

RELATIONSHIPS BETWEEN CAREER SATISFACTION AND
PERSONALITY TYPE FOR EMPLOYED DIETITIANS

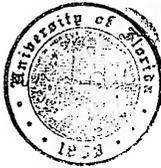
By

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TABLE OF CONTENTS

	<u>Page</u>
ACKNOWLEDGMENTSiii
LIST OF TABLES	viii
ABSTRACT	x
CHAPTER	
I INTRODUCTION	1
General Background	1
Need for the Study	3
Statement of the Problem	7
General Purposes and Objectives	9
Limitations of the Study	11
Hypotheses	13
Definition of Terms	15
Organization of Subsequent Chapters	18
II REVIEW OF LITERATURE	20
Organization of the Chapter	20
Personality Characteristics and Occupational Choice	21
Theories of Career Choice	21
Women and the World of Work	24
Interrelationships of Personality and Career Preference	25
College students	26
Employed workers: Non-health fields	27
Health professionals	28
Studies not supporting the role of personality in career choice	29
Studies of Personality and Occupational Choice Using the Myers-Briggs Type Indicator	31
Health professions	31
Other professions	34
Characteristics of Dietitians	35

TABLE OF CONTENTS (continued)

CHAPTER	<u>Page</u>
II (cont.)	
Job Satisfaction	39
Theories of Job Satisfaction	39
Factors Affecting Job Satisfaction	40
Prediction of Job Satisfaction	41
Job Satisfaction of Dietitians	43
III DESIGN AND METHODOLOGY	44
Organization of the Chapter	44
Type of Study	44
Target Population	45
Instrumentation	45
Questionnaire	46
Pilot study	47
Myers-Briggs Type Indicator	47
Reliability	51
Validity	52
Procedure	53
Administration of the Instrument	53
Treatment of the Data	54
Analysis of Data	55
IV RESULTS AND DISCUSSION	58
Organization of the Chapter	58
Responding Sample	58
Personality Characteristics of Dietitians	60
Hypothesis 1	63
Selection ratios	64
Female college students	64
Students in introduction to health related professions	68
Nursing students, faculty and practitioners	69
Occupational therapy students, faculty, and practitioners	70
Physical therapy students, faculty and practitioners	70
Medical technology students, faculty and practitioners	71
Discussion of differences	71
Summary	76

TABLE OF CONTENTS (continued)

CHAPTER	<u>Page</u>
IV (cont.)	
Personality Type and Choice of Specialty.	78
Hypothesis 2.	79
Clinical dietitians.	79
Administrative dietitians.	84
Educational dietitians	86
Summary of type distribution of specialties.	88
Hypothesis 3.	88
Extraversion-introversion.	90
Sensing-intuition.	92
Thinking-feeling	92
Judging-perceiving	93
Summary.	93
Hypothesis 4.	93
Summary	98
Career Satisfaction	98
Hypothesis 5.	99
Hypothesis 6.	101
Summary	103
Specialty Satisfaction.	103
Hypothesis 7.	104
Hypothesis 8.	108
Hypothesis 9.	110
Hypothesis 10	111
Clinical specialty	113
Administrative specialty	113
Educational specialty.	116
Summary.	118
Hypothesis 11	119
Clinical dietitians.	119
Administrative dietitians.	121
Educational dietitians	121
Summary.	125
Summary.	126
Personality Characteristics of Dietitians	128
Choice of Specialty	129
Satisfaction.	129
Summary of Disposition of Hypotheses.	131

TABLE OF CONTENTS (continued)

CHAPTER	Page
V	SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS . . . 132
	Summary 132
	Purpose and Procedure. 133
	Personality Characteristics of Dietitians. 134
	Predicting Career Satisfaction 136
	Predicting Specialty Satisfaction. 137
	Conclusions 139
	Recommendations 142
APPENDICES	
A	QUESTIONNAIRE 148
B	COVER LETTERS AND POST CARDS. 150
C	CODING. 154
D	TYPE TABLES OF BASE POPULATIONS USED TO COMPUTE SELECTION INDICES 155
	BIBLIOGRAPHY. 161
	BIOGRAPHICAL SKETCH 170

