient was calcuated

to determine the strength of the relationship between job satisfaction and marital status. The correlation was $r_{pb} = -.12$ which represented a negative association between job satisfaction and marital status.

Sex

The female respondents scored the total motivator-hygiene factors a fraction higher than male respondents. This indicated that the female army dietitians appeared more satisfied with the motivator-hygiene factors than male respondents. The mean scores are shown in Table 29.

Table 29

Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factors by Sex

Group	n	Mean Scores					
		Job Satisfaction		Motivator Factors		Hygiene Factors	
		Mean	SD	Mean	SD	Mean	SD
Males	30	58.33	8.75	4.62	.60	4.42	.62
Females	103	57.53	8.66	4.65	.66	4.62	.63

Hulin and Smith (1964) and Hollen and Gemmill (1976) found significant differences existed between males and females; females generally experienced less job satisfaction than males. Wood (1973) found significant differences between male and female job satisfaction in the North Carolina Community College system; females were more satisfied than males. The findings of this study differed from the studies mentioned above in that analyses revealed that there was no difference

in the male and female respondents relative to their levels of job satisfaction.

When the Point Biserial Correlation was calculated to determine the strength of the relationship between job satisfaction and sex, a negligible correlation was noted. This means that there was no relationship between job satisfaction and sex.

Rank

The researcher felt it helpful to look at all classifications of rank for army dietitians and then collapse the rank classifications to form categories of company grade officers (2LT, 1LT, CPT) and field grade officers (MAJ, LTC, COL). The mean scores for rank were similar to age mean scores. Second Lieutenants had relatively high mean scores for job satisfaction, while the scores dropped slightly for First Lieutenants. From the rank of 1LT the mean scores increased with rank until the rank of Colonel where the scores dropped slightly. Mean scores revealed that Lieutenant Colonels had the highest mean scores in all three of the satisfaction categories, while Second Lieutenants exhibited the lowest mean scores on the motivator-hygiene factors. The Colonels had the second highest mean score for job satisfaction. When evaluating the two rank classifications, field grade officers were significantly more satisfied with their jobs than company grade officers. The mean scores by rank are shown in Table 30.

Table 30

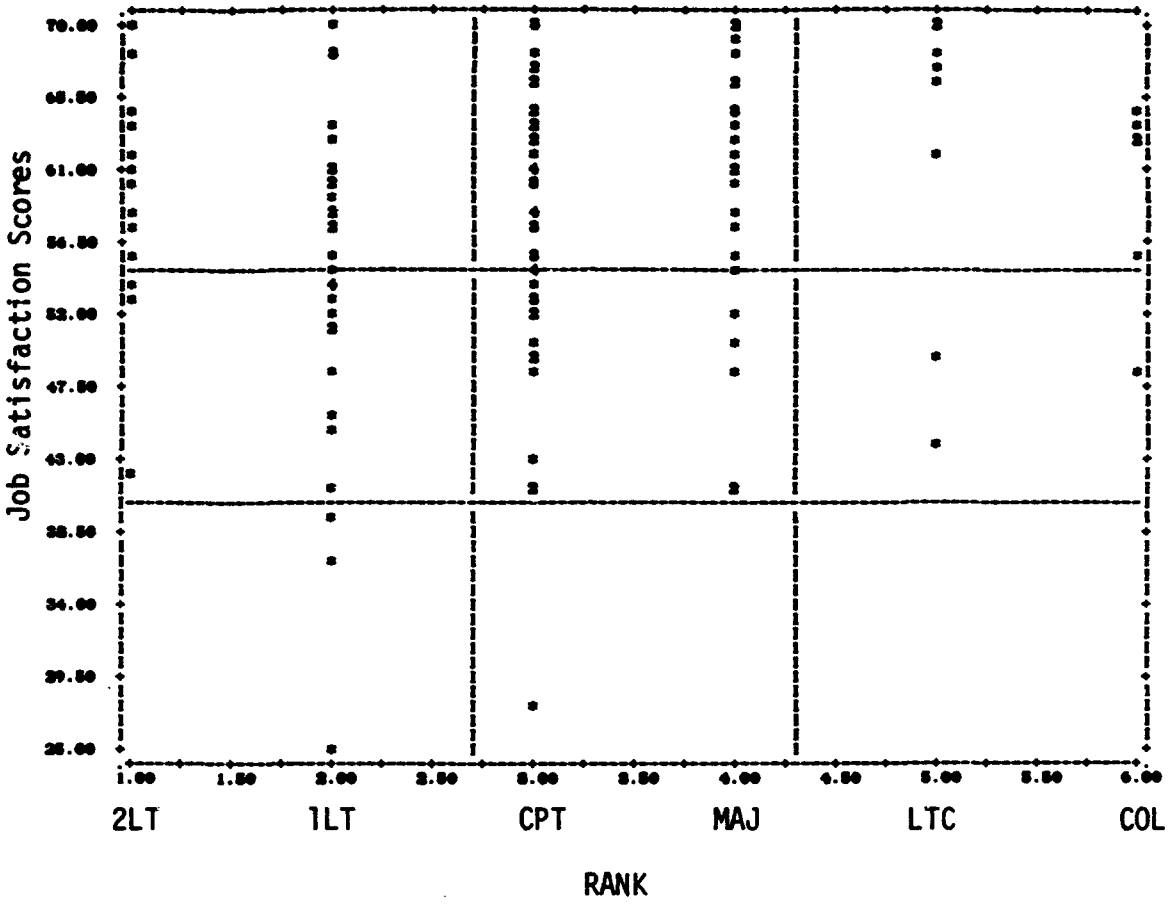
Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factors by Rank

Rank	n	Mean Scores: Job Satisfaction Mean	Job Satisfaction SD	Motivator Factors Mean	Motivator Factors SD	Hygiene Factors Mean	Hygiene Factors SD
2LT	13	59.23	7.31	4.37	.53	4.48	.54
1LT	32	54.59	9.82	4.57	.54	4.55	.62
CPT	50	57.42	8.25	4.58	.69	4.51	.68
MAJ	24	59.71	8.35	4.79	.70	4.61	.67
LTC	8	62.00	9.99	5.20	.33	5.00	.33
COL	6	59.83	6.62	4.89	.70	4.79	.46
Total	133						

When considering the strength of the relationship between job satisfaction and rank, a Spearman Rank Correlation Coefficient was calculated. The analysis revealed a correlation of $r_s = .21$ which is a low positive relationship between job satisfaction and army dietitian's rank. The researcher interpreted this relationship to mean that as army dietitians advance in rank, job satisfaction tends to increase at a low rate (Figure 5).

Major Area of Interest

Analysis of variance of mean scores of job satisfaction, motivator factors and hygiene factors by major area of interest was performed. There were four classifications of the major area of interest. More



Statistics

Correlation:	r_s = .21
Significance:	.008
Plotted values:	133
Missing Values:	0

Figure 5. Relationship Between Job Satisfaction and Rank

than half (55 percent) of the respondents were interested in and assigned to administrative positions while one-fourth were interested in clinical positions. Nineteen were interested in teaching or education positions and four were interested in positions classified as other which include consultants and recruiting officers. The F ratio for all three analyses of variance tests revealed that there were no differences in mean scores of job satisfaction and motivator-hygiene factors by major area of interest. The analyses are indicated in Tables 31, 32, and 33.

Table 31

Analysis of Variance of Mean Scores of Job Satisfaction by Major Area of Interest

	Administration	Clinical	Teaching	Other
n:	73	37	19	4
M:	58.75	56.92	54.42	61.75
SD:	7.99	8.23	12.09	4.35

Source	df	SS	MS	F
Between Groups	3	373.44	124.48	1.65
Within Groups	129	9727.70	75.41	
Total	132	10,101.14		

$p < .18$

Table 32

Analysis of Variance of Mean Scores of
Motivator Factors by Major Area of Interest

	Administration	Clinical	Teaching	Other
n:	73	37	19	4
M:	4.73	4.67	4.27	4.64
SD:	.61	.57	.84	.62

Source	df	SS	MS	F
Between Groups	3	3.15	1.05	2.61
Within Groups	129	51.63	.40	
Total	132	54.78		

$p < .06$

Table 33

Analysis of Variance of Mean Scores of
Hygiene Factors by Major Area of Interest

	Administration	Clinical	Teaching	Other
n:	73	37	19	4
M:	4.59	4.62	4.42	4.53
SD:	.60	.53	.73	1.23

Source	df	SS	MS	F
Between Groups	3	.55	.18	.46
Within Groups	129	51.21	.40	
Total	132	51.76		

$p < .71$

When looking at raw mean scores, the group classified as "other" had the highest level of job satisfaction on the Brayfield-Rothe Index, while those dietitians who were interested in administration had the second highest level of job satisfaction. Respondents interested in administration also had the highest mean score for the motivator factors. The respondents who were interested in the clinical area had the highest mean score for the hygiene factors.

Currently Serving in Major Area of Interest

Relative to major area of interest, a second item requested that respondents indicate "yes" or "no" regarding whether or not they were serving in their major area of interest. A Point Biserial Correlation Coefficient was calculated which revealed a correlation of $r_{pb} = .32$ (a moderate relationship) which indicated that respondents currently serving in their major area of interest were more satisfied than those serving in positions outside their major area of interest. Those respondents who answered "no" had a job satisfaction mean score of 52.61, while those who answered "yes" had a job satisfaction mean score of 59.27 on the Brayfield-Rothe Index. The respondents who answered "yes" also had significantly higher mean scores for motivator-hygiene factors. The mean scores are presented in Table 34.

The respondents answering "no" also had lower levels of satisfaction with the motivator and hygiene factors. It should be noted that when army dietitians were not serving in their major area of interest, their levels of job satisfaction tended to be lower. In the researcher's opinion, this is a significant factor that should be

considered by the assignment branch when making decisions about assigning army dietitians to new positions.

Table 34

Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factors by Respondents Currently Serving in Major Area of Interest

		Mean Scores					
Serving in Area of Interest	n	Job Satisfaction Mean	SD	Motivator Factors Mean	SD	Hygiene Factors Mean	SD
Yes	102	59.27	7.74	4.74	.60	4.63	.63
No	31	52.61	9.99	4.29	.67	4.39	.66
Total	133						

Level of Education

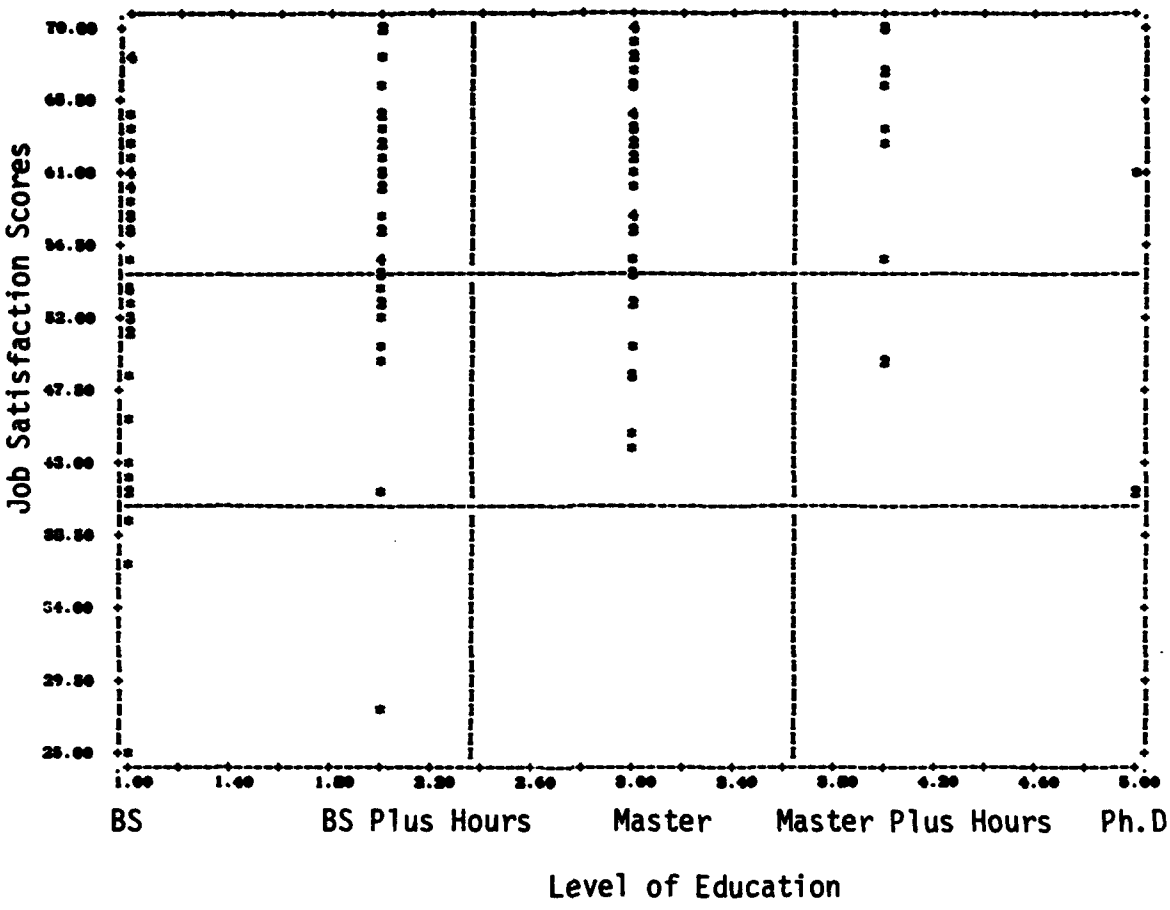
Thirty-nine percent of the respondents had received a Master's degree and additional hours toward a Ph.D., while less than two percent had obtained a Ph.D. degree. The respondents who had obtained a Master's degree plus additional hours had the highest mean scores in all three satisfaction categories. Those respondents with Master's degrees had the second highest mean score on all three scales, while the respondents with Ph.D. degrees had the lowest mean score in all three satisfaction categories. The mean scores are shown in Table 35.

Table 35

Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factor Scores by Level of Education

Level of Education	n	Mean Scores: Job Satisfaction Mean	Job Satisfaction SD	Motivator Factors Mean	Motivator Factors SD	Hygiene Factors Mean	Hygiene Factors SD
BS	44	54.84	9.22	4.48	.58	4.44	.61
BS Plus Hours	33	57.58	8.22	4.51	.60	4.58	.59
Master's degree	42	60.21	7.28	4.89	.65	4.69	.66
Master's Plus Hours	11	62.82	7.93	5.01	.48	4.87	.45
Ph.D.	3	47.67	11.55	3.85	1.08	3.71	.36
Total	133						

When considering level of education as ordinal data and job satisfaction scores as interval data, a Spearman Rank Correlation Coefficient was calculated to determine the strength of the relationship between job satisfaction and level of education. The correlation was $r_s = .26$. The relationship was similar to the relationship between job satisfaction and rank, in that as the level of education increased so did job satisfaction, at a low rate, until it reached the Ph.D. degree level where a decline was noted. The relationship is shown in Figure 6.



Statistics

Correlation:	r_s .26
Significance:	.001
Plotted Values:	133
Missing Values:	0

Figure 6. Relationship Between Job Satisfaction and Level of Education

Sponsorship of Army Graduate Education Programs

Each army dietitian has the opportunity to participate in long-term civilian graduate education programs at colleges or universities throughout the United States. They also have the opportunity to attend military graduate education programs, such as Command General Staff College, Fort Leavenworth, Kansas and the U.S. Army-Baylor University Program in Health Care Administration, Fort Sam Houston, Texas.

Test of analysis of variance of mean scores revealed that respondents who had not obtained an advanced degree or participated in graduate education programs sponsored by the army were less satisfied than those who had earned an advanced degree. Furthermore, those respondents who had obtained additional hours toward an advanced degree or obtained an advanced degree were significantly more satisfied with their jobs. A summary of analysis of variance tests for mean scores of job satisfaction, motivator and hygiene factors by army sponsorship of graduate education program is shown in Tables 36, 37, and 38.

