

JOB SATISFACTION OF DIETITIANS AS MEASURED
BY HERZBERG'S DUAL-FACTOR THEORY

A THESIS
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF SCIENCE
IN THE GRADUATE SCHOOL OF THE
TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NUTRITION, TEXTILES, AND HUMAN DEVELOPMENT

BY
SHARON LYNN SNOOK, B.S.

DENTON, TEXAS
AUGUST, 1981

TABLE OF CONTENTS

	Page
LIST OF FIGURES	v
LIST OF TABLES	vi
ACKNOWLEDGEMENTS	vii
INTRODUCTION	1
PROBLEM STATEMENT	3
HISTORICAL PERSPECTIVE	4
HYPOTHESIS	10
METHODS AND PROCEDURES	11
RESULTS AND DISCUSSION	14
SUMMARY AND CONCLUSIONS	33
IMPLICATIONS FOR FURTHER RESEARCH	35
APPENDIXES	36
LIST OF REFERENCES	45

LIST OF TABLES

	Page
1. Factor I: Satisfiers	17
2. Factor II: Supervision	19
3. Factor III: Advancement	21
4. Factor IV: Company Policy and Administration	23
5. Factor V: Interpersonal Relations	24
6. Factor VI: Working Conditions/ Salary	26
7. Group Means and Standard Deviations in Standard Score Form	30
8. Summary Table of Discriminant Analysis of Variance	31

LIST OF FIGURES

FIGURE 1	Application of the Scree Test	15
----------	---	----

ACKNOWLEDGEMENTS

I would like to express my sincere thanks to Dr. Shirley Baird who introduced me to Herzberg's dual-factor theory and guided the writing of this paper from the beginning.

I would also like to thank the rest of my thesis committee--Dr. William Duer and Suzanne Jaax--for their participation in this research study. In addition, I wish to thank Mary Jo Knoblesdorf for her assistance and unending patience in helping me complete my statistical analysis on the computer. Without her help I would have been lost.

My deepest appreciation goes to my husband, Craig, whose faith in me gave me the strength and courage to finish this study.

INTRODUCTION

Numerous studies have been conducted on job satisfaction of workers in industrial and commercial settings. However, relatively few studies have looked at job satisfaction of health professionals, in particular, dietitians (1). Over the past few years the role of dietitians in health care organizations had increased greatly (2). With this newly expanded role it is more important than ever to study dietitians' perceived job satisfaction.

Health care institutions hold an operational likeness to business enterprises in that the productivity of both is directed toward the achievement of organized goals. Likewise, in both instances, management policies and regulations govern the process for attainment of these goals. These policies and regulations significantly influence the organizational climate of the workers. Although not primarily considered to be profit making organizations, health care institutions also are labor-intensive organizations concerned with the maximal utilization of human resources (3). For these reasons, it is reasonable to conclude that theories of job satisfaction and motivation developed in the business and industrial setting may also be applicable to health care personnel. Specifically for purposes of this study, such theories are considered to be relevant in the investigation of job satisfaction of dietitians.

Measurement of dietitians' perceived job satisfaction should give some insight to the health care facility administrator as to the effectiveness of existing policies and regulations. Thus, the health care organization can be made sensitive to its internal work environment. Measurement of job satisfaction should also provide information on which areas are satisfying and those which are dissatisfying for the dietitian, enabling the health care facility administrator to manipulate the factors in the job environment or the job itself as a method of increasing satisfaction.

In this study dietitians' perceived job satisfaction was measured utilizing Frederick Herzberg's dual-factor theory of job satisfaction and motivation (4). The difference in job satisfaction between occupational roles of dietitians also was studied.

PROBLEM STATEMENT

The purpose of this study was twofold: (1) to determine the extent to which statements reflective of Herzberg's ten satisfaction-dissatisfaction factors, as reported by dietitians, cluster in the ten dimensions as a result of factor analysis, and (2) to determine if there is a difference in dietitians' job satisfaction among their occupational roles.

The specific research problems to be investigated were: Is Herzberg's dual-factor theory a valid theory on which to base dietitians' job satisfaction? Is there a difference in job satisfaction among occupational roles of the dietitians.

HISTORICAL PERSPECTIVE

The dual-factor theory is the outcome of a job satisfaction study conducted by Herzberg, Mausner and Syderman on 203 accountants and engineers (4). The critical incident technique was used for data collection. Subjects were asked to describe, in detail, a time when they felt exceptionally good about their job. In a second interview the same subjects were asked to describe, in detail, an incident which created a negative feeling toward their job. As a result of the interview, the ten most frequently mentioned job related factors were identified. Five of these factors were associated with job dissatisfaction.

The dual-factor theory is a psychological approach to human motivation through an analysis of human needs. The theory suggests that humans have two distinct sets of needs, i.e., a need as an animal to avoid pain and a need as a human being to grow psychologically (5). Herzberg et al. condensed Maslow's five levels of needs into two sets of factors (6). Herzberg's "dissatisfiers" or "hygiene factors" are equivalent to Maslow's lower level needs. These are preventive factors which serve to reduce dissatisfaction, but do not lead to satisfaction (7). Examples of hygiene factors are working conditions and salary. In terms of

motivation, hygiene factors in a work situation provide the necessary foundation for motivator factors to function (7). According to Maslow, lower level needs are generally satisfied, whereas higher level needs are rarely satisfied (8). The "satisfiers" or "motivators" are equivalent to Maslow's higher level of needs. These are the factors which motivate people to perform (7). Herzberg et al. claim that only such aspects as recognition for doing a good job, opportunities for advancement and a challenging job motivate people to better performance (7).