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	PERSONALITY TYPES OF EMPLOYED DIETITIANS: NUMBER AND PERCENTAGE DISTRIBUTION.	61
2	SELECTION RATIOS BY TYPE CATEGORY	65
3	SELECTION RATIOS BY INDIVIDUAL VARIABLES AND COMBINATIONS.	66
4	CLINICAL DIETITIANS: NUMBER AND PERCENTAGE FREQUENCIES FOR 16 PERSONALITY TYPES.	80
5	ADMINISTRATIVE DIETITIANS: NUMBER AND PERCENTAGE FREQUENCIES FOR 16 PERSONALITY TYPES	81
6	EDUCATIONAL DIETITIANS: NUMBER AND PERCENTAGE FREQUENCIES FOR 16 PERSONALITY TYPES	82
7	PERCENTAGE DISTRIBUTION FOR 16 PERSONALITY TYPES OF DIETITIANS	89
8	PERCENTAGE DISTRIBUTION FOR DIETITIANS' PERSONALITY VARIABLES	91
9	MEANS AND STANDARD DEVIATIONS OF FOUR PERSONALITY VARIABLES FOR THREE SPECIALTY GROUPS AS COMPUTED BY DISCRIMINANT ANALYSIS .	94
10	MULTIVARIATE F's TESTING TWO SPECIALTIES AT A TIME WITH SN VARIABLE IN EQUATION	96
11	CAREER SATISFACTION AND DISSATISFACTION FOR DIETITIANS: NUMBERS AND PERCENTAGE DISTRIBU- TION FOR 16 PERSONALITY TYPES	100
12	MEANS AND STANDARD DEVIATIONS OF FOUR VARI- ABLES FOR DIETITIANS SATISFIED AND DISSATIS- FIED WITH CAREER CHOICE	102
13	SPECIALTY SATISFACTION AND DISSATISFACTION FOR DIETITIANS: NUMBERS AND PERCENTAGE DISTRIBUTION FOR 16 PERSONALITY TYPES	106

LIST OF TABLES (continued)

<u>Table</u>	<u>Page</u>
14	AGE OF DIETITIANS MEANS AND STANDARD DEVIATIONS. 109
15	YEARS OF PRACTICE OF DIETITIANS MEANS AND STANDARD DEVIATIONS 112
16	SATISFIED AND DISSATISFIED CLINICAL DIETITIANS: NUMBERS AND PERCENTAGE DISTRIBUTION FOR 16 PERSONALITY TYPES 114
17	SATISFIED AND DISSATISFIED ADMINISTRATIVE DIETITIANS: NUMBERS AND PERCENTAGE DISTRIBUTION FOR 16 PERSONALITY TYPES. 115
18	SATISFIED AND DISSATISFIED EDUCATIONAL DIETITIANS: NUMBERS AND PERCENTAGE DISTRIBUTION FOR 16 PERSONALITY TYPES 117
19	MEANS AND STANDARD DEVIATIONS OF FOUR PERSONALITY VARIABLES FOR CLINICAL DIETITIANS SATISFIED AND DISSATISFIED WITH CURRENT SPECIALTY 120
20	MEANS AND STANDARD DEVIATIONS OF FOUR PERSONALITY VARIABLES FOR ADMINISTRATIVE DIETITIANS SATISFIED AND DISSATISFIED WITH CURRENT SPECIALTY 122
21	MEANS AND STANDARD DEVIATIONS OF FOUR PERSONALITY VARIABLES FOR EDUCATIONAL DIETITIANS SATISFIED AND DISSATISFIED WITH CURRENT SPECIALTY 123

Abstract of Dissertation Presented to the Graduate Council
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RELATIONSHIPS BETWEEN CAREER SATISFACTION AND
PERSONALITY TYPE FOR EMPLOYED DIETITIANS

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Chairman: Dr. J. W. Hensel
Major Department: Curriculum and Instruction

The purpose of this study was to identify personality types of dietitians and to determine their relationship to career satisfaction so that more effective recruitment and counseling of dietitians might contribute to attracting more people into the field.