Years of Service

SPSS Subprogram Breakdown was used to determine the mean scores of army dietitians by years of service. The years of service variable was grouped into six categories. The mean scores shown in Table 39 revealed that the levels of satisfaction of respondents increased fairly constantly with increases in years of service up to the "over 21 years of service" category, where the level of job satisfaction tended to decline for the total motivator and hygiene factors. The

Table 36

Analysis of Variance of Mean Scores of Job Satisfaction by Army Sponsorship of Graduate Education Program

	Army Sponsored Graduate Education	Army Nonsponsored Graduate Education	No Advance Degree
n:	34	31	68
M:	61.06	58.77	55.56
SD:	8.64	7.09	8.95

Source	df	SS	MS	F
Between Groups	2	731.08	365.54	5.07
Within Groups	130	9370.06	72.08	
Total	132	10101.14		

$p < .007$

Table 37

Analysis of Variance of Mean Scores of Motivator Factors by Army Sponsorship of Graduate Education Program

	Army Sponsored Graduate Education	Army Nonsponsored Graduate Education	No Adance Degree
n:	34	31	68
M:	4.89	4.74	4.48
SD:	.60	.70	.59

Source	df	SS	MS	F
Between Groups	2	3.89	1.94	4.98
Within Groups	130	50.75	.39	
Total	132	54.64		

$p < .008$

Table 38

Analysis of Variance of Mean Scores of Hygiene Factors by Army Sponsorship of Graduate Education Program

	Army Sponsored Graduate Education	Army Nonsponsored Graduate Education	No Advance Degree
n:	34	31	68
M:	4.71	4.64	4.48
SD:	.65	.66	.59

Source	df	SS	MS	F
Between Groups	2	1.10	0.55	1.34
Within Groups	130	53.28	.41	
Total	132	54.38		

$p < .266$

analysis also revealed that level of job satisfaction on the Brayfield-Rothe scale for respondents increased in the category "5-8" then slightly declined in the "9-12" category and reached the highest level in the "13-16" category.

A Pearson Product-Moment Correlation Coefficient was calculated and the analysis revealed a low positive relationship between job satisfaction and years of service as a dietitian. The correlation is similar to the correlation found when job satisfaction and rank, age, and number of PCS were calculated. The correlation is presented in Figure 7.

Table 39

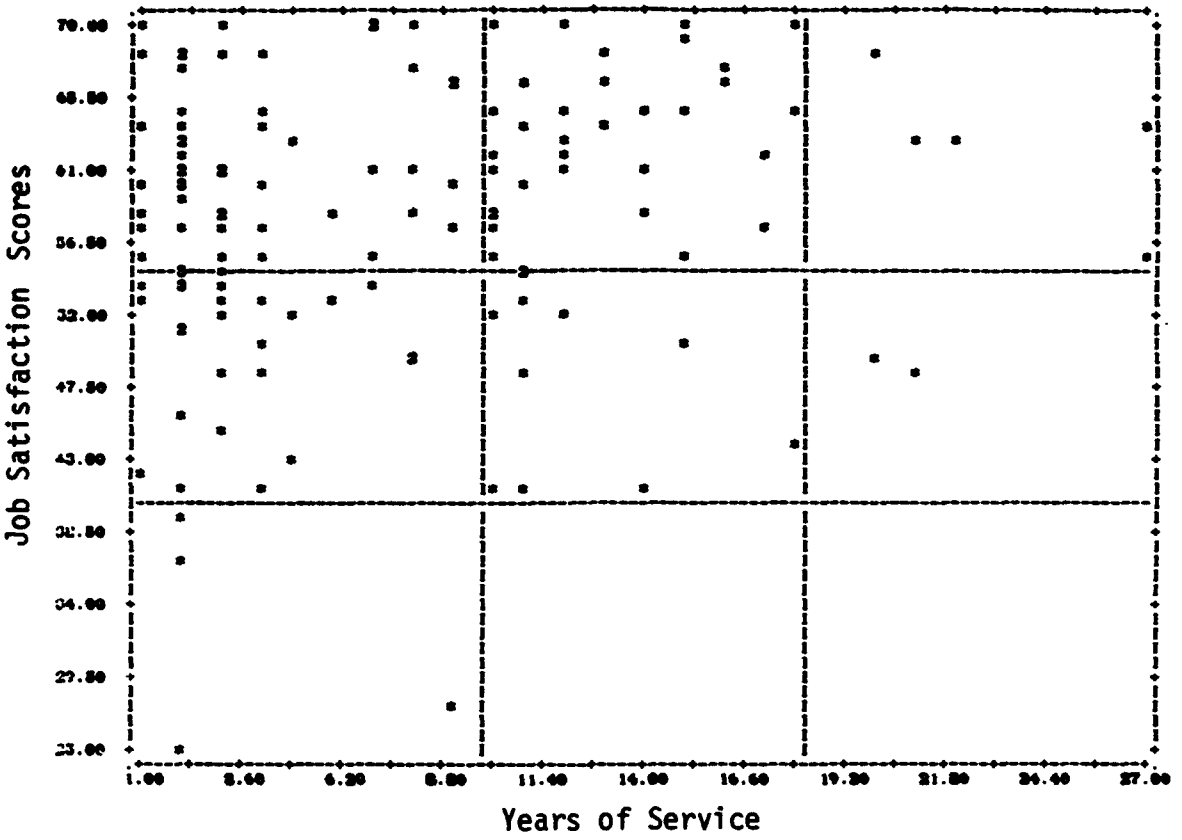
Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factor Scores by Years of Service

Years of Service	n	Mean Scores: Job Satisfaction Mean	Job Satisfaction SD	Motivator Factors Mean	Motivator Factors SD	Hygiene Factors Mean	Hygiene Factors SD
1 - 4	62	56.37	8.37	4.49	.60	4.50	.57
5 - 8	16	58.38	8.25	4.63	.62	4.60	.73
9 - 12	29	57.66	9.24	4.73	.68	4.58	.72
13 - 16	14	61.86	8.16	4.89	.65	4.74	.61
17 - 20	7	59.29	9.79	5.06	.64	4.87	.52
Over 21	5	58.80	6.83	4.83	.76	4.84	.50
Total	133						

Career Plans in the Army Medical Specialist Corps

Respondents who indicated that they plan a career in the AMSC were more satisfied than those who did not plan a career in the Corps. The mean scores are presented in Table 40.

A Point Biserial Correlation Coefficient test was calculated to determine the strength of the relationship between job satisfaction and respondents' plans for a career in the AMSC. The correlation was r_{pb}=.35 which indicated a moderate relationship between career plans and job satisfaction. The three respondents who were undecided were not included in the correlation. Those respondents who indicated "yes" they plan a career in the AMSC were significantly more satisfied with



Statistics

Correlation:	r = .16
Significance:	.027
Plotted Values:	133
Missing Values:	0

Figure 7. Relationship Between Job Satisfaction and Years of Service

Table 40

Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factors by Career Plans in the AMSC

Career Plans AMSC	n	Mean Scores: Job Satisfaction Mean	Job Satisfaction SD	Motivator Factors Mean	Motivator Factors SD	Hygiene Factors Mean	Hygiene Factors SD
Yes	91	59.80	7.64	4.81	.59	4.71	.61
No	39	53.95	9.24	4.30	.58	4.30	.61
Undecided	3	43.33	4.04	3.68	.43	.91	.51
Total	133						

their jobs than those who said "no" they did not plan a career in the Corps. It should also be noted that the strongest association in this study was between job satisfaction and respondents who indicated that they planned a career in the AMSC.

Size of Hospital

In evaluating raw mean scores, those respondents who were assigned to hospitals with bed capacity over 501 had higher job satisfaction mean scores than those assigned to smaller hospitals. The highest mean scores for motivator factors were found for the seven respondents assigned to army hospitals with less than 100 bed capacity. It should be noted that most army dietitians assigned to hospitals with less than 100 beds are directors of the food service divisions. Therefore, in the researcher's opinion, they are more in control and should be more satisfied with the factors Herzberg termed motivators. They should have complete responsibility for directing the food service divisions and they should realize that their achievement, recognition, and advancement

are determined by their performance and involvement in providing leadership for dietetic services. Their involvement in work itself is limited by their desire to be involved.

Mean scores of respondents for the hygiene factors were similar to those of the motivator factors. Those respondents assigned to hospitals with bed capacity of 301 to 400 were more satisfied than those in other hospitals. The second highest mean score was found among those respondents assigned to hospitals with bed capacity of 201 to 300. The mean scores are shown in Table 41.

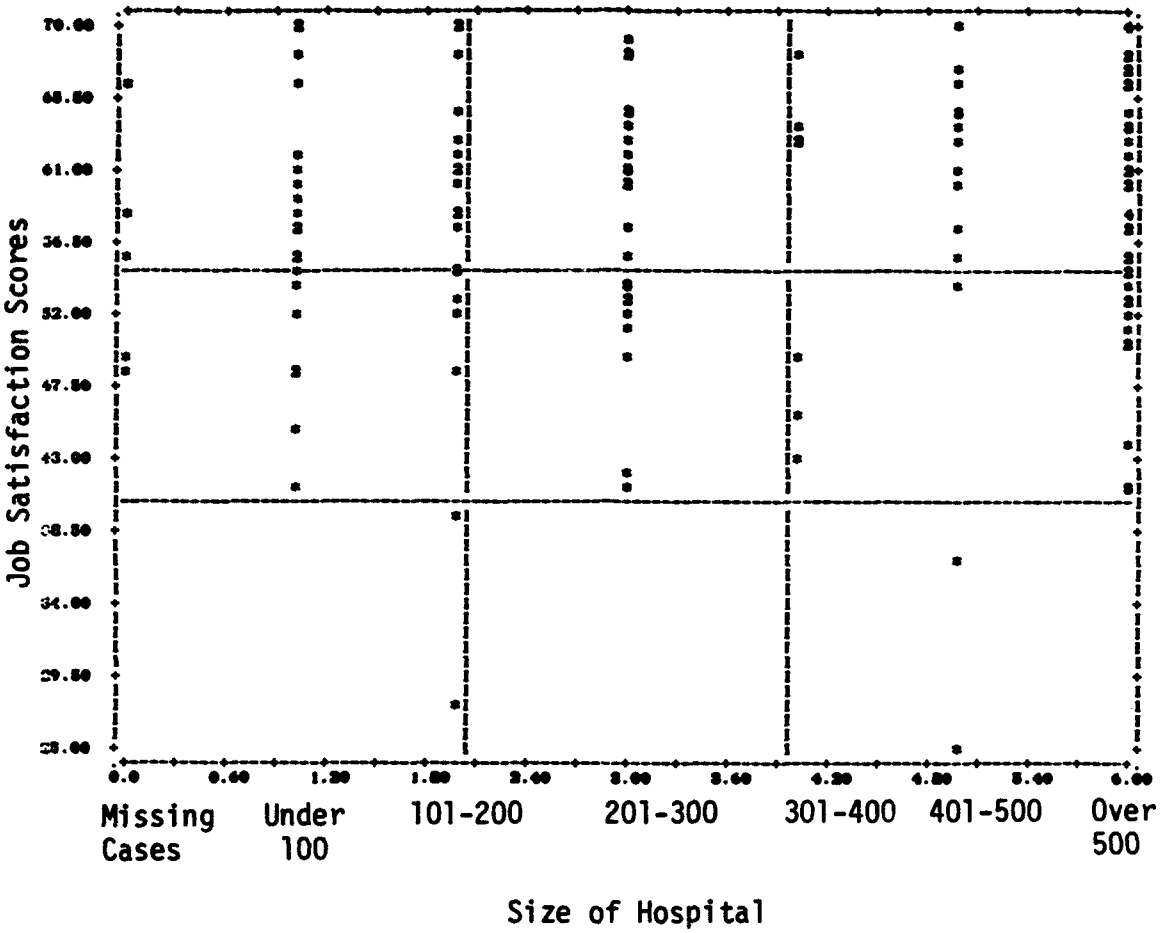
Table 41

Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factors by Size of Hospital

Size of Hospital	n	Mean Scores					
		Job Satisfaction		Motivator Factors		Hygiene Factors	
		Mean	SD	Mean	SD	Mean	SD
Under 100	20	57.15	7.94	4.69	.75	4.68	.74
101 - 200	20	56.90	10.07	4.54	.70	4.61	.65
201 - 300	25	57.72	7.48	4.57	.61	4.69	.52
301 - 400	7	56.57	10.18	4.85	.56	4.75	.69
401 - 500	15	58.33	12.12	4.64	.55	4.35	.68
Over 501	41	58.63	8.12	4.67	.68	4.51	.64
Total	128*						

*5 Missing Cases = respondents not assigned to hospitals

When the Pearson Product-Moment was calculated, the analysis revealed a low positive relationship between job satisfaction and size of army hospitals. The correlation was r = .11. The correlation is illustrated in Figure 8.



Statistics

Correlation:	r = .11
Significance:	.105
Plotted Values:	133
Missing Values:	0

Figure 8. Relationship Between Job Satisfaction and Size of Hospital

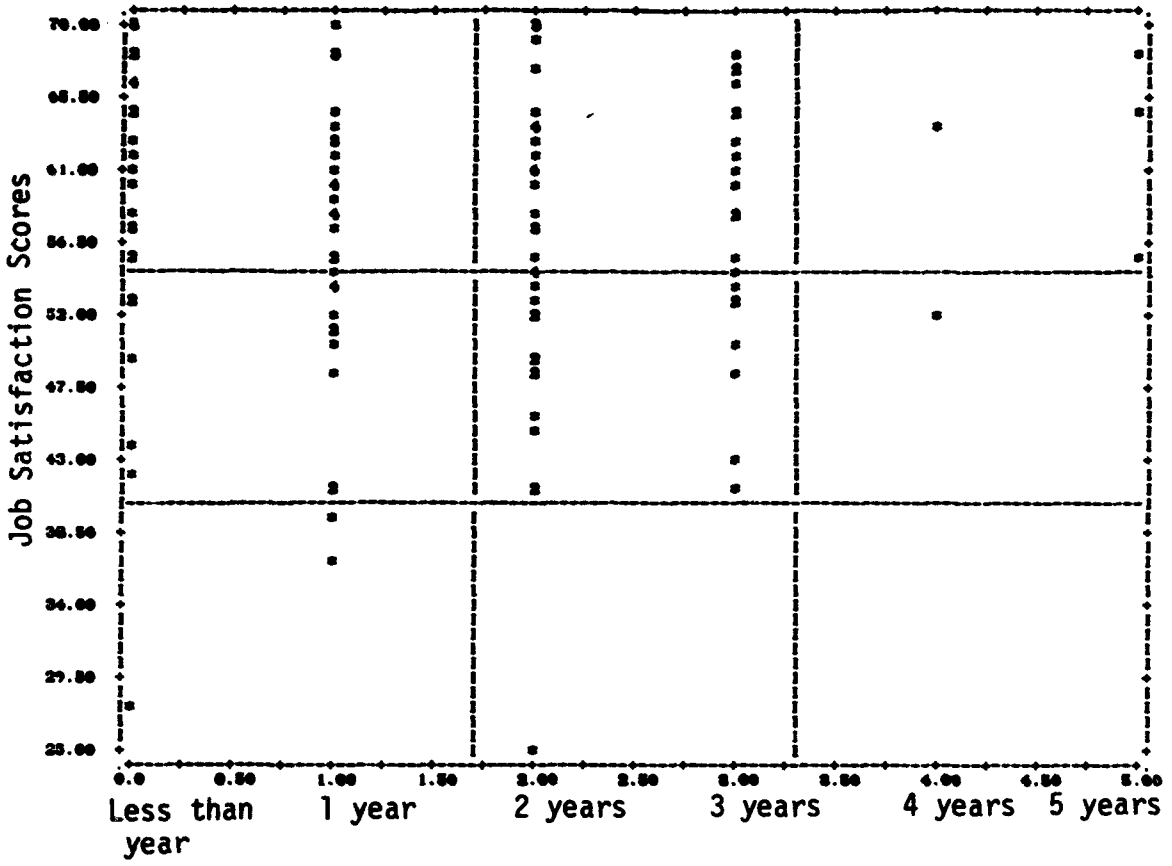
Years at Present Assignment

A mean score of 59.86 indicated that respondents were generally well satisfied when they report to their new assignment, particularly, if they have been in their assignments for less than a year. After respondents had been in their new assignments for one year, the level of job satisfaction tended to drop and then gradually increased as years at present assignment increased. The mean scores for the motivator-hygiene factors did not show the same trend as job satisfaction score. There was no relationship between job satisfaction and years at present assignment. The correlation was negative r = -.03. These data are shown in Table 42 and Figure 9.

Table 42

Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factors by Respondents' Years at Present Assignment

		Mean Scores					
Years at Present Assignment	n	Job Satisfaction Mean	SD	Motivator Factors Mean	SD	Hygiene Factors Mean	SD
0 = Less than 1 year	29	59.86	9.86	4.63	.64	4.55	.63
1	37	56.65	8.06	4.61	.66	4.59	.61
2	41	56.73	9.16	4.67	.65	4.62	.69
3	21	57.76	7.85	4.60	.68	4.56	.59
4	2	58.00	8.49	4.10	.33	3.74	1.40
5	3	63.00	6.35	4.97	.54	4.63	.12
Total	133						



Statistics

Correlation:	r = -.03
Significance:	.382
Plotted Values:	133
Missing Values:	0

Figure 9. Relationship Between Job Satisfaction and Years at Present Assignment

Officer Evaluation Report

There were six ratings that army dietitians could receive on their evaluation report. They included: Inadequate, Marginal, Effective, Excellent, Superior, and Outstanding. The highest job satisfaction mean scores for respondents were among those 93 who received "Outstanding" on their most recent evaluation report. Generally, a mean score of 58.72 indicated respondents who received "Outstanding" ratings were more satisfied than those who received lower ratings. The mean scores are shown in Table 43.