The dual-factor theory has two major hypotheses. First, Herzberg et al. hypothesized that satisfaction and dissatisfaction are unipolar traits, rather than opposite ends of a bipolar continuum (6). In other words, these represent distinct independent feelings--not mere opposite ends of the same attitude.

The second hypothesis of the Herzberg theory is that only satisfiers (also referred to as motivators, intrinsic or job content factors) are effective in motivating a person to exceptional performance, whereas the dissatisfiers are not (3). Satisfiers are related to the content of the work and are intrinsic to the work itself. Achievement, recognition, work itself, responsibility, and advancement, growth, and development are the five satisfiers (3).

Dissatisfiers (frequently referred to as hygiene, extrinsic or job context factors) are related to the environment in which an individual works. Company policy and administration, supervision, salary, interpersonal relations, and working conditions are the five dissatisfiers (3). The rationale for the label of dissatisfiers is that failure to fulfill any one of these conditions was considered to be a basis for job dissatisfaction (9). However, fulfillment of these conditions in itself was not thought to motivate employees, even though this might prevent the employees from remaining dissatisfied (10). The most important point is that fulfillment of the extrinsic factor does not yield overall satisfaction. It simply puts an employee in a state away from happiness.

Herzberg's dual-factor theory has been replicated in a number of studies. Some of the findings in these studies support the theory (11-13), others reject it (14-16), and the remainder partially support the theory (17,18). Most of the criticism of Herzberg's dual-factor theory stems from three major points: 1) the critical incident method used by Herzberg was a biased methodology; 2) the theory may oversimplify the nature of job satisfaction; and 3) emphasis has been on satisfaction, not on the motivational and performance implications of the theory (7).

There are several reasons why the critical incident method is believed to be biased. The method requires people to look at themselves retrospectively. When doing so, there is a tendency to recall the most recent events of a work experience and to ignore or diminish the impact of past events (7). There also could be some bias on the part of the respondent in storytelling incidents (19). Vroom (19) argues that persons could unconsciously attribute the causes of satisfaction to their own achievement and accomplishments. On the contrary, individuals may attribute their dissatisfaction to factors in the environment, to company policy, or to the quality of their supervision, rather than to their own inadequacies or deficiencies (19). It is considered a natural tendency for human beings to take credit for things that are going well to enhance their feeling of self-worth. In contrast, they tend to protect their self-esteem in the face of failure or threat (19). Finally, critics have questioned whether generalization to other occupational groups is justified when only accountants and engineers were used in Herzberg's study (7). The technology and environments of the two study groups may vary considerably from such groups as dietitians, sales representatives, or secretaries.

The dual-factor theory has been criticized as oversimplifying the nature of job satisfaction. A few studies

have found that both content and context factors can be sources of satisfaction as well as dissatisfaction (19).

Critics have pointed to the fact that little attention has been directed toward testing the motivation and performance implications of the theory. Herzberg et al claim that satisfiers are also motivators (4). In other words, job content factors which produced a high level of satisfaction also motivated persons to perform effectively on the job. However, Friedlander (20) concluded that Herzberg's data did not present conclusive evidence to indicate a relationship between incidents involving job content factors and incidents containing reports of increased job performance.

In summary, numerous studies have been done to further study Herzberg's theory and its relationship to job satisfaction and motivation. The results indicate some studies support the theory and others reject it partially or totally. The major areas of criticism include: 1) using potentially biased methodology, 2) oversimplifying the nature of job satisfaction, and 3) the fact that little attention has been directed toward testing the relationship between job satisfaction and motivation. Motivation to work is so complex; it is easy to criticize any specific theory as being oversimplified. It is more important that individual managers be aware of the various theories so they can determine if the concepts have utilization value in their own work

situation (21). More data must be obtained through research studies to further support and validate the theory or reject it, at least, for a particular work group. This is one of the motivations for the current study.

HYPOTHESIS

The null hypothesis and the hypothesis to be tested in this study was: There is no significant difference in job satisfaction among occupational roles of the dietitians.

The minimum acceptable level for testing the statistical hypothesis was $p \leq .05$.

METHODS AND PROCEDURES

Questionnaire

The instrument used to measure dietitians' job satisfaction was a questionnaire developed by the investigator (See Appendix A). The questionnaire is based on the ten satisfaction-dissatisfaction job related factors identified by Herzberg et al. as having a bearing on job satisfaction. A Likert-type scale using a six category continuum from "extremely satisfied" to "extremely dissatisfied" was the response mode in the questionnaire. The dietitians were asked to rate the statements according to the degree of job satisfaction they received from a particular aspect of their job.

An expert panel from the TWU Houston Center was used to determine the validity of the instrument. This exercise was necessary to determine if the statements to be included were truly representative of the factor to which they were assigned and did in fact measure job satisfaction. The expert panel consisted of two faculty members from the Department of Nutrition and Food Sciences (NFS) and one member from the Department of Health Care Administration. A total of fifty statements, five statements for each of ten job related factors were selected as having a bearing on job satisfaction.

Sampling

A random sample of 250 dietitians was drawn from a membership listing of the Texas Dietetic Association.

The combined questionnaire and biographical data form, a Human Research Studies Consent Form (See Appendix B), and a cover letter (See Appendix C) were mailed to each subject. A stamped, self-addressed envelope for return was included.

Statistical Analysis

Factor analysis was used in determining the validity of the instrument and was the statistical procedure used to analyze the data. Gorsuch (22) states:

Usually the aim (of factor analysis) is to summarize the interrelationships among the variables in a concise but accurate manner as an aid in conceptualization . . . A measure of the degree of generalizability found between each variable and each factor is calculated and referred to as factor loading . . . The farther the factor loading is from zero, the more one can generalize from that factor to the variable. (p. 2)

The minimum acceptable number of usable responses of dietitians to be factor analyzed in this study was based on the formula of two times the number of items on the survey instrument plus one (23). The SPSS computer program for the principle components varimax model of factor analysis was used.