The initial problem was to identify selected personality characteristics of dietitians and to compare them with other allied health groups. Second, an attempt was made to predict satisfaction with a career in dietetics based on personality preference scores. The study also sought to determine whether satisfaction with a specialty within the field could be predicted.

The Myers-Briggs Type Indicator was used to measure type preferences of dietitians, and a short questionnaire, designed for the study, measured career and specialty satisfaction. Three areas of specialization were chosen: clinical, administrative, and educational.

Four hundred employed dietitians were randomly selected from a national listing of members of the American Dietetic Association and contacted by mail. Sixty-one percent (243) met the criteria for inclusion in the study. Eleven hypotheses were formulated to analyze data and they were tested at the .05 level of significance. Contingency table analysis was used to test relationships and discriminant analysis was performed in an effort to determine predictive functions.

There was no typical personality type preference exhibited by this group of dietitians, although 48 percent were represented by the types ISTJ, ISFJ, ESTJ, and ESFJ. These types shared a common preference for sensing and judging. Such people are skilled in handling concrete experiences and like to have things organized; they are well qualified to give detailed, systematic health care.

When compared to other allied health occupations and to student groups, dietitians showed significantly greater preferences for sensing, thinking, and judging. Dietetics was not as attractive to students who preferred to use their intuition, feeling, and perception. The sensing thinking combination indicated that dietitians preferred to focus their attention on facts and to handle them with detachment and logic making them practical and realistic. The judging preference added to these qualities that of liking to have things planned and organized.

Personality preferences expressed by dietitians were most similar to those of medical technologists, and most different from two student groups (female college freshmen and students in health related professions). Based on this evidence, it was concluded that dietitians were significantly different from other allied health groups in terms of personality preference.

In terms of specialty groups the most common type among clinicians was ISFJ; among administrators, ESTJ; and among educators, E-FJ. These differences are in accordance with type theory and relate to the different roles required of each specialty.

Dietitians who were satisfied or dissatisfied with their career could not be distinguished on the basis of personality preference scores and the measure of career satisfaction used. Thus, it was not possible to predict career satisfaction based on MBTI scores.

On the question of specialty satisfaction, it was found that dietitians with a preference for extraversion were more likely to be satisfied with their current specialty than those preferring introversion. Also, sensing and feeling types, who are realistic, warm-hearted, sociable, and friendly, were more likely to be satisfied than intuitive and feeling types who see possibilities and display enthusiasm and insight.

It was possible to predict specialty membership from MBTI scores to a limited extent. Educational dietitians could be discriminated from clinicians and administrators based on their sensing-intuition preference.

Within the three specialties another discriminant function was found that predicted satisfaction and dissatisfaction among educational dietitians, based on scores for the extraversion-introversion preference and the judging-perceiving preference.

Results indicated that dietitians were recognizable among some other allied health professions in that they displayed proportionately greater preferences for sensing, thinking, and judging. Although it was possible to predict satisfaction with a specialty in a limited way, it was not possible to predict career satisfaction from these data.

CHAPTER I

INTRODUCTION

General Background

A substantial shortage of dietitians exists in the United States. A Study Commission on Dietetics (1972) recently examined education, training, and responsibilities of dietitians. Although not well documented, providers of health care attested to quantitative deficiencies in the field, and the Commission suggested that baccalaureate programs in dietetics be expanded to meet present and future demands.