Table 43

Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factors by Current Officer Evaluation Report

Rating	n	Mean Scores					
		Job Satisfaction		Motivator Factors		Hygiene Factors	
		Mean	SD	Mean	SD	Mean	SD
Inadequate	2	57.00	0.00	4.00	.47	3.77	.39
Marginal	0						
Effective	3	45.67	7.23	3.91	.59	3.92	.51
Excellent	10	56.90	9.71	4.68	.55	4.85	.31
Superior	22	57.41	8.34	4.42	.68	4.32	.57
Outstanding	93	58.72	7.73	4.73	.62	4.66	.62
Total	130*						

*Three Missing Cases

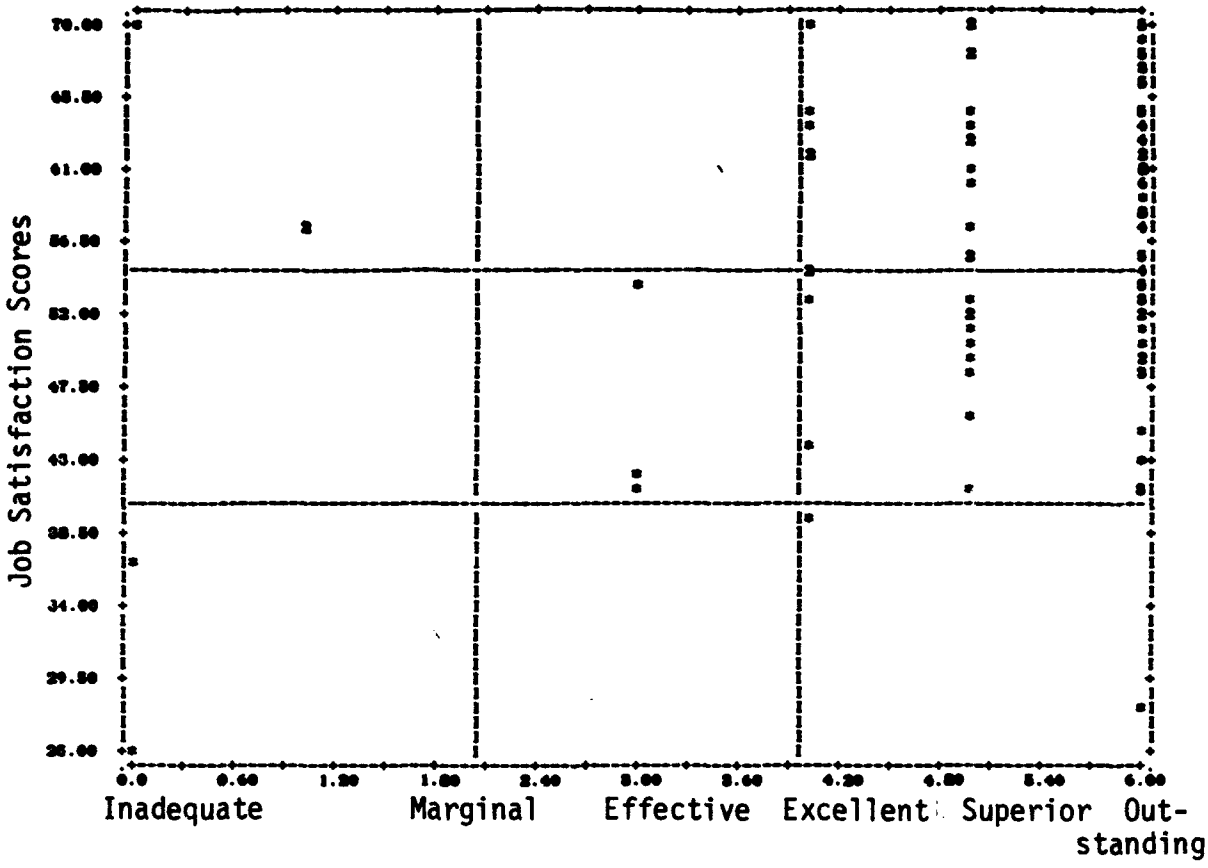
The Spearman Rank Correlation Coefficient was calculated to determine the strength of the relationship between job satisfaction and Officer Evaluation Report. The analysis revealed that there was a low positive

relationship. This is further evidence that army dietitians who received an "Outstanding" rating on their OER generally experienced greater levels of job satisfaction and self-realization. The correlation was $r_s = .27$. The relationship between job satisfaction and OER was the third highest relationship found in this study. The relationship between job satisfaction and officer evaluation report is illustrated in Figure 10.

The OER is an annual evaluation report determined by the Department of the Army criteria and by immediate and second-level supervisors. The immediate supervisor is the rater of the officer and the second-level supervisor is the endorser. A third level supervisor who holds a higher level position than the rater and the endorser is the reviewing officer, s/he considers great differences, if any, in rating between the rater and the endorser.

It should be noted that when respondents were asked to indicate whether or not they preferred an OER plus an informal quarterly evaluation, 71 percent indicated that they wanted a form of informal evaulation, while 29 percent indicated that they did not prefer an informal evaluation. The data also revealed that those respondents who wanted an informal evaluation were slightly less satisfied with their jobs than those who did not want an informal evaluation. Data concerning informal evaluation are shown in Table 44.

A Point Biserial Correlation Coefficient was conducted to determine the strength of the relationship between job satisfaction of respondents by their preference for an OER plus informal evaluation. The correlation was $r_{pb} = .11$ which is a low relationship.



Statistics

Correlation:	r_s = .27
Significance:	.001
Plotted Values:	133
Missing Values:	0

Figure 10. Relationship Between Job Satisfaction and Officer Evaluation Report

Table 44

Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factors by Officer Efficiency Report Plus Informal Evaluation

Informal Evaluation	n	Mean Scores					
		Job Satisfaction		Motivator Factors		Hygiene Factors	
		Mean	SD	Mean	SD	Mean	SD
Yes	94	57.12	8.93	4.56	.64	4.51	.62
No	39	59.00	8.30	4.84	.62	4.72	.61

Number of Permanent Change of Stations

Respondents' job satisfaction with the number of PCS is similar to that of rank, age, and years of service. If a respondent was a LTC or COL or if the respondent had been in the army for 15 to 25 years, chances are that the individual would have had more than nine moves during the career. The mean scores for job satisfaction and motivator factors increased as the number of change of stations increased. The mean scores for job satisfaction and motivator-hygiene factors are shown in Table 45.

When the Pearson Product-Moment Correlation Coefficient was calculated to determine the strength of the relationship between job satisfaction and number of moves, a low positive relationship was noted. The correlation was r = .21. Statistical data are shown in Figure 11.

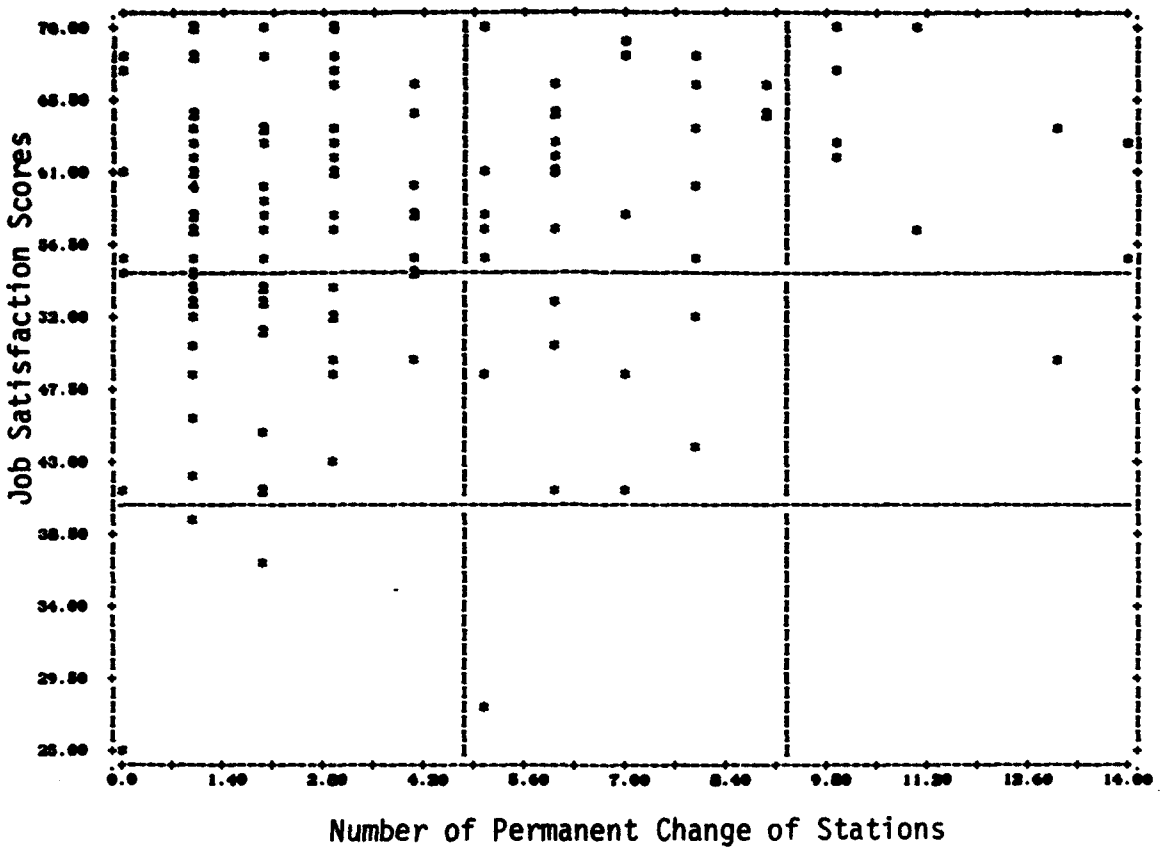
Table 45

Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factors by Respondents' Number of Permanent Change of Stations

Number of Permanent Change of Stations	n	Mean Scores					
		Job Satisfaction		Motivator Factors		Hygiene Factors	
		Mean	SD	Mean	SD	Mean	SD
0 - 2	61	56.15	9.02	4.49	.58	4.54	.58
3 - 5	35	58.14	8.82	4.62	.68	4.48	.74
6 - 8	24	58.29	8.49	4.79	.72	4.63	.71
9 and Over	13	62.85	5.87	5.04	.51	4.85	.48
Total	133						

Participation in Army Sponsored Dietetic Internship Program

The army currently sponsors two approved dietetic internship programs, one located at Walter Reed Army Medical Center, Washington, D. C., and one at Brooke Army Medical Center, Fort Sam Houston, Texas. Approximately 15 years ago, there were 5 dietetic internship programs sponsored by the army. More than 84 percent of the army dietitians participating in this study had completed an army sponsored dietetic internship program. Even though a high percentage participated in army dietetic internship programs, data revealed that those dietitians who did not participate in an army internship were significantly more satisfied with their jobs than those who participated. A low positive relationship was also noted when correlation was calculated between job



Statistics

Correlation:	r = .21
Significance:	.008
Plotted Values:	133
Missing Values:	0

Figure 11. Relationship Between Job Satisfaction and Number of Permanent Change of stations

satisfaction and participation in army sponsored dietetic internship program. The job satisfaction scores of army dietitians by participation in an army sponsored dietetic internship program are shown in Table 46.

Table 46

Mean Scores and Standard Deviations for Job Satisfaction and Motivator-Hygiene Factors by Participation in Army Internship Program

		Mean Scores					
Army Internship	n	Job Satisfaction Mean	SD	Motivator Factors Mean	SD	Hygiene Factors Mean	SD
Yes	113	57.06	9.02	4.61	.66	4.56	.63
No	19	61.37	6.14	4.80	.53	4.66	.61
Total	132*						

*One Missing Case

Current Position

For this study, the job satisfaction level of respondents in eight positions was analyzed. The positions included: Chief, Food Service Division; Chief, Production and Service Branch; Chief, Clinical Dietetic Branch; Staff Administrative Dietitian; Staff Clinical Dietitian; Education Officer; Project Officer; and "Other" which included recruiting and consulting officers.

Analysis of variance of mean scores of job satisfaction, motivator and hygiene factors by current position was tested. The F ratio for

satisfaction with motivator and hygiene factors indicated that there was a difference in mean scores by current position. However, a Scheffe test was performed with data generated by analysis of variance test and evidence of a significant difference in mean scores by current position was not provided.

While the Scheffe tests did not provide evidence of a difference in mean scores of motivator and hygiene factors by current position, Tables 47, 48, and 49 depict that respondents who were currently serving in "director" or "chief" positions had the highest mean scores in all three job satisfaction categories. The respondents in the category classified as "other" which included consulting and recruiting officers tended to have the next highest level of mean scores for motivator factors, while those respondents serving in the position of Chief of Production and Service demonstrated the second highest mean score for the hygiene factors. Continuing to evaluate raw scores, the staff administrative dietitians in the production and service branch demonstrated the lowest mean score for the hygiene factors.

When analysis of variance of mean scores of job satisfaction on the Brayfield-Rothe Index by current position was tested, the analysis indicated that the means scores of respondents by current positions were equal. However, when looking at raw mean scores, respondents in "director" or "chief" positions tended to have the highest mean score and staff administrative dietitians in the production and service branch had the lowest mean score.

Table 47

Analysis of Variance of Mean Scores
of Job Satisfaction by Current Position

	Chief Food Service Division	Chief Production and Service Branch	Chief Clinical Dietetic Branch	Teach	Staff Clinical Dietitian	Staff Administrative Dietitian	Project Officer	Other
n:	36	17	26	9	27	5	3	10
M:	60.28	58.53	56.27	58.00	55.52	53.40	56.00	59.20
SD:	7.11	6.44	9.92	8.87	8.66	17.05	14.53	7.36

Source	df	SS	MS	F
Between Groups	7	557.03	79.58	1.04
Within Groups	125	9544.10	76.35	
Total	132	10,101.13		

$p < .405$

Table 48

Analysis of Variance of Mean Scores of Motivator Factors by Current Position

	Chief Food Service Division	Chief Production and Service Branch	Chief Clinical Dietetic Branch	Teach	Staff Clinical Dietitian	Staff Administrative Dietitian	Project Officer	Other
n:	36	17	26	9	27	5	3	10
M:	4.94	4.65	4.56	4.64	4.43	4.33	4.03	4.69
SD:	.55	.54	.77	.69	.51	.71	1.09	.66

Source	df	SS	MS	F
Between Groups	7	6.24	.89	2.29
Within Groups	125	48.74	.39	
Total	132	54.98		

$p < .031$

Table 49

Analysis of Variance of Mean Scores of Hygiene Factors by Current Position

	Chief Food Service Division	Chief Production and Service Branch	Chief Clinical Dietetic Branch	Teach	Staff Clinical Dietitian	Staff Administrative Dietitian	Project Officer	Other
n:	36	17	26	9	27	5	3	10
M:	4.78	4.69	4.59	4.40	4.46	3.78	4.15	4.61
SD:	.63	.49	.57	.84	.51	.93	.78	.54

Source	df	SS	MS	F
Between Groups	7	6.10	.87	2.39
Within Groups	125	45.66	.37	
Total	132	51.76		

$p < .025$

Regression of Job Satisfaction on Selected Demographic Variables

In analyzing the effect of selected demographic variables on job satisfaction, the regression analysis was statistically significant in explaining the variance in mean scores of job satisfaction. The regression analysis yielded a multiple R = .53; this showed that 28.2% of the variance in the dependent variable was explained by the linear combination of demographic variables. Whether or not the respondents were serving in their major area of interest explained 10.4% of the variance in the dependent variable, job satisfaction, while their ratings on their Officer Evaluation Reports explained 6.0% of the variance. Whether or not they participated in an army internship program explained 2.7% of the variance and the number of PCS explained 1.3% of the variance. Rank explained 2.8% of the variance, but was not significant at the .05 level. Beyond this point, other demographic variables contributed very little toward explaining the variance in job satisfaction scores.

The intercorrelations for selected demographic variables ranged from a low of negative r = -.45 for age and career plans in AMSC to a high of positive r = .94 for age and years of service. A summary of intercorrelations and the regression for selected demographic variables is shown in Tables 50, 51, and 52.

The correlations of age with years of service, rank, education, and number of permanent change of stations ranged from a substantial relationship to a very strong relationship. High correlations were expected among these independent variables.