The factor analytic procedure resulted in the generation of dimensions or factor structures which are independent of one another. These dimensions identified the satisfaction-dissatisfaction job related factors within the framework of Herzberg's theory.

Discriminant analysis was the statistical procedure used to determine if there was a difference in job satisfaction between occupational roles. Factor scores produced by factor analysis represented the dependent variable. Computer facilities at Texas Woman's University were used.

RESULTS AND DISCUSSION

Response

The number of usable questionnaires returned was 101 (40%), which was the minimum acceptable needed to use the statistical procedure, factor analysis.

Extraction of Optimal Number of Factors

The data file was first factor analyzed with no constraints on the number of factors. This procedure resulted in an output of ten factors.

The scree test, developed by Cattell (24), was then used to determine the optimal number of factors to extract. "Scree" is the term used to designate the comparatively straight end portion of a line which is typical when plotting eigenvalues produced by factor analysis. It reflects that the latter factors are largely measuring random error. The term "scree" in this context was coined when it was compared to the straight line of rubble and boulders which form at the slope at the foot of a mountain. This implication is that "scree" represents a "rubbish" of small error factors.

Application of the scree test in this study is shown in Figure 1. The factor number noted by the error in this figure was judged to be the best cutoff point.

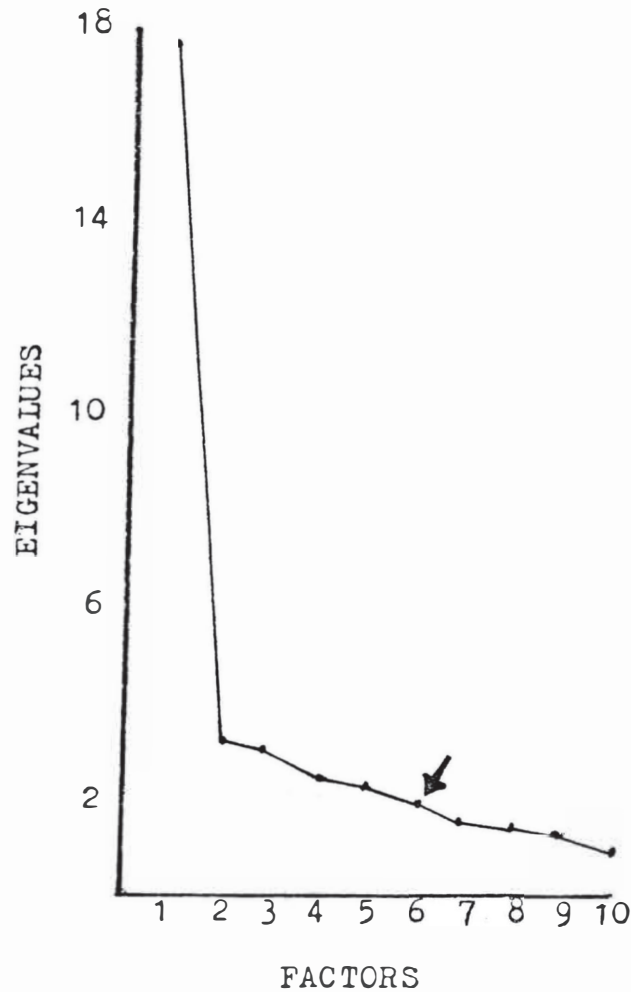


FIGURE 1 Application of scree test. The vertical axis represents the eigenvalues for each factor extracted. The horizontal axis represents the number of factors extracted. The arrow indicated the cutoff point judged to be best for this study.

Description of Factors

As a result of the scree test it was judged that the optimal number of factors to which factor analysis should be constrained was six. The principal components varimax procedure (25) was used for clustering into six factors dietitians' perceptions of the original ten factors having

a bearing on job satisfaction. Each of the six represents an area of generalization that is qualitatively distinct from that represented by any other factor (22). However, all of the original ten Herzberg factors are reflected in the six factors which represent the dietitians' perceptions.

The description and interpretation of these factors produced through factor analysis is based on the essence of the statements which clustered to constitute the respective factors. The statements which were univocal (appeared in only one of the factors) were given high priority when describing the factors. Other statements with high factor structure coefficients, although not univocal, were next in priority.

Herzberg's ten satisfaction-dissatisfaction factors represented by the statements on the questionnaire were:

1) achievement; 2) recognition; 3) work itself; 4) responsibility; 5) advancement, growth, and development; 6) company policy and administration; 7) supervision; 8) salary; 9) interpersonal relations; 10) working conditions. These theoretical factors were considered in describing the factors obtained through factor analysis.

The statements constituting Factor I, along with their factor structure coefficient and original factor number are presented in Table 1. Factor I includes statements identifying Herzberg's five satisfiers. No dissatisfiers were found in Factor I.