Dietitians are but one group of health professionals whose supply does not meet the need. A basic change of attitude towards health care has taken place in the United States. People no longer regard health care as a privilege or a necessity only in times of illness; instead, health care is now equated with a positive state of well-being. Health care systems have rapidly expanded to meet this demand. In 1970 more than four million people or about one in eight working persons, were employed in approximately 200 health occupations (Chirikos, 1972). Increasing

specialization was emphasized by the fact that in 1900 one in three health workers was a physician, but 72 years later the ratio was one physician to eleven health workers (Bureau of Health Manpower Education, 1972). According to Chirikos (1972) 83 percent of all health workers were in allied health occupations. Dietitians constituted 1.2 percent of allied health manpower (Greenfield, 1969).

The Carnegie Commission on Higher Education (1970) stated that of all major occupation groups, health services suffered the most serious shortages of professional personnel. Expansion of education for health professionals presented one of the greatest challenges to higher education in the present decade. One response would be to increase enrollment in schools that educate health professionals, but Crowley et al. (1972) suggested a more fundamental need was to identify aspirations and other factors which predisposed individuals to select a health career. Campos (1971) recommended longitudinal studies be conducted to elucidate needs of persons selecting health careers. These studies should include testing of successful practitioners and should seek to determine factors which were stable or changing with age, education, work experience. Such information would help meet health care demands of society by contributing to more relevant curriculums and more effective and accurate counseling of students who were interested in allied health occupations.

To alleviate chronic professional manpower deficiencies in dietetics, major effort should be directed towards career counseling and recruitment of people who would be happy and function effectively as dietitians. This study sought to describe personality characteristics of practicing dietitians as identified by the Myers-Briggs Type Indicator (MBTI). Coupled with a measure of career satisfaction, knowledge of personality characteristics could provide relevant input for career guidance and recruitment, development of dietetic manpower, planning educational programs, and delivery of health care.

Need for the Study

The profession of dietetics currently has more job opportunities than qualified personnel available to fill them. Government agencies reported that 20 percent of budgeted positions for dietitians were vacant; hospitals reported difficulty in attracting dietitians; and educational administrators complained of a lack of adequately prepared teachers in the profession (Study Commission on Dietetics, 1972).

There were approximately 30,000 dietitians currently employed in the United States (Bureau of Labor Statistics, 1971; Study Commission on Dietetics, 1972). Projections for needs in 1980, complicated by difficulty in predicting methods of health care systems six to ten years hence,

differed somewhat. Pilot (1970) projected a need for 42,100 dietitians by 1980; the Study Commission on Dietetics (1972), 38,500 by 1980; while the Bureau of Labor Statistics (1967) estimated there should be 38,000 dietitians available by 1975. Average annual openings in 1980 were estimated variously at 2,300 (Rosenthal, 1972); 2,700 (Pilot, 1970); and 2,500 (Study Commission on Dietetics, 1972). Currently only about 1,500 newly trained dietitians are available each year. This study could provide information concerning personality traits and career satisfaction that could be utilized by government agencies and professional associations in planning and administering educational and service programs that would most adequately meet societal demands.

The only systematic attempts to recruit dietitians have emphasized the availability of positions, and recruiting activities have focused on the career day approach. Traditionally, information concerning where dietitians work, what they do, and educational requirements has been provided. Some dietitians have been attracted into the profession because of personal contact with a dietitian. Many others were attracted into Home Economics at college and then chose dietetics because they did not want to teach (Beal and Newton, 1966). A majority of dietitians (76 percent) shared an interest in food as a motivator to become dietitians.

This study was needed to provide information about the dietitian as a person, in addition to professional duties and interests, so that recruitment might be a more effective process.

Selection of potential dietitians has been conducted mainly by educational personnel because entry to the career requires completion of an approved formal educational program that includes didactic and practical experiences. Written applications, references and sometimes personal interviews were common selection methods, and criteria employed included academic performance, personal qualities and participation in extracurricular activities. This study was needed to provide information concerning personal characteristics of dietitians so that new methods for assessing individual potential and alternative criteria for selection might be developed.