Table 50

Summary Data for Regression of Job Satisfaction
on Demographic Variables
N = 133
(Intercorrelation)

Variables	JOBSAT	A	MS	S	R	EDUC	YOS	CAMSC	OER	CP	AOI	SIAOI	GEP	SOH	NPCS	YAASS	OERPIE	PIADI	Mean	SD
Job Satisfaction (JOBSAT)		.19	.12	-.03	.15	.21	.15	-.18	.27	-.13	-.11	-.32	.19	.08	.21	-.03	.08	.15	57.71	8.75
Age (A)		-	-.02	-.20	.90	.64	.94	-.45	.20	-.22	-.34	-.22	.44	.01	.86	.26	.31	.04	30.27	6.44
Marital Status (MS)				.02	-.06	.08	-.04	-.02	-.03	.02	.04	-.12	.08	-.13	-.03	-.10	-.05	.03	1.50	.79
Sex (S)					-.15	-.23	-.21	.26	-.09	.16	.21	.08	-.07	-.13	-.18	-.03	.01	.16	1.77	.42
Rank (R)						-.34	.92	-.43	.26	-.18	-.34	-.25	.42	.06	.84	.28	.29	-.18	3.00	1.21
Education (EDUC)							.61	-.39	.09	-.01	-.11	-.26	.71	.20	.53	.11	.09	.10	1.65	.84
Years of Service (YOS)								-.42	.24	-.22	-.37	-.24	.39	-.01	.93	.24	.26	-.16	1.23	.42
Career AMSC (CAMSC)									-.18	.13	.30	.09	-.30	-.04	-.38	-.07	-.13	.01	2.22	1.07
Officer Evaluation Report (OER)										-.21	-.20	-.08	.03	-.12	.20	.20	.07	-.11	.72	.82
Current Position (CP)											.33	.001	-.01	.30	-.24	-.04	.04	.06	7.60	6.06
Area of Interest (AOI)												.06	-.10	.22	-.38	-.001	-.12	.08	1.27	.49
Serving in Area of Interest (SIAOI)													-.23	.19	-.23	-.06	-.13	-.06	3.63	1.99
Graduate Education Program (GEP)														.16	.31	.11	.07	.10	1.64	1.17
Size of Hospital (SOH)															-.01	.07	.01	.09	5.41	1.23
Number of Permanent Change of Stations (NPCS)																.10	.22	-.18	1.28	.47
Years at Assignment (YAASS)																	.25	.09	3.82	3.26
Officer Evaluation Plus Information Evaluation (OERPIE)																		.09	1.14	.36
Participation in Army Dietetic Internship (PIADI)																			3.38	2.13

Critical Values of r for selected values of alpha (two-tailed test)

Alpha	r
.05	.196
.01	.256
.001	.324

Table 51

Regression of Job Satisfaction on
Selected Demographic Variables
n = 133

Variable	Multiple R	R^2	R^2 Change	Partial Regression Coefficient	F
Currently Serving in Major Area of Interest	.32	.104	.104	-4.81	7.42*
Officer Evaluation Report	.40	.165	.060	2.11	11.74*
Participated in Army Sponsored Dietetic Internship Program	.43	.192	.027	5.42	6.25*
Number of Permanent Change Stations	.45	.205	.013	3.67	4.27*
Rank	.48	.234	.028	-2.36	2.34
Army Sponsored Master or Ph.D Program	.50	.247	.013	1.11	.80
Career Plans in AMSC	.50	.254	.007	-1.71	1.11
Age	.51	.262	.008	.78	1.08
Years at Assignment	.52	.266	.004	-.53	.61
Current Position	.52	.270	.004	-.42	1.34
Size of Hospital	.52	.273	.003	.33	.68
Officer Evaluation Plus Information Evaluation	.53	.276	.003	1.22	.58
Marital Status	.53	.279	.003	.52	.38
Sex	.53	.280	.001	.92	.26
Education	.53	.281	.001	.51	.19
Years of Service	.53	.282	.001	-.52	.14
Constant				43.92	

*$p < .05$

Table 52

Analysis of Variance: Regression of
Job Satisfaction on Selected Demographic Variables

Source	df	SS	MS	F
Regression	16	2848.28	178.02	2.85*
Residual	116	7252.86	62.53	
Total	132	10,101.14		

*$p < .01$

Summary - Relationships between job satisfaction and selected variables.

According to the results of the present investigations, there were positive relationships between Herzberg's ten motivator-hygiene factors and job satisfaction. Among the motivator factors, "achievement" and "work itself" had the strongest relationships with job satisfaction. This means that the respondents were more satisfied with the work itself and their opportunities to achieve in the AMSC.

Among the hygiene factors, "interpersonal relations" and "working conditions" had the strongest relationships with job satisfaction, while salary had the lowest relationship.

The five motivator factors explained a higher proportion of the job satisfaction score variance than the five hygiene factors which tended to support Herzberg's motivator-hygiene theory.

There were significant low positive relationships between job satisfaction and the following demographic variables: age, years of service, number of permanent change of stations, rank, officer evaluation report, participation in army dietetic internship programs and level of education. There were moderate positive relationships between job satisfaction and career plans in the AMSC and current service in major area of interest.

No relationships were noted between job satisfaction and sex or marital status. This means that there were no differences between job satisfaction of male and female respondents and there were no differences between married and unmarried respondents.

There were differences in mean scores of job satisfaction by respondents' participation in army sponsored graduate education. Respondents who had participated in army sponsored graduate education were significantly more satisfied with their jobs than those who had not participated in army sponsored graduate education.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The Army Medical Specialist Corps is concerned about improving job satisfaction and motivation of its members. The concern ultimately is for improved retention rate, dietetic service efficiency, effectiveness and management.

Many organizational and personnel changes have taken place in the Army Medical Specialist Corps in the last decade. In the area of hospital dietetics, few studies have been conducted to evaluate the attitudes of dietitians toward their roles and activities within their field. To date, no systematic study had been conducted in the area of army hospital dietetics to identify variables that might influence job satisfaction of army dietitians. The specific problem investigated in this study was: What are the relationships between motivator-hygiene factors, selected demographic variables, and job satisfaction of professional dietitians in the AMSC? Knowledge about motivator and hygiene factors is needed to develop means by which the AMSC can maximize the factors that contribute to job satisfaction and minimize the factors that contribute to job dissatisfaction.

One of the major purposes of the study was to describe the general characteristics of dietitians in the AMSC. Another major focus of the investigation was to determine the relationships between selected motivator-hygiene factors, selected demographic variables and job satisfaction of army dietitians.

The motivator and hygiene factors as identified by Herzberg, Mausner, and Snyderman (1959) were investigated in this study. The motivator factors included: achievement, advancement, recognition, responsibility, and work itself. The hygiene factors included: interpersonal relations, policy and administration, salary, supervision, and working conditions. The selected demographic variables analyzed in this study were: age, marital status, sex, rank, major area of interest, current service in major area of interest, educational level, participation in army sponsored graduate education program, years of service, career plans in the AMSC, size of army hospital, years of service at present assignment, most recent officer evaluation report, officer evaluation report plus an informal quarterly or semi-annual evaluation report, the number of permanent change of stations, participation in army sponsored dietetic internship program, and current position.

5.1 Objectives of the Study

The main purpose of this study was to describe the degree of job satisfaction of dietitians in the Army Medical Specialist Corps. The specific objectives were to:

1. Describe the demographic characteristics of registered (ADA) army dietitians.

2. Describe the relationships between selected motivator factors (achievement, advancement, recognition, responsibility, and the work itself) and job satisfaction of dietitians in the Army Medical Specialist Corps.

3. Describe the relationships between selected hygiene factors (interpersonal relations, policy and administration, salary, supervision, and working conditions) and job satisfaction of dietitians in the Army Medical Specialist Corps.

4. Describe relationships between the total motivator and total hygiene dimensions of the Motivator-Hygiene theory and job satisfaction.

5. Describe relationships that exist between army dietitians' levels of job satisfaction and their areas of specialization, managerial levels, evaluation system, frequency of permanent change of stations, size of army hospital currently assigned, rank or length of military service, age, educational level, sex, marital status, army internship participation, army sponsorship of graduate education programs, and career plans.

5.2 Methodology

The methodology for this study consisted of five phases: (1) description of the population, (2) instrumentation, (3) data collection, (4) scale analysis, and (5) data analysis. The target population for this study was 188 dietitians in the Army Medical Specialist Corps. Fifteen dietetic interns were excluded from the study because they were not registered members of The American Dietetic Association. Five of the population indicated that they did not want to participate and did not send the researcher their addresses. The researcher was also a part of the frame, but was excluded from the study. The population total for this study was 167 army dietitians.

A three-part instrument was constructed for data collection. Part I of the instrument was a modified version of a scale developed by Wood (1973) to assess the ten Herzberg motivator-hygiene factors. Part II of the instrument was a modified 14-item Brayfield-Rothe "Job Satisfaction Index." This section of the instrument was used to measure job satisfaction when all facets of the job were considered. Part III was developed by the researcher and was used to collect demographic data. A field-test was conducted using 40 dietitians--21 from The Ohio State University Hospital, 9 from state (Ohio) hospitals, and 10 dietitians from United States Air Force hospitals. After the revisions suggested by participants in the field-test were made, the instrument, along with a cover letter and a stamped, self-addressed envelope, was mailed to 167 army dietitians.

Questionnaires were returned by 133 subjects, representing a 81 percent response rate. Two of the subjects resigned from the army during the period that the questionnaires were distributed. Thirty-two of the subjects chose not to participate in the study. All returned questionnaires were usable by the researcher. Of the 133 responding to the questionnaire, a cumulative total of 27 items were left blank. The items left blank were all in Part I of the questionnaire, but were not concentrated under any one area.

The data were coded, keypunched, and processed at the Instruction and Research Computer Center of The Ohio State University utilizing the Statistical Package for the Social Sciences (SPSS, 1975) and the SPSS Update Manual (1979). The analyses of data were made in relation to specific objectives of the study. Statistical techniques used in

analyzing the data included means, standard deviations, frequencies, Product-Moment, Point Biserial, and Spearman Rank Correlations, one-way analyses of variance and multiple-regression analyses. The Model Alpha was utilized to calculate the reliability coefficients for the Brayfield-Rothe Job Satisfaction Index and for Wood's Faculty Job Satisfaction/Dissatisfaction Scale modified for dietitians. Brayfield-Rothe Index had a reliability coefficient of .94, while the Wood's scale had a reliability of .96.

5.3 Summary and Conclusions

Objective 1 - Characteristics of the Respondents

The researcher utilized 17 variables in this study to provide a foundation for general characteristics of respondents in the Army Medical Specialist Corps. Some of the more traditional variables, such as age, sex, education level, marital status, years of service, rank, size of organization and position, along with specific variables for the respondents, were used in describing the characteristics. From data collected in this study, the following picture can be drawn to describe respondents in the AMSC. Respondents in the army were registered members of The American Dietetic Association and were between 22 and 53 years of age with over half of the population between 22 and 29 years of age. The mean age of the population was 29.9 years. A majority of the respondents had less than ten years experience in the army as a dietitian and members were relatively young. The ratio of company grade officer to field grade officers was more than 2 to 1. Respondents in the army were more likely to be married and female. They were well-educated with 42.1% with Master's degrees or higher.

Most of the respondents were attracted to the army by accepting and successfully completing an army dietetic internship program. Over half of the respondents were interested in the administrative aspects of dietetics and 76.7% were currently serving in their major area of interest. The population of respondents was highly mobile; in fact, data collected revealed that they were transferred every two to three years. Most respondents in the AMSC received "Outstanding" ratings on their annual Officer Evaluation Report and most preferred some type of informal evaluation which would serve as a vehicle for informing the officer of his performance before the official annual evaluation report was due.

In addition to describing respondents on the basis of the 17 variables used in this study, there were specific items on the questionnaire relative to dietitians in the AMSC that will help to describe the respondents further. The respondents were satisfied with their "benefits" package which included: retirement and medical benefits, group life insurance, commissary and exchange privileges, and annual leave.

Respondents find their jobs interesting, challenging, and they are enthusiastic about hospital dietetics; however, they were completely dissatisfied with duties outside the Food Service Division, such as serving as Administrative Officer of the Day. They were also dissatisfied with the amount of time spent in grade and service for promotion. They showed dissatisfaction with the restriction on the top rank that can be attained in the AMSC. The army has a DA Preference Assignment Form for officers to utilize in indicating

their preferences in assignments. This form is updated frequently and is used to assist the assignment branch in making decisions relative to the geographical locations and assignments of officers. Data in this study indicated that respondents were dissatisfied with the degree of influence their preference statements had regarding their assignments and locations.

When considering all aspects of the job, respondents in the AMSC were well satisfied with their positions as determined by their self-appraisal of job satisfaction on a one-item indicator and on the Brayfield-Rothe "Job Satisfaction Index."

Objective 2 - Relationships Between Job Satisfaction and Selected Motivator Factors

The motivator factors "achievement" and "work itself" had substantial relationships with job satisfaction. This indicated that the respondents were more satisfied with their involvement in the work itself in the AMSC and that they showed a high degree of satisfaction with their opportunities for achievement; "advancement" showed a low relationship with job satisfaction, which meant that the respondents were somewhat less satisfied with their opportunities for advancement. The range of the correlations was from $r = .21$ for advancement to $r = .64$ for work itself.

Regression analysis indicated that the five motivator factors were significant in explaining 54 percent of the variance in the dependent variable, job satisfaction score. "Work itself" was significant in explaining 41 percent of the variance in job satisfaction

score, while "achievement" explained 10.5% and "advancement" explained 2.4% of the variance. The motivator factors, "responsibility" and "recognition" were not significant in explaining the variance.

Objective 3 - Relationships Between Job Satisfaction and Selected Hygiene Factors

All of the hygiene factors, except "salary," showed a moderate relationship with job satisfaction. "Interpersonal relations" and "working conditions" had the strongest relationships with job satisfaction among the hygiene factors, "salary" had the weakest relationship. According to the interpretation of the correlations, the respondents' levels of job satisfaction were related more closely to relations with personnel they encounter in the job environment and to working conditions. The strength of the relationship between job satisfaction and "salary" indicated that the respondents were less satisfied with this hygiene factor than of all four of the remaining hygiene factors. Correlations for the hygiene factors ranged from a low of $r = .13$ for "salary" to a high of $r = .45$ for "interpersonal relations" and "working conditions."

Regression analysis was statistically significant in explaining 26 percent of the variance in the dependent variable, job satisfaction score. Analysis revealed that "interpersonal relations" explained 19 percent of the variance and "working conditions" explained 5 percent. The remaining three hygiene factors (salary, supervision, and policy and administration) were not significant in explaining variance.

Objective 4 - Relationship Between Job Satisfaction and the Total Motivator and Total Hygiene Dimensions of the Motivator-Hygiene Theory

When analyses of data were undertaken to determine the relationship between the individual dimensions of the motivator factors and the total motivator factors score, a very strong relationship between total motivator factors score and each of the factors was noted. The strongest relationship with total motivator factors score was found with "recognition." The second strongest relationship was noted with "work itself".

Correlations between the five hygiene factors and total hygiene factors score revealed the strongest relationship was with "policy and administration" and the weakest relationship was with the dimension "salary." All other relationships between total hygiene factors score and each individual dimension demonstrated a very strong relationship, all within the .70 range.

Objective 5 - The Relationships Between Job Satisfaction and Selected Demographic Variables

Product-Moment Correlations indicated significant relationships between job satisfaction and each of the selected demographic variables--age, years of service, and number of permanent change of stations. The analysis revealed significant low positive relationships between age, years of service and the number of permanent change of stations and job satisfaction. As age, years of service, and the number of permanent change of stations increased, so did the level of job satisfaction at a low rate. A negative relationship was noted between

job satisfaction and years at present assignment. The strongest association among these four variables was between the number of permanent change of stations and job satisfaction.

Spearman Rank Correlations reflected significant relationships between rank, officer evaluation report, level of education and job satisfaction. There were significant low positive relationships between job satisfaction and the three demographic variables, rank, officer evaluation report, and level of education. An increase in rank, officer evaluation report, and education revealed an increase in job satisfaction. The strongest association was between job satisfaction and officer evaluation report when the Spearman Rank Correlation test was performed.

A Point Biserial Correlation was performed on job satisfaction and each of the following six demographic variables: sex, marital status, career plans in the AMSC, current service in major area of interest, officer evaluation report plus an informal semi-annual evaluation, and army sponsored dietetic internship program. The strength of the relationships ranged from a negative $r_{pb} = -.06$ for sex to a high of $r_{pb} = .35$ for career plans in the AMSC. The strongest relationship in this study was between job satisfaction and those army dietitians who planned a career in the AMSC. The second strongest relationship was between job satisfaction and army dietitians currently serving in their major area of interest. The third strongest relationship was between job satisfaction and officer evaluation reports.

When the effects of selected demographic variables were analyzed, the regression yielded a multiple R = .53. It showed that 28.2% of the variance in this model was explained by the demographic variables. Whether or not army dietitians were serving in their major area of interest explained 10.4% of the variance in the dependent variable, job satisfaction score, and the officer evaluation report (rating) explained the second highest level of variance. Participation in army sponsored dietetic internship, number of permanent change of stations, and rank were the only other demographic variables that explained a significant amount of the variance in job satisfaction score.