TABLE 1
FACTOR I: SATISFIERS

Rank Order of Factor Structure Coefficient	Factor Structure Coefficient	Statement	Theoretical Factor Number
1	*.755	34. The opportunity to do a variety of different things using a variety of your skills and talents.	3
2	*.754	32. The opportunity for more stimulating and challenging work.	5
3	*.717	5. The degree of personal responsibility your work requires.	4
4	*.693	1. The feeling of worthwhile accomplishment you get from doing your work.	1
5	*.676	44. The opportunity to be creative and imaginative in your work.	3
6	.628	24. The amount of challenge in your work .	3
7	*.607	35. The amount of independent thought and action you can exercise in how you do your work.	4
8	*.577	15. The amount of responsibility given to you considering your education, training, and experience.	4
9	*.571	14. The extent the job allows you to use personal initiative or judgement in carrying out the work.	3

TABLE 1 cont'd

Rank Order of Factor Structure Coefficient	Factor Structure Coefficient	Statement	Theoretical Factor Number
10	*.567	33. The recognition received from physicians and health professionals.	2
11	.543	31. The realization that your performance matches high professional standards.	1
12	*.539	23. The recognition received from patients and/or employees.	2
13	*.526	45. The amount of responsibility given to you when it is of particular importance that a job gets done right.	4
14	*.493	4. The content of your job (actual tasks you perform).	3
15	.402	25. The extent your supervisor allows you to do your job without interference.	4

* Indicates univocal status in factor.

Statements that identified work itself and responsibility loaded highly on Factor I. Both work itself and responsibility had four statements out of the original five statements that were univocal. Other statements which were univocal represented the satisfiers: achievement, recognition, and advancement, growth, and development. Analysis of

Factor I showed dietitians recognize all of Herzberg's satisfiers, with work itself and responsibility being the most important factors.

Factor II is presented in Table 2. Factor II includes statements that either directly or indirectly relate to supervision.

TABLE 2
FACTOR II: SUPERVISION

Rank Order of Factor Structure Coefficient	Factor Structure Coefficient	Statement	Theoretical Factor Number
1	*.844	39. Communications between yourself and your supervisor.	9
2	*.824	17. The support and guidance you receive from your supervisor.	7
3	*.793	47. The amount of feedback from your supervisor on your work performance.	7
4	*.768	37. The competence and ability of your immediate supervisor.	7
5	*.753	27. The degree of respect and fair treatment you receive from your supervisor.	7
6	*.678	7. The overall quality of supervision you receive in your work.	7

TABLE 2 cont'd

Rank Order of Factor Structure Coefficient	Factor Structure Coefficient	Statement	Theoretical Factor Number
7	*.650	3. The recognition received from your supervisor on work well done or extra work.	2
8	.591	25. The extent your supervisor allows you to do your job without interference.	4
9	.519	36. The extent policies, rules, and regulations are supported and followed by supervisors.	5
10	.485	46. How the policies, rules, and regulations are carried out or administered.	6
11	.472	11. The degree to which accomplishments are measured.	1
12	.430	29. The interpersonal relationships with fellow dietitians or supervisor.	9

* Indicates univocal status in factor.

The first statement in the table with a coefficient of .844 is an example of indirect reference to supervision. As noted, it originally represented the factor interpersonal relations. However, in this case, the fact that it was univocal and had a high factor structure coefficient indicated dietitians perceived the first statement as dealing with

the dissatisfier, supervision. All of the statements that reflected supervision directly were univocal. These statements also loaded highly on Factor II and only on Factor II.

The statements clustering in Factor III, along with their factor structure coefficient and original factor number are presented in Table 3. Factor III includes statements that identified both satisfiers and dissatisfiers.

TABLE 3
FACTOR III: ADVANCEMENT

Rank Order of Factor Structure Coefficient	Factor Structure Coefficient	Statement	Theoretical Factor Number
1	*.7219	41. The degree that promotions are based on achievements/accomplishments rather than length of employment.	1
2	*.707	22. The chance of a promotion in a reasonable period of time.	5
3	*.706	30. The degree to which you are fairly paid for your contributions to the institution.	8
4	*.688	12. The possibility of promotion where employed.	5
5	*.641	10. The amount of pay you receive from your work.	8
6	.580	40. How often you receive a raise.	8

TABLE 3 cont'd

Rank Order of Factor Structure Coefficient	Factor Structure Coefficient	Statement	Theoretical Factor Number
7	*.521	42. The opportunity for promotion within your career specialty itself, regardless of geographic location.	5
8	.474	11. The degree to which accomplishments are measured.	1
9	.410	24. The amount of challenge in your work.	3

* Indicates univocal status in factor.

Achievement, advancement, growth, and development, and salary loaded highly on Factor III. In this instance, salary acted as a satisfier instead of a dissatisfier as Herzberg identified it. Achievement, advancement, growth, and development, and salary all had statements that were univocal. The majority of the univocal statements identified the job related factor of advancement, growth, and development. Thus, dietitians perceive promotion to be an important factor affecting job satisfaction.

Factor IV is presented in Table 4. Factor IV included statements either directly or indirectly related to company policy and administration.

TABLE 4

FACTOR IV: COMPANY POLICY AND ADMINISTRATION

Rank Order of Factor Structure Coefficient	Factor Structure Coefficient	Statement	Theoretical Factor Number
1	*.749	6. The extent policies, rules, and regulations are communicated to employees.	6
2	*.743	16. The actual administrative policies, rules, and regulations under which you work.	6
3	.644	46. How the policies, rules, and regulations are carried out or administered.	6
4	*.584	8. How progressive, flexible, and open to change the institution is.	10
5	.553	36. The extent policies, rules, and regulations are supported and followed by supervisors.	6
6	.521	18. The quantity and quality of materials, equipment, and support services you need to get your work done.	10
7	.480	31. The realization that your performance matches high professional standards.	1

* Indicates univocal status in factor.

The dissatisfier company policy and administration loaded highly of Factor IV. Statements 8 and 18 that

represented working conditions in the questionnaire, indirectly related to company policy and administration. Only three statements were univocal in Factor IV. Two of these statements reflected company policy and administration. They were statements 6 and 16 with factor structure coefficients of .749 and .743 respectively. The third statement identified working conditions with a factor structure coefficient of .584.