Educational preparation of dietitians has emphasized subject matter presumed necessary for providing nutritional care to patients or clients. Scientific knowledge and technical skills, especially those relating to food and its preparation, were considered primary in educational programs and internships (or their equivalent). The criterion for becoming a Registered Dietitian was successful completion of a national written objective examination. The Study Commission on Dietetics (1972) called for educational reform

to provide dietitians with basic education through integrated four-year curriculums, graduating students with bachelor's degrees and ready for employment as dietitians. If the Commission's call to educational reform was to be heeded, knowledge of personality characteristics of dietitians was needed to suggest ways that formal curriculums and training opportunities could improve learning in affective as well as cognitive domains.

While there have been some changes evident in educational preparation of dietitians that could increase numbers of graduates at the baccalaureate level, apparently no information has been generated that will contribute to more effective career counseling or recruitment. Guidance and counseling are important aspects of career preparation and placement. Beal and Newton (1966) reported that many dietetic interns experienced "reality shock" in their internship experiences. This must have contributed to dissatisfaction and attrition. The Study Commission on Dietetics (1972) recommended that

. . . educational institutions must accept responsibility for the selection as well as continuing guidance of the future dietitian. (p. 74)

At the end of the second year of formal education

. . . judgment can be made about interest and capacity for continued learning . . . personal qualities and professional motivation can be assessed and judicious counseling furnished. (p. 75)

Information must be obtained that would describe characteristics of employed dietitians, their satisfaction with areas of specialization within the profession, and their general satisfaction with their careers so that guidance and counseling can be improved.

Dietitians work extensively with professionals in other health occupations. One characteristic of health care is that as it increases in complexity, tasks become more specialized and professional groups become fragmented. This study of dietitians' personality characteristics can improve communication and cooperation among health professionals because MBTI data has potential for better understanding of self and others.

Statement of the Problem

The problem underlying this study was to identify Jungian personality types of dietitians and to relate these to career and specialty satisfaction. Different types of people have demonstrated preferences for different ways of thinking and looking at their experiences, which were manifested in different behavior patterns. Different occupations and jobs provided various settings in which certain types of people felt comfortable and were happy. By identifying personality types of practicing dietitians more knowledge was gathered about the types of people who selected that occupation.

An attempt was planned to predict whether a given individual would be likely to find satisfaction as a dietitian. A measure of career satisfaction was necessary in order to eliminate dissatisfied dietitians from the base group.

Data generated in this part of the study had several potential applications:

1. Reported studies of personality characteristics of dietitians were few and none were based on Jungian theory. Therefore, these data provided new insights into personality types of practicing dietitians.

2. Information generated could be used to more adequately assess individual potential and for more effective recruitment.

3. Information concerning personality characteristics could be used to suggest ways of improving planning and administration of educational opportunities and to enhance learning in the affective domain.

This investigation also focused on areas of specialty within dietetics. It had been noted among physicians that certain personality types were attracted more to one specialty than to another (Myers and Davis, 1964). The question asked in this study was: 'Would certain personality types in dietetics be more attracted to one specialty than to another?' Again, an attempt was planned to predict membership, this time in a specialty, and again a measure of satisfaction was required.

Assessing satisfaction was a critical factor for this population, because over 98 percent were women and about two-thirds were married (Sharp et al., 1973). It seemed reasonable to assume that many dietitians would be occupationally immobile because of priority placed on career and location of their husbands. Some dietitians might have accepted jobs because of availability rather than the job's compatibility with a person's needs and interests. Also, it could be possible for a dietitian to be satisfied generally with her career, yet dissatisfied with her job (termed current specialty hereafter). This provided another reason for establishing satisfaction with current specialty. Specialty satisfaction was examined to see if years of practice or age influenced the outcome.

Data generated in this aspect of the study were used to determine the personality characteristics of dietitians in different specialty areas, and to attempt to predict membership in and satisfaction with a specialty, based on individual MBTI scores. This information would provide new insights to help dietitians better understand themselves, and to help them select jobs most compatible with their personality type so that their career potential might be enhanced.