Herzberg's Motivator-Hygiene theory is applicable to dietitians in the Army Medical Specialist Corps. The theory suggests that the motivator factors: achievement, advancement, recognition, responsibility, and work itself, promote job satisfaction and no dissatisfaction, while the hygiene factors: interpersonal relations, policy and administration, salary, supervision, and working conditions, are related to job dissatisfaction. According to the findings in this study, both the motivator and hygiene factors were related to job satisfaction. That tended to contradict the Herzberg (1959) dual continuum theory. The five motivator factors explained a higher proportion of the job satisfaction score variance than the five hygiene factors which tended to support Herzberg's Motivator-Hygiene theory.

When the Point Biserial Correlation were calculated between job satisfaction and sex, the analysis revealed that there was no relationship between these two variables. Also, there was no relationship between job satisfaction and marital status. There was a low positive

relationship between job satisfaction and participation in dietetic internship programs. Respondents who did not participate in army dietetic internship programs were more satisfied than those who did participate.

Analysis of variance test indicated that there were differences in mean scores of job satisfaction by respondents' participation in army sponsored graduate education. Respondents who had participated in army sponsored graduate education were significantly more satisfied with their jobs than those who had not participated in army sponsored graduate education. Respondents with advanced degrees also showed a higher level of job satisfaction than those respondents who had not obtained an advanced degree. Respondents who participated in army sponsored graduate education showed higher levels of satisfaction on the motivator factors.

Although the criterion for significance was not met, the following tendencies were found when evaluating raw mean scores: (a) single respondents were more satisfied than married respondents; (b) male respondents were slightly more satisfied than female respondents; (c) respondents preferring an informal quarterly or semi-annual evaluation report were less satisfied than those respondents who did not prefer an informal evaluation; (d) respondents who were assigned to hospitals with bed capacity over 501 had higher job satisfaction mean scores than those assigned to smaller hospitals; (e) respondents were generally well satisfied immediately after their new assignments; however, after respondents had been in the new assignments for one year, the level of satisfaction dropped and then gradually increased as years at present assignment increased.

The respondents who participated in this study were well satisfied with their positions in the AMSC and yet the retention rate of army dietitians continues at a low rate. Therefore, in the researcher's opinion, job satisfaction is only one of several factors that contribute to high retention rate. An investigation of variables that are more specifically oriented to the dietetic professionals in the army may provide a better understanding of why the retention rate of dietitians in the AMSC is low.

5.4 Recommendations

It is recommended that:

Information on job satisfaction of dietitians in the AMSC should be made available to the Chief of the AMSC, Chief of the Dietitian Section of the AMSC, Chief of the Career Activities Branch of the Corps, to medical centers and hospitals throughout the U.S. Army to improve their decision-making ability.

Similar studies should be replicated in other organizations such as, the Veterans Administration, state, private, air force, and navy hospitals to determine if dietitians in those organizations differ significantly from those in this study. Longitudinal studies should be conducted to determine the retention rate of satisfied versus dissatisfied army dietitians at five or ten year intervals.

The findings of this study should be adopted by the AMSC as empirical evidence indicating the extent to which dietitians in the AMSC are satisfied with the content and context of the job.

The AMSC should continue to provide opportunities for achievement, growth, and recognition of AMSC officers through improved graduate

education opportunities, participation in professional conferences, seminars and professional recognition of accomplishments of army dietitians.

Since the findings in this study revealed that motivator factors were significantly greater contributors to job satisfaction than the hygiene factors, chiefs of Food Service Divisions should provide enrichment activities with emphasis on maximizing the factors of achievement, advancement, recognition, responsibility, and work itself, which should further enhance army dietitians' opportunities to experience greater levels of job satisfaction. Enrichment activities for hygiene factors, interpersonal relations, salary, supervision, policy and administration, and working conditions, should also be initiated since they also contribute to job satisfaction.

Since the demographic variable, current service in major area of interest, was the best predicator of job satisfaction, chiefs of Food Service Divisions should make special efforts to obtain dietitians' preferences relative to their areas of interest and attempt to assign them accordingly.

Personnel recruiting dietitians for the AMSC should use the information found in this study to enhance recruiting procedures. For example, based on the findings of this study, the recruiter should recruit dietitians who plan to pursue a career in the AMSC and those who have high aspirations for continuing education and advancement in rank. Recruiters should also look for dietitians who understand that mobility is a part of army dietitians' life style. They should also recruit those dietitians who indicate a willingness to achieve and

assume great responsibility; those who are concerned about the work itself and the recognition they receive for high performance.

Other research is needed to investigate inconsistencies in reported relationships between job satisfaction and various demographic variables. Research is needed to substantiate or reject the findings of the motivator-hygiene theory, particularly the part of Herzberg's theory that indicates hygiene factors do not contribute to job satisfaction.

Finally, research is needed to investigate those dietitians who have separated from the army in the last five years to determine specific factors that contributed to their separation.

APPENDIX A

OSU

The Ohio State University

Department of Human Nutrition
and Food Management

265 Campbell Hall
1787 Neil Avenue
Columbus, Ohio 43210

Phone 614 422-4485

July 23, 1980

Dr. Paul D. Isaac
Chairperson, Human Subject
Review Committee
The Ohio State University
Research Foundation
1314 Kinnear Road, Room 205
Columbus, Ohio 43212

Dear Dr. Isaac:

This letter is to request a waiver of written consent required with reference to my research study. Due to the nature of this investigation, no manipulation of human subjects will be necessary. The only requirement will be that the human subjects (dietitians in the Army Medical Specialist Corps) voluntarily respond to items on a questionnaire.

If you should have any questions with reference to my proposed study, please contact either my adviser, Dr. Rachel M. Hubbard, at the address listed above, or me at 436-6344.

Thank you for your consideration of this matter.

Sincerely,

Charles F. Monagan
Ph.D. Candidate
6804 Highland Place
Worthington, Ohio 43085

cc: Dr. Rachel M. Hubbard

OHIO STATE UNIVERSITY
BEHAVIORAL & SOCIAL SCIENCES
HUMAN SUBJECT REVIEW COMMITTEE
RESEARCH INVOLVING HUMAN SUBJECTS

PROTOCOL NO. 80B 356
ORIGINAL REVIEW X
CONTINUING REVIEW
FIVE-YEAR REVIEW

ACTION OF THE REVIEW COMMITTEE

The Behavioral and Social Sciences Review Committee has taken the following action:

_____ 1. Approve (____ Waiver of written consent)

__X__ 2. Approved with conditions

_____ 3. Disapprove

with regard to the employment of human subjects in the proposed research entitled: JOB SATISFACTION STUDY OF DIETITIANS IN ARMY HOSPITALS

Charles F. Monagan
Rachel M. Hubbard/ is listed as the principal investigator.
Hum Nutr& Food Mgt
265 Campbell
1787 Neil Ave.

It is the responsibility of the principal investigator to retain a copy of each signed consent form for at least four (4) years beyond the termination of the subject's participation in the proposed activity. Should the principal investigator leave the University, signed consent forms are to be transferred to the Human Subject Review Committee for the required retention period. This application has been approved for the period of one year. You are reminded that you must promptly report any problems to the Research Committee, and that no procedural changes may be made without prior review and approval. You are also reminded that the identity of the research participants must be kept confidential.

Date: JUL 25 1980 Signed: P D Sloan
(Chairperson)

cc: Original-Investigator
Ken Sloan
Development Officer
File

Form PA-025
Rev. 10/79

OSU

The Ohio State University

Department of Human Nutrition and Food Management

265 Campbell Hall
1787 Neil Avenue
Columbus, Ohio 43210

Phone 614 422-4485

July 27, 1980

Dear

I am a Ph.D Candidate in the Department of Human Nutrition and Food Management at The Ohio State University. To complete requirements for my doctoral degree, I anticipate conducting a study to measure job satisfaction of registered (American Dietetic Association) dietitians in army hospitals.

In order to test my instrument, I am requesting your cooperation in completing this questionnaire. This is not a survey; the data collected from your completion of this questionnaire will be used to refine or modify the questionnaire for dietitians in army hospitals. Items 24, 25, 35, 36, 48, 71, and 72 are specifically for dietitians in the army; therefore, you need not respond to those items.

Please indicate the length of time it took you to complete the questionnaire and on the back of the instruction page list all items that were not clear to you. Any additional comments about the design of this questionnaire will be appreciated.

Your cooperation in completing the questionnaire as soon as possible will be appreciated.

Sincerely,

Charles F. Monagon
Ph.D. Candidate
6804 Highland Place
Worthington, Ohio 43085

OSU

The Ohio State University

Department of Human Nutrition
and Food Management

265 Campbell Hall
1787 Neil Avenue
Columbus, Ohio 43210

Phone 614 422-4485

6804 Highland Place
Worthington, Ohio 43085
July 18, 1980

Professor Olin R. Wood
Buncombe Technical College
340 Victoria Road
Ashville, North Carolina 28801

Dear Professor Wood:

In following-up our telephone conversation of July 15, this is a request for approval to use a modified version of your Faculty Job Satisfaction/Dissatisfaction Scale.

I am a Ph.D. candidate in Human Nutrition and Food Management at The Ohio State University. To complete requirements for my dissertation, I anticipate conducting a study to measure job satisfaction of registered (American Dietetic Association) dietitians in army hospitals. With reference to the use of your instrument for my proposed study, the following modifications would be made: Change of professional orientation to be more applicable to dietitians and the addition of approximately 15 items and demographics relevant to the population to be studied.

Hopefully, this is sufficient information to be considered in granting approval.

Your expeditious reply to this request will be appreciated.

Sincerely,

Charles F. Monagan
LTC AMSC

TELEPHONE 704/254-1921

ASHEVILLE - BUNCOMBE TECHNICAL INSTITUTE

340 VICTORIA ROAD - ASHEVILLE, NORTH CAROLINA 28801

HARVEY L. HAYNES, PRESIDENT

July 30, 1980

LTC Charles F. Monagan
6804 Highland Place
Worthington, OH 43085

Dear Colonel Monagan:

You are welcome to use my Faculty Job Satisfaction/ Dissatisfaction Scale, modifying as needed, to measure job satisfaction of registered dietitians in army hospitals for your dissertation research.

My only expectation from you is appropriate credit for use of my materials. A copy of your abstract or findings will be appreciated.

Sincerely,

Olin R. Wood

Olin R. Wood, Vice President
Instructional Services

ORW:rw

OSU

The Ohio State University

Department of Human Nutrition and Food Management

265 Campbell Hall
1787 Neil Avenue
Columbus, Ohio 43210

Phone 614 422-4485

August 13, 1980

Dear Corps Member:

In cooperation with the Department of Human Nutrition and Food Management of The Ohio State University, a job satisfaction study of ADA registered army dietitians is currently being conducted. This study should be of interest to every dietitian in the AMSC.

The purpose of this research is to contribute to the present knowledge base of information pertaining to the nature of job satisfaction in the hospital dietetic profession. This study is an attempt to fill the current void of information pertaining to a population of dietitians and what they consider important and satisfying in their work. The data that will be analyzed in this study will not evaluate how any one individual feels about his/her career. The data base of information that is developed will be used only in an overall analysis.

Enclosed you will find a Job Satisfaction questionnaire that has been modified for this study. The questionnaire has been field tested with dietitians in Columbus, Ohio, as well as ten air force dietitians, and will take approximately 20 minutes to complete. Perhaps you could complete this questionnaire while taking a coffee break using the enclosed coffee packet.

Please forward the completed questionnaire in the enclosed self-addressed, stamped envelope by 8 September 1980. I wish to emphasize that your participation in this study is completely voluntary.

Your time and effort in completing this questionnaire is sincerely appreciated and your response will be confidential.

Sincerely,

Charles F. Monagan
LTC. AMSC

Rachel M. Hubbard, Ph.D.
Professor

The Ohio State University

Department of Human Nutrition and Food Management

265 Campbell Hall
1787 Neil Avenue
Columbus, Ohio 43210

Phone 614 422-4485

September 17, 1980

FOLLOW-UP OF JOB SATISFACTION QUESTIONNAIRE

Approximately three weeks ago, I mailed a job satisfaction questionnaire to you. Please check the category below which explains your status relative to the questionnaire:

____ The questionnaire has been mailed to you.

____ The questionnaire is enclosed with this form.

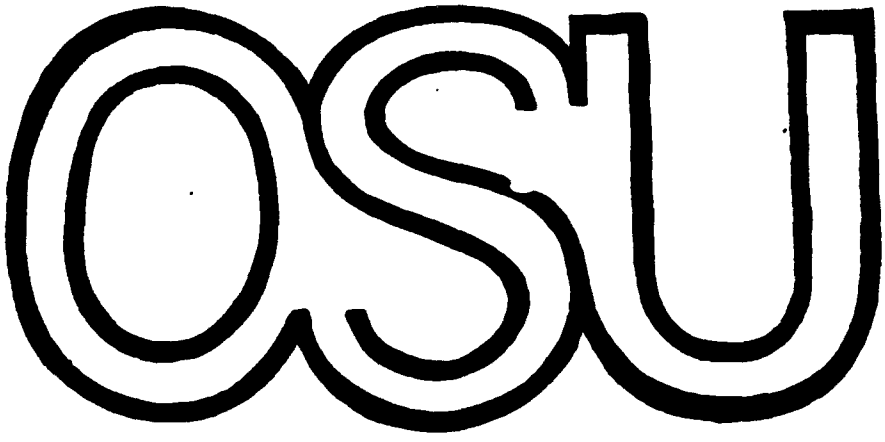
____ I did not receive the questionnaire. Please mail another copy to me.

____ I do not wish to participate in the survey.

Charles F. Monagan
LTC AMSC

APPENDIX B

JOB SATISFACTION STUDY OF DIETITIANS IN ARMY HOSPITALS



Charles F. Monagan
The Ohio State University
Department of Human Nutrition
and Food Management
265 Campbell Hall
1787 Neil Avenue
Columbus, Ohio 43210

QUESTIONNAIRE

Code Number_____

I am conducting a study of dietitians in the Army Medical Specialist Corps to determine factors which may be related to your job satisfaction. Your cooperation in completing the following questionnaire is appreciated. Please read the directions for each segment carefully.

GENERAL INSTRUCTIONS

1. Please read all instructions carefully.
2. Please answer all questions. All responses will be considered confidential. Your frankness is needed and will be appreciated.
3. If you have difficulty responding to any item, please give your best estimate or appraisal. You may wish to comment in the margin of the questionnaire.
4. When you have completed the entire questionnaire, please recheck to make sure all items have been answered.
5. Your name is not needed on the questionnaire.
6. A self-addressed, stamped envelope in which to return the completed questionnaire is enclosed.
7. Please mail your completed questionnaire as soon as possible and by 8 September '80.

Part I

For each of the following items, circle the response which best represents your level of job satisfaction.