The statements constituting Factor V, along with their factor structure coefficients and original factor number are presented in Table 5. The majority of the statements in Factor V represented the dissatisfier, interpersonal relations.

TABLE 5

FACTOR V: INTERPERSONAL RELATIONS

Rank Order of Factor Structure Coefficient	Factor Structure Coefficient	Statement	Theoretical Factor Number
1	*.668	49. The chance to get to know other people while on the job.	9
2	*.660	48. The hours or days of the week you work.	10
3	*.595	43. The amount of recognition you have received from publication, newsletters, and awards.	2

TABLE 5 cont'd

Rank Order of Factor Structure Coefficient	Factor Structure Coefficient	Statement	Theoretical Factor Number
4	*.541	19. The degree that you are able to talk and interact with other health professionals.	9
5	*.469	9. The interpersonal relationships with your subordinates.	9
6	.469	29. The interpersonal relationships with fellow dietitians or supervisor.	9
7	*.421	13. The recognition received from your fellow worker.	2

* Indicates univocal status in factor.

Statements 48, 43, and 13 identifying working conditions and recognition were also included in Factor V. Four of the original five statements that represent interpersonal relations were found in Factor V. The statements which were univocal reflected interpersonal relations, working conditions, and recognition. Three of the univocal statements identified interpersonal relations.

Factor VI is presented in Table 6. Factor VI included statements representing salary and working conditions.

TABLE 6

FACTOR VI: WORKING CONDITIONS/SALARY

Rank Order of Factor Structure Coefficient	Factor Structure Coefficient	Statement	Theoretical Factor Number
1	*.685	20. The fringe benefits you receive.	8
2	*.652	50. The number of paid holidays and vacation days.	8
3	.614	40. How often you receive a raise.	8
4	.578	18. The quantity and quality of materials, equipment, and support services you need to get your work done.	10
5	*.570	38. The amount of job security you have.	10
6	*.499	28. The lighting, air-conditioning, and heating in areas you work.	10
7	*.467	2. The opportunity provided for professional development, e.g. attending seminars, workshops, etc.	5

* Indicates univocal status in factor.

Both salary and working conditions loaded highly on Factor VI. In this instance, salary was acting as a dissatisfier and was perceived by dietitians as a working condition. Salary and working conditions had two statements each

that were univocal. The other statement that was univocal identified the satisfier, advancement, growth, and development. However, this statement was also perceived as a working condition. Thus, dietitians recognize working conditions as a factor affecting job satisfaction.

As a result of factor analysis it was found that the dietitians identified only six job related factors, whereas Herzberg et al. identified ten different job related factors in the dual-factor theory. The six factors identified by dietitians were: 1) all the satisfiers (achievement, recognition, responsibility, work itself, and advancement, growth and development); 2) supervision; 3) advancement; 4) company policy and administration; 5) interpersonal relations; and 6) working conditions with salary as the most important. The dietitians did not discriminate factors as finely as Herzberg did, particularly the satisfiers.

The intrinsic factors contributed more to Factor I than any other factor. All five of Herzberg's motivators clustered in Factor I, while none of Herzberg's hygiene factors clustered in Factor I. The fact that all the satisfiers clustered together showed the intrinsic factors to be the most potent features in the work situation in terms of relationship to overall job satisfaction.

Work itself and responsibility were the most predominant satisfiers clustering in Factor I. Therefore, it

appears dietitians perceive the actual tasks they perform and the responsibility given to them to accomplish these tasks important to their job satisfaction. Advancement was the only satisfier discriminated from the other satisfiers by dietitians. That advancement clustered by itself away from the other satisfiers indicated dietitians perceived promotion to be an important factor toward satisfaction.

Extrinsic factors tended to cluster individually rather than all in one factor indicating dietitians discriminated the dissatisfiers more finely than the satisfiers. The fact that salary clustered with motivators in one instance and with hygiene factors in another, showed salary to be both a satisfier and dissatisfier. In terms of Herzberg's theory, this means a high salary would contribute to job satisfaction while a low salary would lead to no job satisfaction or unhappiness with the job.

The results of this study indicate one of Herzberg's hypotheses was supported in part on the basis that intrinsic factors acted as satisfiers contributing to job satisfaction. Contrary to the hypothesis stating that extrinsic factors act as dissatisfiers, salary acted as both satisfier and dissatisfier.

Discriminant analysis was the statistical procedure used to investigate the research problem: Is there a difference in job satisfaction among occupational roles of the

dietitians?

Information obtained from the biographical data form of the questionnaire identified six different groups of dietitians in terms of occupational role. The six groups were: 1) clinical; 2) administrative; 3) generalist; 4) consultant; 5) educational; 6) research. The objective of discriminant analysis is to weight and linearly combine the discriminating variables in some fashion so that the groups are forced to be as statistically distinct as possible (25). In other words, discriminant analysis "discriminated " among the different groups of dietitians on how they differ on the six factors (identified in factor analysis) in terms of importance to their job satisfaction.

Mean scores of groups on the dependent variable presented in standard score form are shown in Table 7. Standard score means the score from one function will have a mean of zero and a standard deviation of one (25). Single scores represent the number of standard deviations that a specific group is away from the mean for all groups on the given discriminant function (25). A comparison of the group means on each function indicates how far apart the groups are along that dimension (25).

The stepwise selection method of discriminant analysis was used to select the independent variable for entry into the analysis on the basis of its discriminating power.