SCALE:

6 = Very Satisfied	5 = Moderately Satisfied
4 = Slightly Satisfied	3 = Slightly Dissatisfied
2 = Moderately Dissatisfied	1 = Very Dissatisfied

1.	The actual achievement of work-related goals.	6 5 4 3 2 1
2.	The immediate results from your work.	6 5 4 3 2 1
3.	The actual adoption of practices which you recommend.	6 5 4 3 2 1
4.	Personal goal attainment.	6 5 4 3 2 1
5.	The extent to which you are able to objectively evaluate your accomplishments.	6 5 4 3 2 1
6.	Opportunities for increased responsibility in dietetics.	6 5 4 3 2 1
7.	Opportunities provided for growth in dietetic education compared with growth in other fields.	6 5 4 3 2 1
8.	Participation in in-service education or training.	6 5 4 3 2 1
9.	Types and levels of in-service education or training.	6 5 4 3 2 1
10.	Opportunities to grow professionally through formal education.	6 5 4 3 2 1
11.	Opportunities to attend professional conferences, workshops, etc.	6 5 4 3 2 1
12.	Opportunities for research in dietetics.	6 5 4 3 2 1
13.	The level of understanding that your superiors and you have of each other.	6 5 4 3 2 1
14.	Friendliness of your co-workers.	6 5 4 3 2 1

6 = Very Satisfied	5 = Moderately Satisfied
4 = Slightly Satisfied	3 = Slightly Dissatisfied
2 = Moderately Dissatisfied	1 = Very Dissatisfied

15.	Cooperation from professional staff outside your department.	6 5 4 3 2 1
16.	Cooperation from professional staff in your department.	6 5 4 3 2 1
17.	Overall institutional relations including employee, staff, outside staff, and hospital administrator.	6 5 4 3 2 1
18.	Professional relationships on the job.	6 5 4 3 2 1
19.	Personal relationships on the job.	6 5 4 3 2 1
20.	Your involvement in making decisions.	6 5 4 3 2 1
21.	The extent to which you are informed about matters affecting you.	6 5 4 3 2 1
22.	The procedures used to select dietitians to positions, such as Chief of the Food Service Division.	6 5 4 3 2 1
23.	The extent to which the hospital's administrative policies and procedures are available to the army dietitians.	6 5 4 3 2 1
24.	Your satisfaction with the highest rank (Colonel) that can be achieved in the Army Medical Specialist Corps.	6 5 4 3 2 1
25.	Time spent in grade and service for promotion.	6 5 4 3 2 1
26.	The administrative procedures used to carry out the dietetic training program.	6 5 4 3 2 1
27.	The extent to which the hospital's administrative policies and procedures are actually followed.	6 5 4 3 2 1
28.	The extent to which the policies meet dietitians' needs.	6 5 4 3 2 1

6 = Very Satisfied	5 = Moderately Satisfied
4 = Slightly Satisfied	3 = Slightly Dissatisfied
2 = Moderately Dissatisfied	1 = Very Dissatisfied

29.	The education and training philosophy which prevail in the dietary department.	6 5 4 3 2 1
30.	Recognition of your accomplishments by co-workers.	6 5 4 3 2 1
31.	Recognition of your accomplishments by superiors.	6 5 4 3 2 1
32.	Your recognition compared to that of your co-workers.	6 5 4 3 2 1
33.	The recognition you get from the administration for your ideas.	6 5 4 3 2 1
34.	Publicity given to your work and ideas.	6 5 4 3 2 1
35.	The types of awards provided to army dietitians for outstanding duty performance.	6 5 4 3 2 1
36.	The frequency of awards given to army dietitians for outstanding duty performance.	6 5 4 3 2 1
37.	The number of employees and staff members for which you are responsible.	6 5 4 3 2 1
38.	The authority you have to get the job done.	6 5 4 3 2 1
39.	The total amount of responsibility you have.	6 5 4 3 2 1
40.	Your responsibilities compared with those of your co-workers.	6 5 4 3 2 1
41.	Committee responsibilities.	6 5 4 3 2 1
42.	Responsibilities outside your major areas of interest.	6 5 4 3 2 1
43.	The method used to determine your salary.	6 5 4 3 2 1
44.	The range of salaries paid to dietitians in the army.	6 5 4 3 2 1

6 = Very Satisfied	5 = Moderately Satisfied
4 = Slightly Satisfied	3 = Slightly Dissatisfied
2 = Moderately Dissatisfied	1 = Very Dissatisfied

45.	The top salary available to dietitians compared to similar positions in other fields.	6 5 4 3 2 1
46.	Your salary compared to that of people with similar training in other professions.	6 5 4 3 2 1
47.	The amount of your salary.	6 5 4 3 2 1
48.	The retirement benefits available to army dietitians.	6 5 4 3 2 1
49.	The medical benefits provided to army dietitians.	6 5 4 3 2 1
50.	The amount of annual leave available to army dietitians.	6 5 4 3 2 1
51.	The amount of Servicemen's Group Life Insurance provided for army dietitians.	6 5 4 3 2 1
52.	The Commissary and Exchange privileges available to army dietitians.	6 5 4 3 2 1
53.	The tuition assistance benefits available to army dietitians.	6 5 4 3 2 1
54.	On-the-job supervision given by your superior.	6 5 4 3 2 1
55.	Competence of your superior(s) to give leadership.	6 5 4 3 2 1
56.	Personal encouragement given by your superior(s).	6 5 4 3 2 1
57.	The willingness of your superior(s) to delegate authority.	6 5 4 3 2 1
58.	Authority delegated compared to duties assigned.	6 5 4 3 2 1
59.	Counsel and guidance given by your superior(s).	6 5 4 3 2 1

6 = Very Satisfied	5 = Moderately Satisfied
4 = Slightly Satisfied	3 = Slightly Dissatisfied
2 = Moderately Dissatisfied	1 = Very Dissatisfied

60.	The initiation of innovations by your superiors.	6 5 4 3 2 1
61.	The fairness of your superiors.	6 5 4 3 2 1
62.	The sensitivity of your superiors to your needs.	6 5 4 3 2 1
63.	The consistency of your supervisors or superiors.	6 5 4 3 2 1
64.	Specific on-the-job assistance offered by your superior.	6 5 4 3 2 1
65.	The procedures used to evaluate you.	6 5 4 3 2 1
66.	The frequency of your evaluation periods.	6 5 4 3 2 1
67.	Work and association with newly trained dietitians.	6 5 4 3 2 1
68.	The degree to which you work with a group to do your job.	6 5 4 3 2 1
69.	The interesting and challenging aspects of being an army dietitian.	6 5 4 3 2 1
70.	Your level of enthusiasm about hospital dietetics.	6 5 4 3 2 1
71.	The general type of work you do as an army dietitian.	6 5 4 3 2 1
72.	The number of hours you work each week.	6 5 4 3 2 1
73.	Your work schedule compared to that of similar positions in other fields.	6 5 4 3 2 1
74.	Your work schedule compared to that of your co-workers.	6 5 4 3 2 1
75.	Geographical location of your assignment.	6 5 4 3 2 1

6 = Very Satisfied	5 = Moderately Satisfied
4 = Slightly Satisfied	3 = Slightly Dissatisfied
2 = Moderately Dissatisfied	1 = Very Dissatisfied

76. The influence of your preference statement over your permanent change of station assignments. 6 5 4 3 2 1

77. Your satisfaction as an army dietitian with the opportunity to travel provided by permanent change of station. 6 5 4 3 2 1

78. Administrative duty in the hospital outside the dietetic department, i.e., Administrative Officer of the Day and Inspection Officer for the hospital. 6 5 4 3 2 1

79. Consider all aspects of your job as an army dietitian and indicate your overall level of job satisfaction. 6 5 4 3 2 1

Part II

Some jobs are more interesting and satisfying than others. Please circle the response following each statement that best describes how you feel about your job.

SA = Strongly Agree	D = Disagree
A = Agree	SD = Strongly Disagree
U = Undecided	

1. My job is usually interesting enough to keep me from getting bored. SA A U D SD

2. It seems that my friends are more interested in their jobs. SA A U D SD

3. I consider my job rather unpleasant. SA A U D SD

SA = Strongly Agree
A = Agree
U = Undecided
D = Disagree
SD = Strongly Disagree

4.	I am often bored with my job.	SA A U D SD
5.	I feel fairly well satisfied with my job.	SA A U D SD
6.	Most of the time I have to force myself to go to work.	SA A U D SD
7.	I definitely dislike my work.	SA A U D SD
8.	I feel that I am happier in my work than most other people.	SA A U D SD
9.	Most days I am enthusiastic about my work.	SA A U D SD
10.	Each day of work seems like it will never end.	SA A U D SD
11.	I like my job better than the average worker does.	SA A U D SD
12.	My job is pretty uninteresting.	SA A U D SD
13.	I find real enjoyment in my work.	SA A U D SD
14.	I am disappointed that I ever took this job.	SA A U D SD

Part III

Please complete the following questions by either filling in or checking ( ) the appropriate blank.

1. Age: ____years.

2. Marital status (check one):

_____Married _____Single

_____Separated _____Divorced

3. Sex (check one): _____Male _____Female

4. Your rank:

_____ 2LT _____ MAJ

_____ 1LT _____ LTC

_____ CPT _____ COL

5. Major area of interest in dietetics (check one):

_____ Administrative

_____ Clinical

_____ Teaching

_____ Other (Please, specify)_____

6. Are you currently serving in your major area of interest?

_____ Yes _____ No

7. Your highest completed level of formal education (check one):

_____Bachelor's Degree

_____Bachelor's Degree plus hours toward Master's Degree

_____Master's Degree

_____Master's Degree plus additional hours

_____Doctorate

8. If you have earned a Master's or Ph.D. Degree, did the army sponsor your graduate education?

_____Yes _____No

9. To the nearest year, how long have you been in the army as a dietitian?

_____Years

10. Do you plan a career in the AMSC? _____Yes _____No

11. Size of army hospital to which you are currently assigned (check one):

_____Under 100 Operating Beds

_____101 - 200 Operating Beds

_____201 - 300 Operating Beds

_____301 - 400 Operating Beds

_____401 - 500 Operating Beds

_____Over 501 Operating Beds

12. Years of Service at present army hospital:

_____Years

13. What was your most recent OER rating?

_____Inadequate _____Excellent

_____Marginal _____Superior

_____Effective _____Outstanding

14. In addition to your annual Officer Evaluation Report, would you like an informal quarterly or semi-annual evaluation report? (check one)

_____Yes _____No

15. Since entering the army as a dietitian, how many Permanent Change of Stations have you made?

_____

16. Did you participate in an army internship program?

_____Yes _____No

17. What is your current position (check one)?

_____Chief, Food Service Division

_____Chief, Production and Service Branch

_____Chief, Clinical Dietetic Branch

_____Teaching or Education

_____Regular Staff Dietitian in Clinical Dietetic Branch

_____Regular Staff Dietitian in Production and Service Branch

_____Project Officer for Food Service Division

_____Other (Please specify)_____

Thank you for completing this instrument. Please return it in the stamped, self-addressed envelope.

APPENDIX C

Table 53

Relationship Between Job Satisfaction
and Selected Demographic Variables
n = 133

Variable	r	r_s	r_{pb}	Sig
Age	.19			.015
Years of Service	.16			.042
Number of Years at Present Assignment	-.03			.382
Number of Permanent Change of Stations	.21			.008
Size of Hospital	.11			.105
Rank		.21		.008
Officer Evaluation Report		.27		.001
Level of Education		.26		.001
Officer Evaluation Report Plus Informal Evaluation			.11	.116
Career Plans in Army Medical Specialist Corps			.35	.001
Currently Serving in Major Area of Interest			.32	.001
Marital Status			-.12	.082
Sex			-.06	.265
Participation in Army Sponsored Dietetic Internship			.15	.038

r = Pearson Product-Moment Correlation
r_s = Spearman Rank Correlation
r_{pb} = Point Biserial Correlation

APPENDIX D

Table 54

Mean Scores of Questionnaire Items - Part I
n = 133

Item	Mean	SD
1	4.90	.88
2	4.50	1.00
3	4.80	.96
4	4.91	.99
5	4.75	1.06
6	4.98	1.23
7	4.56	1.17
8	4.72	1.07
9	4.53	1.08
10	4.78	1.20
11	4.68	1.40
12	3.73	1.46
13	4.71	1.32
14	5.50	.76
15	5.02	.90
16	5.35	.78
17	4.51	1.11
18	5.15	.73
19	5.12	.76
20	5.03	1.01
21	4.69	1.11

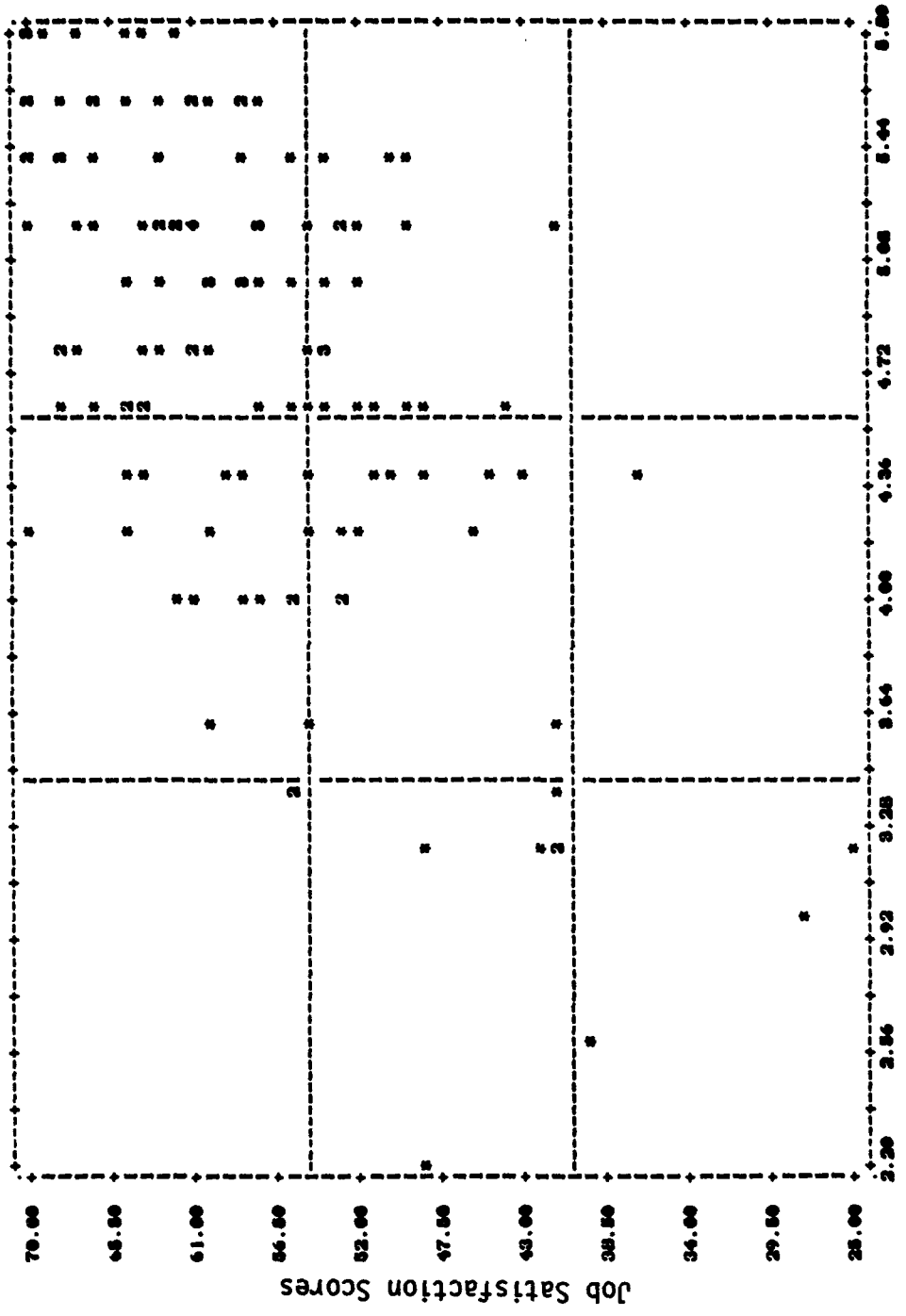
Item	Mean	SD
22	4.18	1.32
23	4.70	1.07
24	3.58	1.78
25	3.68	1.40
26	4.59	1.13
27	4.16	.99
28	4.03	1.10
29	4.53	1.13
30	4.65	1.15
31	4.62	1.23
32	4.87	1.06
33	4.48	1.19
34	4.39	1.22
35	3.98	1.32
36	3.82	1.41
37	4.70	1.35
38	4.84	1.20
39	4.96	1.23
40	5.14	1.07
41	4.64	1.02
42	4.29	1.26
43	3.93	1.56

Item	Mean	SD
44	4.50	1.36
45	4.30	1.47
46	4.30	1.45
47	4.55	1.25
48	5.09	1.06
49	5.35	.91
50	5.48	.78
51	5.11	1.11
52	5.11	1.19
53	4.91	1.22
54	4.66	1.18
55	4.43	1.55
56	4.37	1.53
57	4.71	1.36
58	4.71	1.29
59	4.30	1.49
60	4.39	1.30
61	4.82	1.72
62	4.47	1.39
63	4.46	1.40
64	4.34	1.45
65	4.14	1.53

Item	Mean	SD
66	4.38	1.36
67	4.87	1.11
68	4.71	1.11
69	4.73	1.23
70	4.71	1.20
71	4.79	1.17
72	4.56	1.30
73	4.58	1.33
74	4.76	1.24
75	5.00	1.38
76	3.96	1.87
77	4.94	1.25
78	2.42	1.57
79	4.90	.84

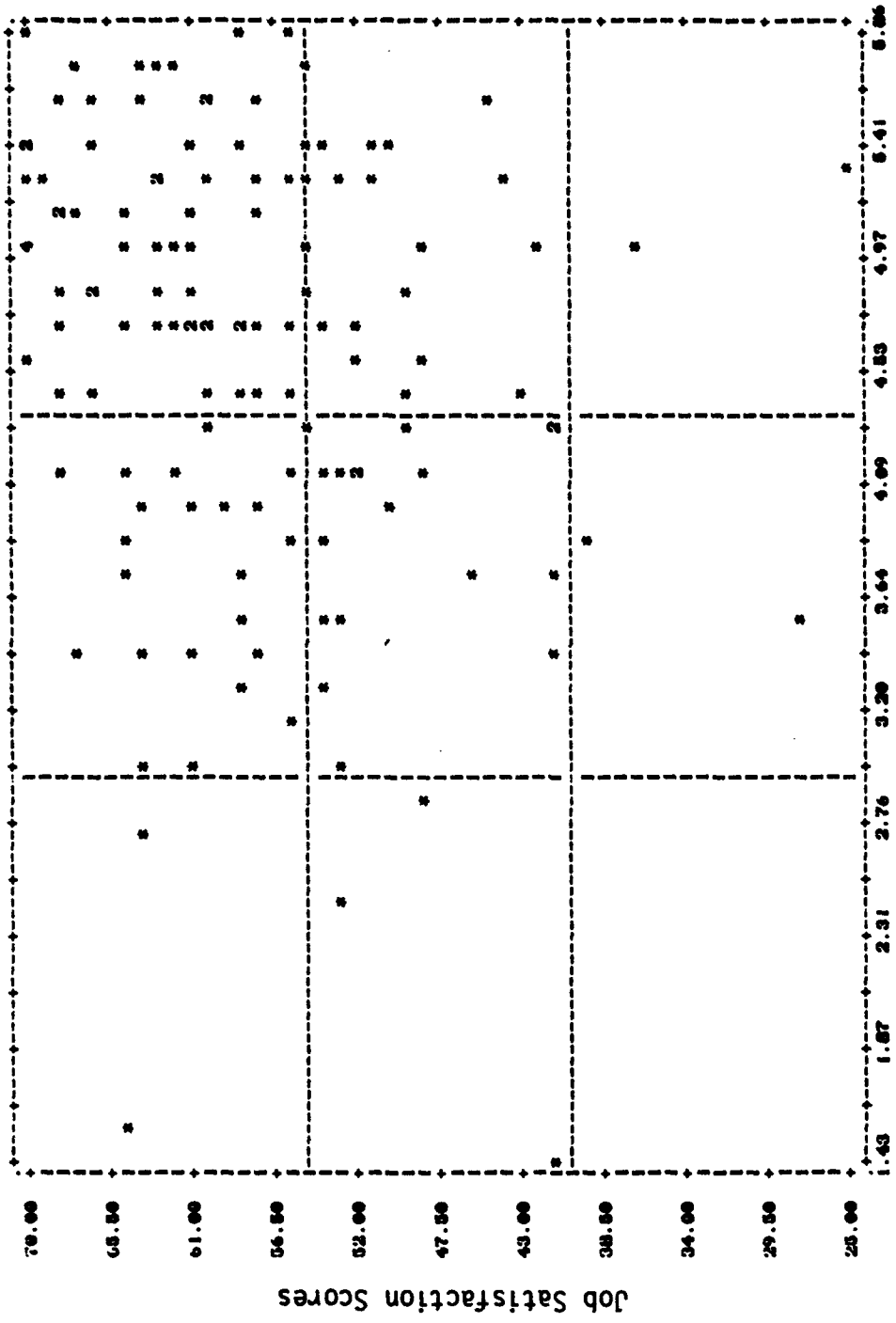
27 Missing Values

APPENDIX E



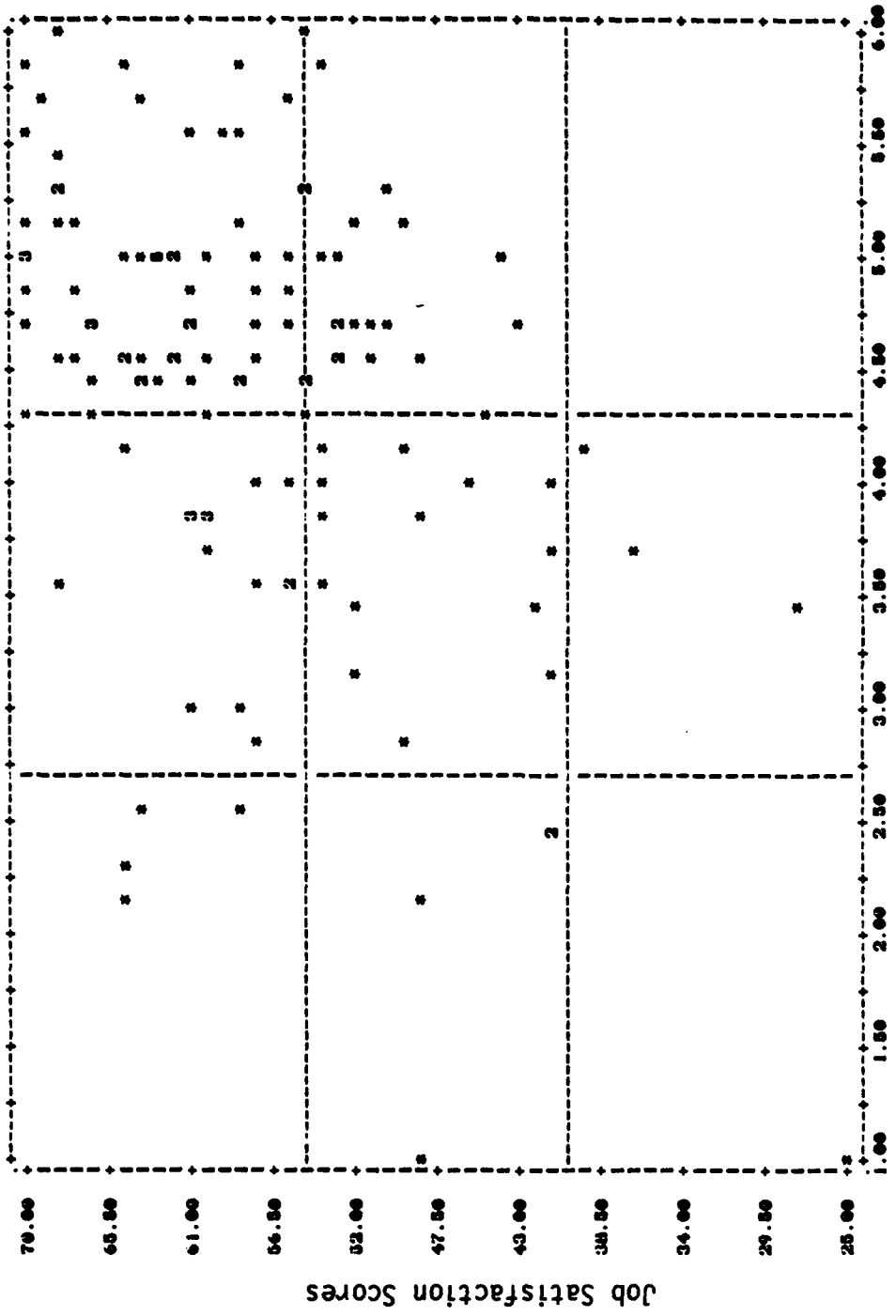
Statistics: r = .61, Sig. = .002, plotted values 133, missing values 0

Figure 12. Relationship Between Job Satisfaction and Achievement



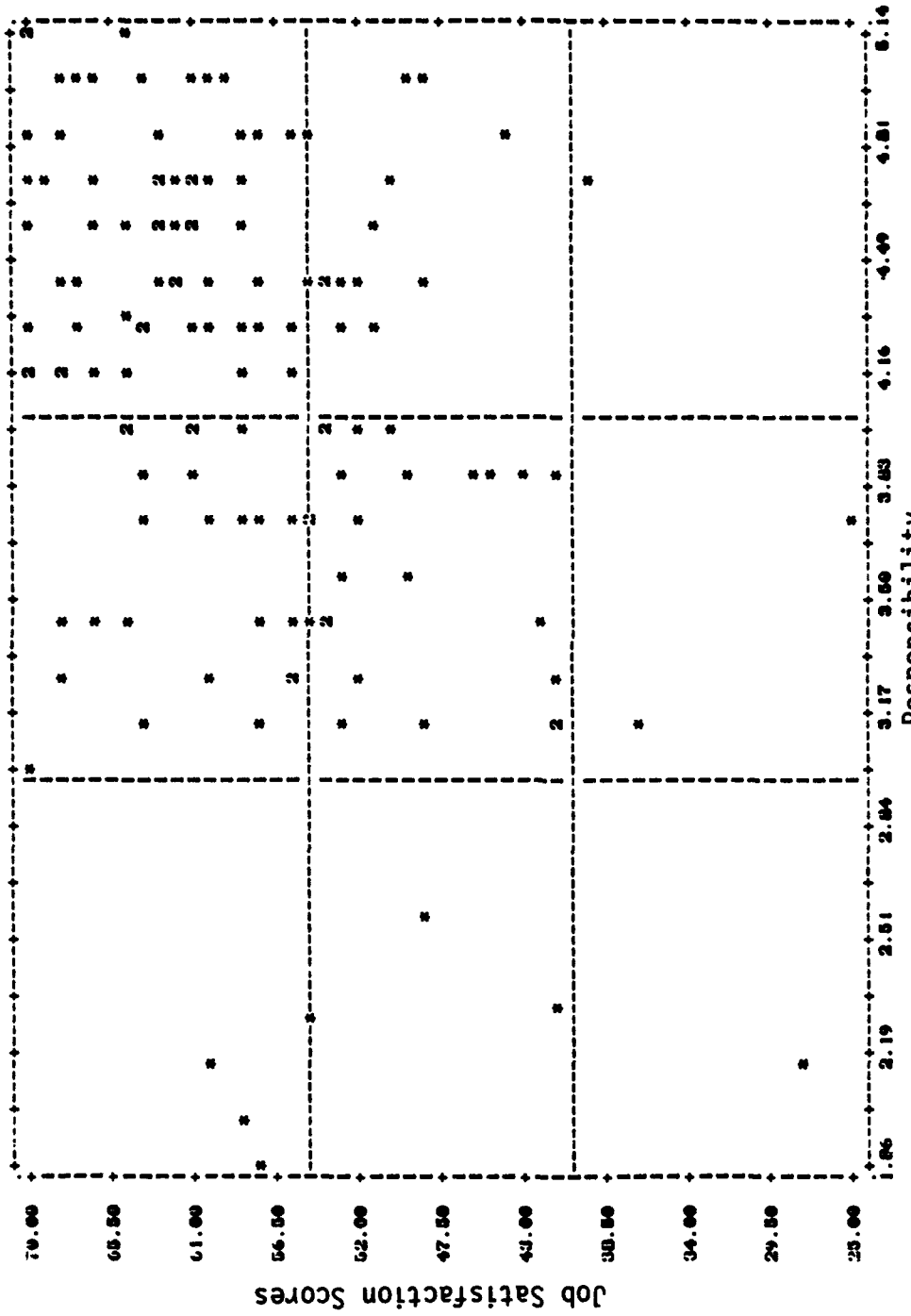
Statistics: r = .22, Sig. = .005, plotted values 133, missing values 0

Figure 13. Relationship Between Job Satisfaction and Advancement



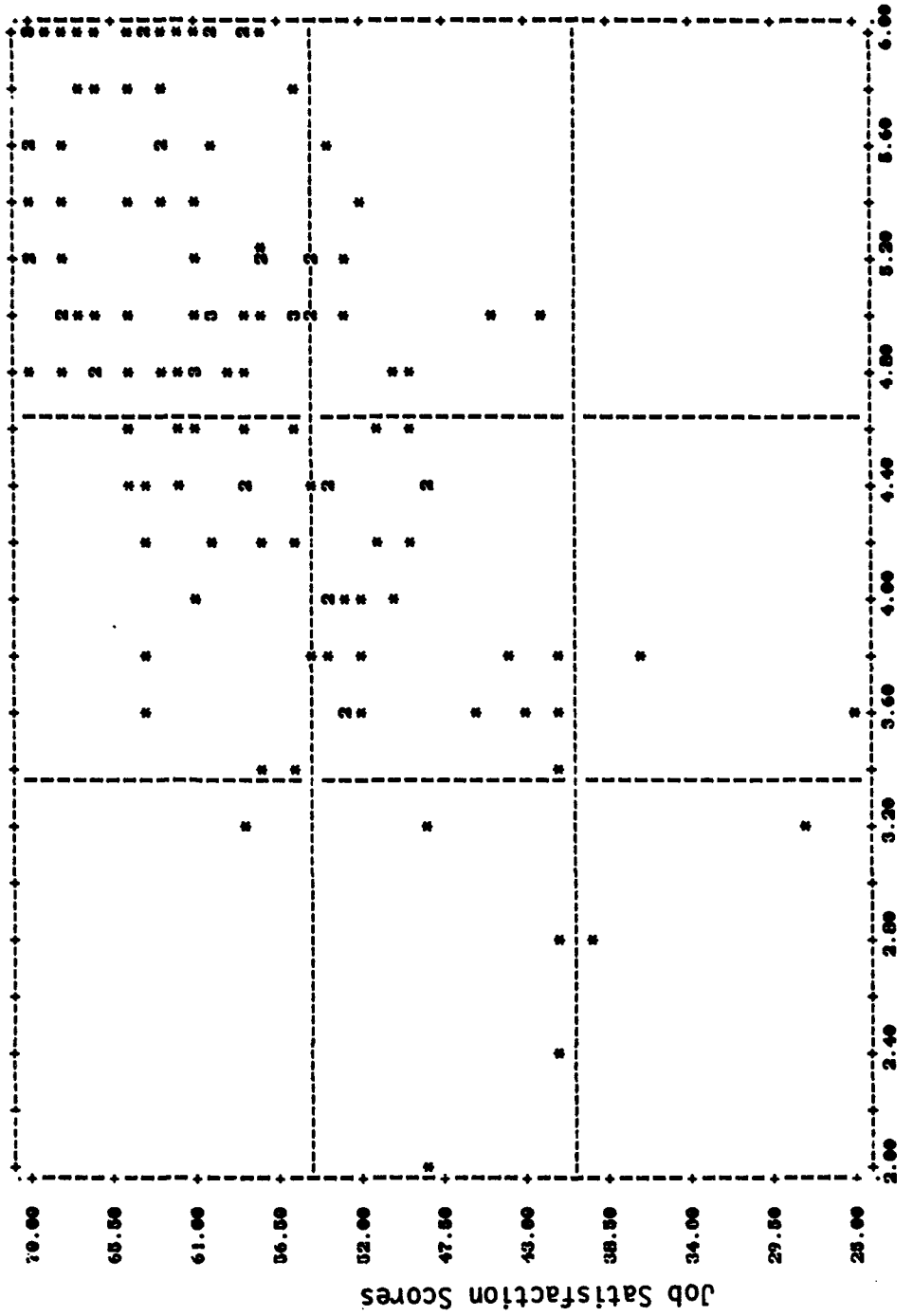
Statistics: r = .44, Sig. = .001, plotted values 132, missing values 1

Figure 14. Relationship Between Job Satisfaction and Recognition



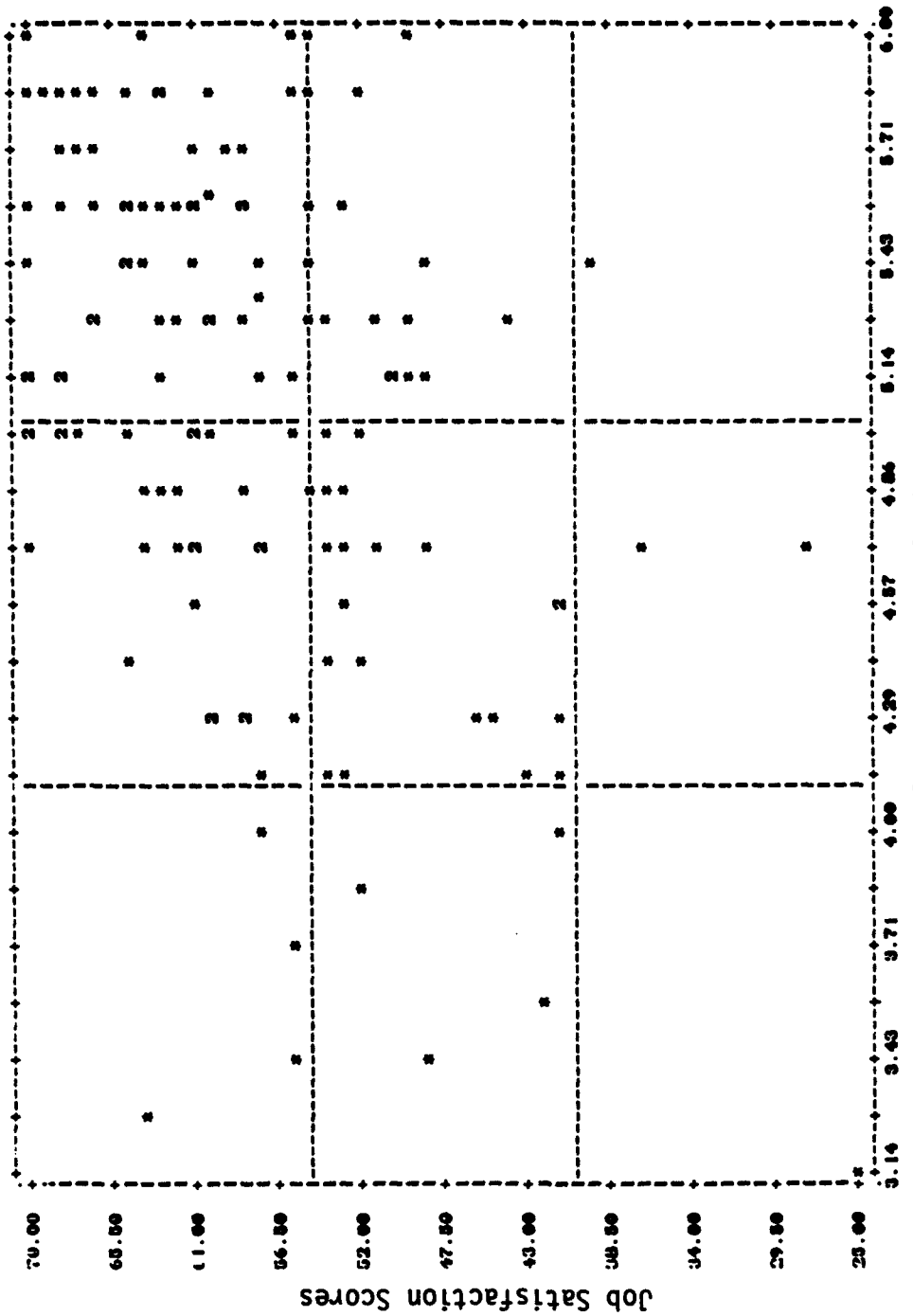
Statistics: r = .37, Sig. = .001, plotted values 133, missing values 0