TABLE 7

GROUP MEANS AND STANDARD DEVIATIONS
IN STANDARD SCORE FORM

Group Means

POSITION	FSC1	FSC2	FSC3	FSC4	FSC5	FSC6
Clinical	0.20791	0.30824	0.21772	0.26683	-0.02992	-0.09154
Administrative	0.04032	-0.23898	-0.20221	-0.22972	-0.09332	-0.27121
Generalist	0.11037	-0.37419	-0.10970	0.13075	-0.07270	0.02043
Consultant	-0.28651	0.30931	-0.32460	-0.30760	0.16496	0.68489
Education	-0.70739	-0.30404	0.42406	0.05469	0.20295	-0.31371
Research	0.51000	0.23188	1.15692	-0.22561	0.06021	-0.08738
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

30

Group Standard Deviations

POSITION	FSC1	FSC2	FSC3	FSC4	FSC5	FSC6
Clinical	1.19377	1.32330	1.13972	1.02229	0.89315	0.76913
Administrative	0.92695	0.67710	0.96111	0.81821	0.86420	1.00554
Generalist	0.91137	0.71137	0.92281	1.24023	1.07124	1.01063
Consultant	0.82861	0.90715	0.87235	0.96231	1.48243	1.18728
Education	0.75518	0.83825	0.71878	0.75820	0.49551	0.96865
Research	0.16428	0.52674	0.27978	1.09079	0.46743	0.82541
Total	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

A summary table of the discriminant analysis of variance is presented in Table 8. The factor which maximizes the F ratio and minimizes Wilks' lambda has the most discriminating power.

TABLE 8
SUMMARY TABLE OF DISCRIMINANT
ANALYSIS OF VARIANCE

Variable	Wilks' Lambda	F	Significance
FSC1	0.92471	1.547	0.1827
FSC2	0.90550	1.983	0.0881*
FSC3	0.91414	1.785	0.1234
FSC4	0.94467	1.113	0.3589
FSC5	0.98863	.218	0.9538
FSC6	0.89190	2.2303	0.0507**

* $p < .08$

** $p < .05$

Factor 6 (working conditions/salary) was found to discriminate significantly at the $p < .05$ level. Therefore, the null hypothesis stating there will be no significant difference between job satisfaction and occupational role is rejected. In addition, Factor 2 (supervision) was found to discriminate at the $p < .08$ level of significance.

In step 1 of the stepwise procedure Factor 6 (working conditions/salary) was found to be the best discriminating variable. Results showed consultant dietitians differed from clinical, administrative, generalist, educational, and

research dietitians on working conditions/salary. A comparison of group means expressed in standard score form, as shown in Table 7, showed consultant dietitians were dissatisfied with working conditions/salary.

Adding Factor 2 (supervision) to the analysis indicated Factor 2 to be the next best discriminating variable. Consultant dietitians differed from clinical, administrative, generalist, educational, and research dietitians on supervision. The addition of Factor 2 also resulted in clinical dietitians differing from administrative, generalist, educational, and research dietitians on supervision. The mean scores of both consultant and clinical dietitians indicated they were leaning toward dissatisfaction with supervision.

At this point in the analysis, the remaining factors did not have enough discriminating power to differ significantly among the groups.

SUMMARY AND CONCLUSIONS

The perceptions of dietitians regarding job satisfaction was measured utilizing Frederick Herzberg's dual-factor theory of job satisfaction and motivation. The difference in job satisfaction among occupational roles of dietitians also was studied.

Dietitians identified six factors having a bearing on job satisfaction. However, Herzberg et al. (4) identified ten job related factors in the dual-factor theory. The six factors identified by dietitians were: 1) all the satisfiers; 2) supervision; 3) advancement; 4) company policy and administration; 5) interpersonal relations; and 6) working conditions/salary.

In accordance with Herzberg's theory, the intrinsic factors proved to be the most potent features in the work situation in terms of relationship to overall job satisfaction. However, the fact that the extrinsic factor, salary, acted as both a satisfier and dissatisfier violated the hypothesis that extrinsic factors act as dissatisfiers.

The second part of this study showed there was a difference in job satisfaction among occupational roles of dietitians. Consultant dietitians differed significantly from clinical, administrative, generalist, educational, and research dietitians on two factors: working conditions/

salary and supervision. In addition, clinical dietitians differed significantly from administrative, generalist, educational, and research dietitians on supervision. The results of this study indicated consultant dietitians were dissatisfied with working conditions/salary. It was also found that both consultant and clinical dietitians were leaning toward dissatisfaction with supervision. These differences might be expected due to the different work environments the dietitians work in.

Although the results of this study do not fully support Herzberg's dual-factor theory, the data obtained do provide valuable information on job satisfaction among dietitians. The six factors shown to have a bearing on dietitians' job satisfaction may help health care facility administrators develop increased awareness of motivating factors for dietitians as a basis for implementing more effective policies and creating a more satisfying job environment.

IMPLICATIONS FOR FURTHER RESEARCH

The sample used in this investigation was taken only from the state of Texas. Dietitians working in different regions of the country may have different perceptions on what and on how many factors have a bearing on job satisfaction.

If the survey were performed again, this investigator would suggest an addition be made to the questionnaire. If dietitians were asked to rank the ten job related factors in terms of their importance to job satisfaction, one could note if satisfaction and dissatisfaction are separate and distinct feelings.

If the investigation were to be conducted in a different region of the country and the addition made to the questionnaire, the investigator feels conducting the study again would prove worthwhile.

APPENDIX A

JOB SATISFACTION QUESTIONNAIRE

Indicate how satisfied you are with each aspect of your job listed below. Circle the appropriate number beside each statement.

How satisfied are you with this aspect of your job?