Figure 15. Relationship Between Job Satisfaction and Responsibility



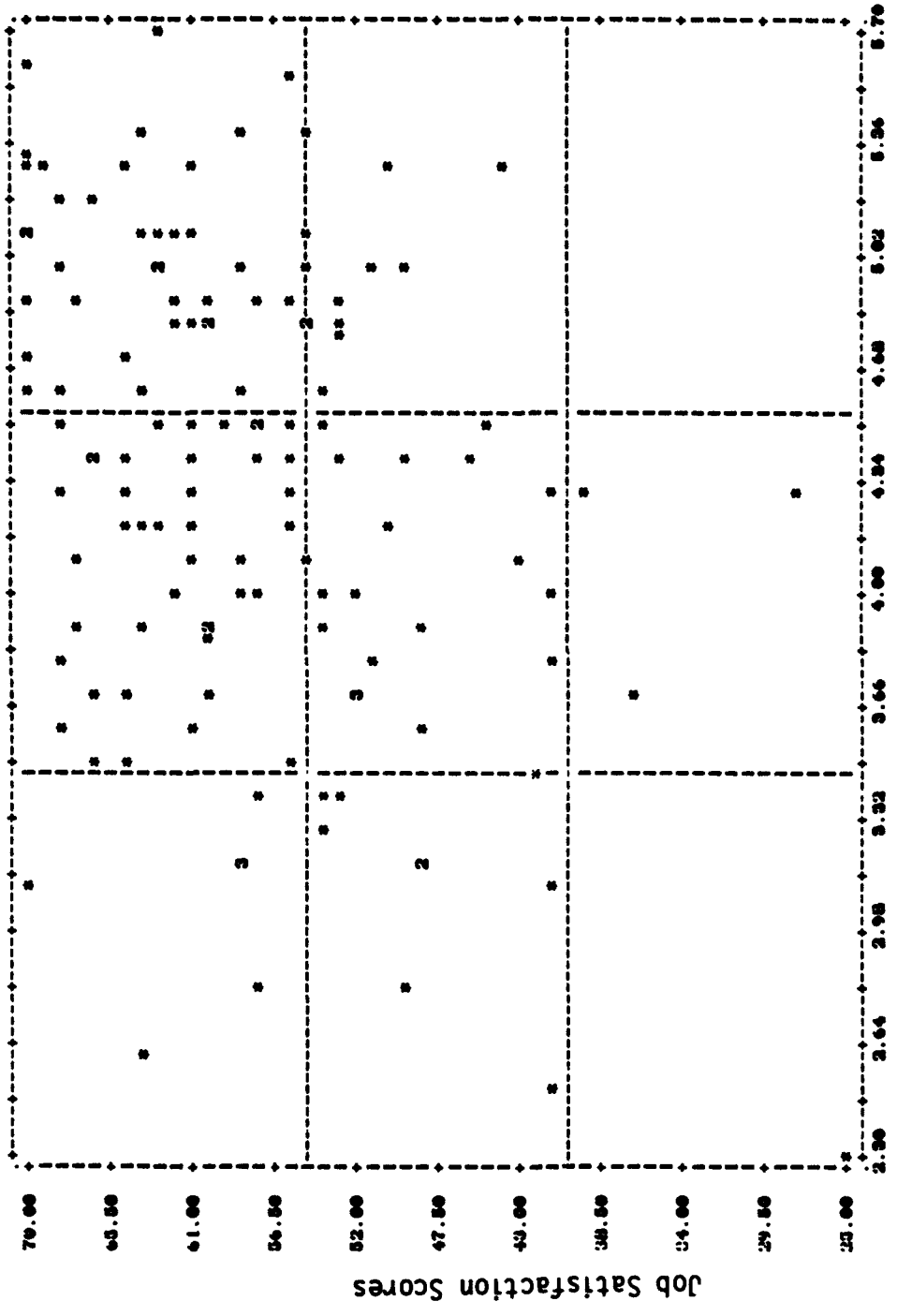
Statistics: r = .64, Sig. = .001, plotted values 133, missing values 0

Figure 16. Relationship Between Job Satisfaction and Work Itself



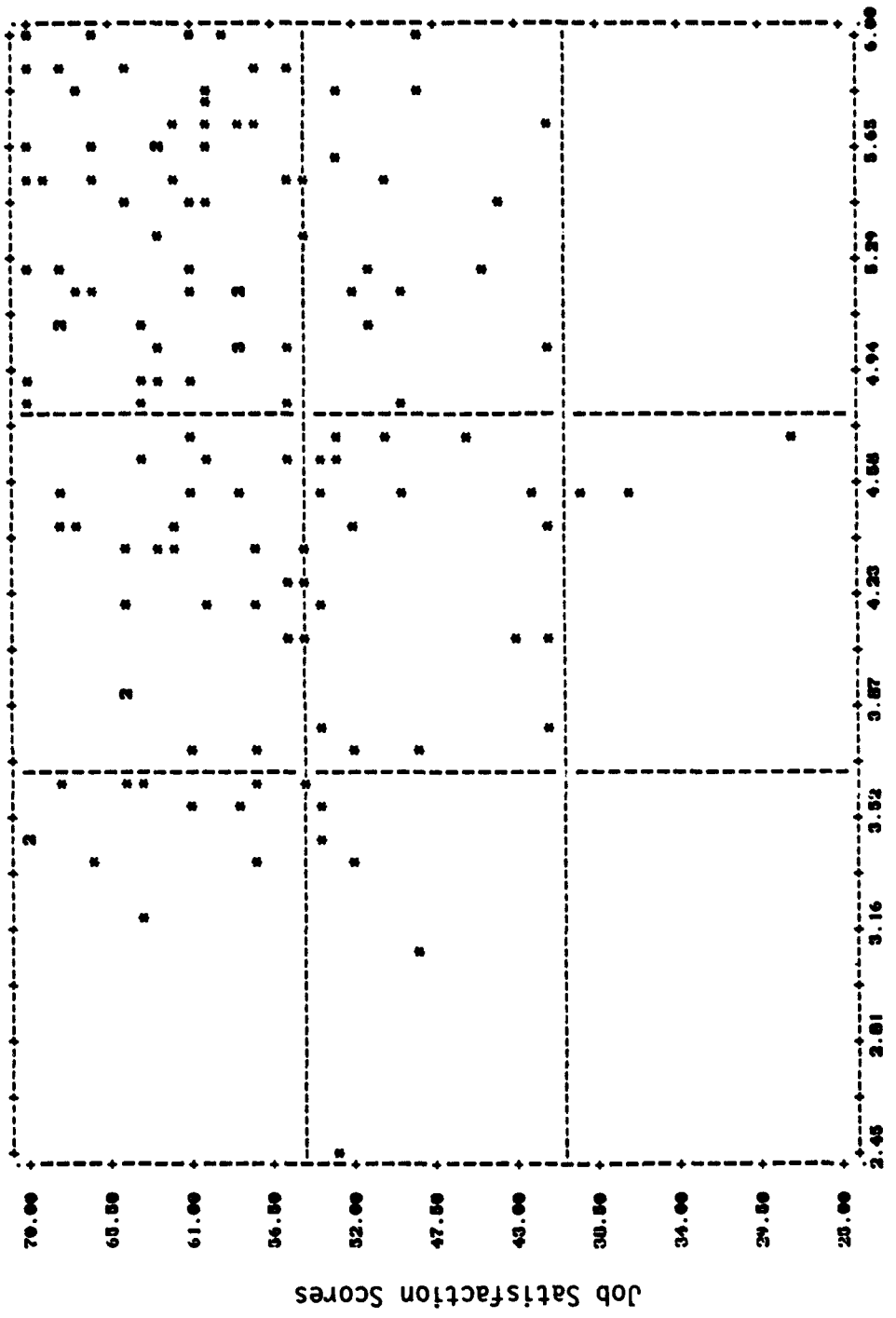
Statistics: r = .45, Sig. = .001, plotted values 133, missing values 0

Figure 17. Relationship Between Job Satisfaction and Interpersonal Relations



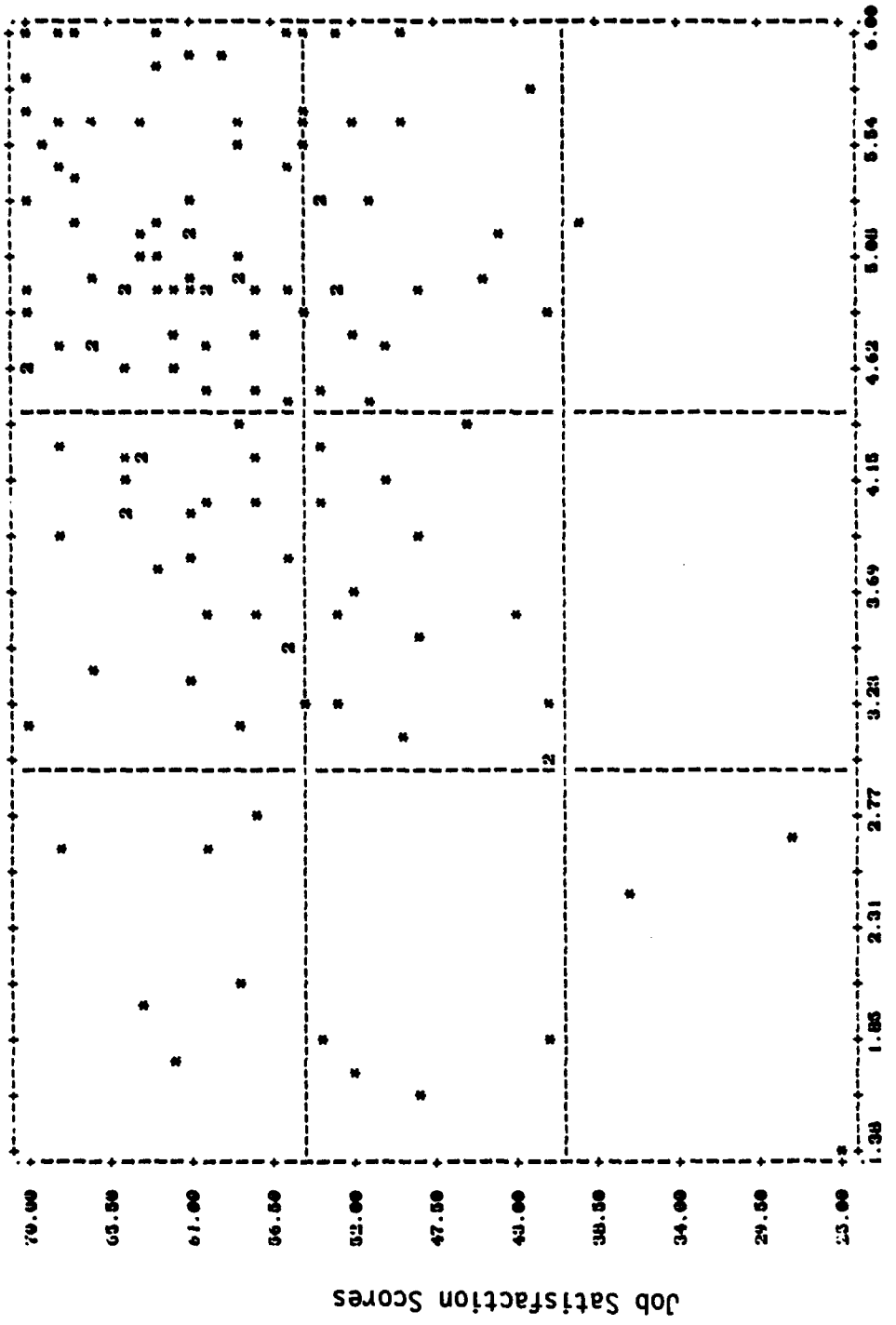
Statistics: r = .35, Sig. = .001, plotted values 133, missing values 0

Figure 18. Relationship Between Job Satisfaction and Policy and Administration



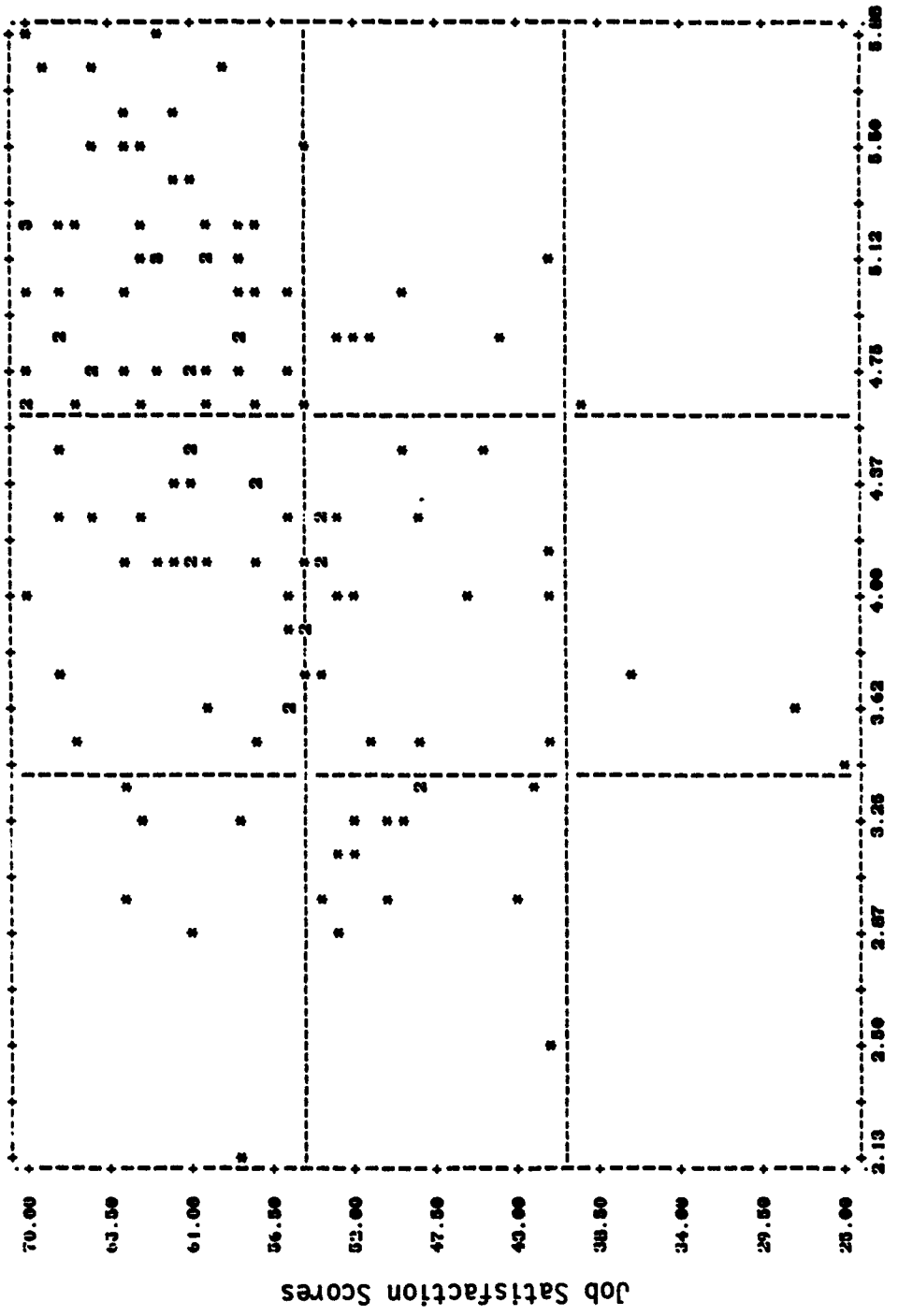
Statistics: 4 = .13, Sig. = .06, plotted values 132, missing values 1

Figure 19. Relationship Between Job Satisfaction and Salary



Statistics: r = .34, Sig. = .001, plotted values 133, missing values 0

Figure 20. Relationship Between Job Satisfaction and Supervision



Statistics: r = .45, Sig. = .001, plotted values 133, missing values 0

Figure 21. Relationship Between Job Satisfaction and Working Conditions

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