	1	2	3	4	5	6
	Extremely	Satisfied	Slightly	Slightly	Dissatisfied	Extremely
	Satisfied		Satisfied	Dissatisfied		Dissatisfied
1. The feeling of worthwhile accomplishment you get from doing your work.	1	2	3	4	5	6
2. The opportunity provided for professional development, e.g. attending seminars, workshops, etc.	1	2	3	4	5	6
3. The recognition received from your supervisor on work well done or extra work.	1	2	3	4	5	6
4. The content of your job (actual tasks you perform).	1	2	3	4	5	6
5. The degree of personal responsibility your work requires.	1	2	3	4	5	6
6. The extent policies, rules, and regulations are communicated to employees.	1	2	3	4	5	6
7. The overall quality of supervision you receive in your work.	1	2	3	4	5	6
8. How progressive, flexible, and open to change the institution is.	1	2	3	4	5	6
9. The interpersonal relationships with your subordinates.	1	2	3	4	5	6
10. The amount of pay you receive from your work.	1	2	3	4	5	6
11. The degree to which accomplishments are measured.	1	2	3	4	5	6
12. The possibility of promotion where employed.	1	2	3	4	5	6
13. The recognition received from your fellow workers.	1	2	3	4	5	6

How satisfied are you with this aspect of your job?

1	2	3	4	5	6
Extremely	Satisfied	Slightly	Slightly	Dissatisfied	Extremely
Satisfied		Satisfied	Dissatisfied		Dissatisfied
14.	The extent the job allows you to use personal initiative or judgement in carrying out the work.				1 2 3 4 5 6
15.	The amount of responsibility given to you considering your education, training, and experience.				1 2 3 4 5 6
16.	The actual administrative policies, rules, and regulations under which you work.				1 2 3 4 5 6
17.	The support and guidance you receive from your supervisor.				1 2 3 4 5 6
18.	The quantity and quality of materials, equipment, and support services you need to get your work done.				1 2 3 4 5 6
19.	The degree that you are able to talk and interact with other health professionals.				1 2 3 4 5 6
20.	The fringe benefits you receive.				1 2 3 4 5 6
21.	The extent the job itself provides you with information about your work performance.				1 2 3 4 5 6
22.	The chance of a promotion in a reasonable period of time.				1 2 3 4 5 6
23.	The recognition received from patients and/or employees.				1 2 3 4 5 6
24.	The amount of challenge in your work.				1 2 3 4 5 6
25.	The extent your supervisor allows you to do your job without interference.				1 2 3 4 5 6
26.	The opportunity provided to you for suggesting changes in policies, rules, and regulations.				1 2 3 4 5 6
27.	The degree of respect and fair treatment you receive from your supervisor.				1 2 3 4 5 6
28.	The lighting, air-conditioning and heating in areas you work.				1 2 3 4 5 6

How satisfied are you with this aspect of your job?

	1	2	3	4	5	6
	Extremely	Satisfied	Slightly	Slightly	Dissatisfied	Extremely
	Satisfied		Satisfied	Dissatisfied		Dissatisfied
29. The interpersonal relationships with fellow dietitians or supervisor.	1	2	3	4	5	6
30. The degree to which you are fairly paid for your contributions to the institution.	1	2	3	4	5	6
31. The realization that your performance matches high professional standards.	1	2	3	4	5	6
32. The opportunity for more stimulating and challenging work.	1	2	3	4	5	6
33. The recognition received from physicians and other health professionals.	1	2	3	4	5	6
34. The opportunity to do a variety of different things using a variety of your skills and talents.	1	2	3	4	5	6
35. The amount of independent thought and action you can exercise in how you do your work.	1	2	3	4	5	6
36. The extent policies, rules, and regulations are supported and followed by supervisors.	1	2	3	4	5	6
37. The competence and ability of your immediate supervisor.	1	2	3	4	5	6
38. The amount of job security you have.	1	2	3	4	5	6
39. Communications between yourself and your supervisor.	1	2	3	4	5	6
40. How often you receive a raise.	1	2	3	4	5	6
41. The degree that promotions are based on achievements/accomplishments rather than length of employment.	1	2	3	4	5	6
42. The opportunity for promotion within your career specialty itself, irregardless of geographic location.	1	2	3	4	5	6
43. The amount of recognition you have received from publications, newsletters, and awards.	1	2	3	4	5	6

How satisfied are you with this aspect of your job?

- | | | | | | |
|-----------|-----------|-----------|--------------|--------------|--------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| Extremely | Satisfied | Slightly | Slightly | Dissatisfied | Extremely |
| | | | | | |
| Satisfied | | Satisfied | Dissatisfied | | Dissatisfied |
-
- | | | | | | | | |
|-----|---|---|---|---|---|---|---|
| 44. | The opportunity to be creative and imaginative in your work. | 1 | 2 | 3 | 4 | 5 | 6 |
| 45. | The amount of responsibility given to you when it is of particular importance that a job gets done right. | 1 | 2 | 3 | 4 | 5 | 6 |
| 46. | How the policies, rules and regulations are carried out or administered. | 1 | 2 | 3 | 4 | 5 | 6 |
| 47. | The amount of feedback from your supervisor on your work performance. | 1 | 2 | 3 | 4 | 5 | 6 |
| 48. | The hours or days of the week you work. | 1 | 2 | 3 | 4 | 5 | 6 |
| 49. | The chance to get to know other people while on the job. | 1 | 2 | 3 | 4 | 5 | 6 |
| 50. | The number of paid holidays and vacation days. | 1 | 2 | 3 | 4 | 5 | 6 |

APPENDIX B

WRITTEN CONSENT FORM

Upon receipt of the response, this form will immediately be separated from the other data. It will be filed in the TWU Nutrition Department Office and will never be associated with the response data.

I agree to participate in the research project and to allow Sharon Snook to review my responses to the Questionnaire. I understand that all information will be confidential. My name will not be associated with any data.

I understand that I may withdraw my consent and discontinue participation in this study at any time.

Signature

Date

APPENDIX C

October 10, 1980

Dear Colleague:

I am a graduate student in Nutrition at Texas Woman's University, Houston Center. For my Master's Degree thesis I am attempting to measure dietitians perceived job satisfaction. I will also be studying the association between job satisfaction and occupational role.

I would greatly appreciate your completing the following three forms: (1) Job Satisfaction Questionnaire, (2) Biographical Data Form, and (3) Research Consent Form. The signed research consent form is necessary to insure protection of your rights and must be filed at the TWU Nutrition Department. It will be separated by me from the other data as soon as I receive your response. Your name will not be associated in any manner with the response data.

I need your help for my study. I hope you will be able to spare a few minutes of your time to complete the forms. While no direct benefits will accrue to you personally, the result of this study should add significant information to the body of knowledge.

A stamped, self-addressed envelope is enclosed for return. I will be happy to answer any questions you may have concerning my study.

Sincerely,

Sharon Snook

Sharon Snook
143 Old Angleton Rd.
Lake Jackson, Texas 77566
713-265-5444

Approved:

Shirley Baird
Shirley D. Baird, Ed. D., R.D.
Chairman, Research Committee for Sharon Snook
Texas Woman's University Houston Center

LIST OF REFERENCES

- (1) Calbeck, D.C., Vaden A.G., and Vaden, R.E.: Work-related values and satisfaction. J. Am. Dietet. A. 75: 434, 1979.
- (2) Myrtle, R.C.: Problems and job satisfaction of administrative and clinical dietitians. J. Am. Dietet. A. 75: 295, 1978.
- (3) Longest, B.B.: Job satisfaction for registered nurses in the hospital setting. J. Nurs. Admin. 4: 46, 1974.
- (4) Herzberg, F., Mausner, B., and Snyderman.: The Motivation to Work. New York: John Wiley and Sons, 1959.
- (5) House, R.J., and Wigdor, L.H.: Herzberg's dual-factor theory and job satisfaction and motivation. Personnel Psychol. 20: 369, 1967.
- (6) Munson, F.C., and Heda, S.: An instrument for measuring satisfaction. Nurs. Res. 23: 45, 1971.
- (7) Donnelly, J.H., Gibson, J.L., and Ivancevich, J.M.: Organizations. Dallas: Business Publications, Inc., 1976.
- (8) Sheridan, J.E., Slocum, J.M., and Susman, G.I.: An analysis of need satisfaction and job performance among professional and paraprofessional hospital personnel. Nurs. Res. 21: 338, 1972.
- (9) Sarveswara Rao, G.V.: Job content and context factors in job satisfaction of female clerical employees. Indian J. Soc. Work. 32: 45, 1971.
- (10) Dixit, L.M.: Employee motivation and behavior: a review. Indian J. Soc. Work. 32: 17, 1971.
- (11) Weissenberg, P., and Gruenfeld, L.: Relationship between job satisfaction and job involvement. J. Appl. Psychol. 52: 469, 1968.
- (12) McCloskey, J.: Influence of rewards and incentives on staff nurse turnover rate. Nurs. Res. 23: 239, 1974.

- (13) White, C.H., and Maguire, M.C.: Job satisfaction and dissatisfaction among hospital nursing supervisors. *Nurs. Res.* 22: 25, 1973.
- (14) Dunnette, M.D., Campbell, J.P., and Hakel, M.D.: Factors contributing to job satisfaction and job dissatisfaction in six occupational groups. *Organizational Behavior in Human Performance.* 2: 143, 1967.
- (15) Hulin, C.L., and Smith, P.A.: An empirical investigation of two implications of the two-factor theory of job satisfaction. *J. Appl. Psychol.* 51: 396, 1966.
- (16) Shapiro, J.H.: Job motivations of males and females, an empirical study. *Psychol. Report.* 36: 647, 1975.
- (17) Lahiri, D.K., and Srivastva, S.: Determinants of satisfaction in middle management personnel. *J. Appl. Psychol.* 51: 354, 1967.
- (18) Ewen, R.B., Hulin, C.L., Smith, P.C., and Locke, E.A.: An empirical test of the Herzberg's two-factor theory. *J. Appl. Psychol.* 50: 544, 1966.
- (19) Vroom, V.H.: *Work and Motivation.* New York: John Wiley and Sons. 1964.
- (20) Friedlander, F.: Job characteristics as satisfiers and dissatisfiers. *J. Appl. Psychol.* 48: 388, 1964.
- (21) Lau, J.B.: *Behavior in Organizations, An Experiential Approach.* Homewood, Illinois: Richard D. Irwin, Inc. 1979.
- (22) Gorsuch, R.L.: *Factor Analysis.* Philadelphia: W.B. Saunders Co. 1974.
- (23) Baird, S.C.: Toward development of a theory of the structures underlying the roles of two specialization categories of dietitians: the hospital administrative dietitian and the hospital clinical dietitian. Unpublished doctoral thesis dissertation, Univ. of Houston, 1977.
- (24) Catell, R.B.: The scree test for the number of factors. *Multivariate Behavioral Research.* 1: 245, 1966.
- (25) Nie, N.H., Hill, H.C., and Jenkins, J., Steinbrenner, K., and Bent, D.: *Statistical Package for the Social Sciences.* New York: McGraw-Hill. 1978.