General Purposes and Objectives

The choice of occupation would be a major decision in the lives of most people. By helping a person select a

career that complimented his personality, his job satisfaction might be enhanced, and greater use made of his potential (Siegelman, 1958).

The general purpose of this study was to develop information that would augment existing knowledge of qualities and abilities necessary for successful practitioners of dietetics. More specifically objectives of the study were to:

1. Describe a national sample of currently employed members of the American Dietetic Association (ADA) in terms of personality factors as measured by the Myers-Briggs Type Indicator (MBTI).

2. Determine which combination of personality characteristics, if any, were best predictors of career satisfaction.

3. Determine significant differences, if any, between personality characteristics and other variables of dietitians whose major responsibility was either face to face contact with patients or clients (clinical specialty) or directing activities of a department, program or food service (administrative) or planning, conducting and evaluating educational programs (educational).

4. Determine which personality characteristics, if any, significantly discriminated between dietitians who were satisfied with their current specialty and those who expressed preference for another specialty.

Limitations of the Study

The population was limited to employed members in good standing of the ADA in December, 1973. However, the Study Commission on Dietetics (1972) estimated that about 30,000 dietitians were employed in the United States of which only 50 percent were members of the ADA. There was apparently no way of obtaining names of every person who functioned in a dietitian's role. The ADA acted as a licensure agency and all its members have fulfilled certain minimum educational and training requirements. Therefore, by virtue of their membership, dietitians who belonged to the Association could be regarded as an identifiable and representative population from which to draw a sample.

It was assumed that any dietitian who was seriously dissatisfied with her career would transfer into a more compatible occupation. In sampling only employed dietitians, those who were sufficiently dissatisfied to move out of the profession would not be included and career satisfaction data would reflect only the generally satisfied remaining dietitians. Thus, career satisfaction data could be biased.

The division of specialties (clinical, administrative, educational) was based on a classification of major skill areas in which a dietitian functioned. The education of a dietitian had three foci. Scientific disciplines comprised a major educational area of preparation to fit the dietitian

with skills in understanding body processes, nutritional matters and translation of these into optimal nutrition for people. A second focus was preparation for managerial skills to organize and administer food service units. Third, dietitians were trained in communication of skills and knowledge to others because teaching was an inherent part of much of their work. While these were not mutually exclusive categories nor representative of all functions that a dietitian could perform, the three foci provided reasonable subdivision of functions. Some dietitians might experience difficulty in classifying themselves into one of the three specialty categories. An example would be a dietitian engaged primarily in research or a generalist whose time was divided equally among two or more functions. For this study dietitians were asked to identify their specialty, but responses were subjective with no feasible method to check reliability.

Results were limited to personality characteristics as identified by the MBTI. Although it was an objective research instrument, the Indicator may not have revealed all of the complexities and dynamics of personality structure. Results should be interpreted with respect to reliability and validity of the instrument.

It was expected that certain personality types tended to disregard mailed questionnaires, or to procrastinate in responding to them. Results would be biased accordingly.

Subjects not responding were mailed follow-up post cards, but no other attempts were made to overcome this bias.

Hypotheses

The first hypothesis was formulated to test MBTI type characteristics of the sample by comparing them with student groups and other health professionals.

1. There are no significant differences between the distribution of MBTI types of employed members of the ADA and those of selected populations for which type data are available.

The following hypotheses tested differences between characteristics of the specialty groups, and ability to predict choice of specialty.

2. There are no significant differences between the distribution of MBTI types for each of the specialties: clinical, administrative, and educational.

3. There are no significant differences between the distribution of clinical, administrative, and educational dietitians on any of the four personality variables: Extraversion-Introversion (EI); Sensing-Intuition (SN); Thinking-Feeling (TF); Judging-Perceiving (JP).

4. None of the four variables, EI, SN, TF, JP, will discriminate better than others between the three specialties in dietetics.

The next two hypotheses tested career satisfaction. One tested career satisfaction for the total group, and the other tested the predictive aspects of the data.

5. There are no significant differences between employed members of the ADA who are satisfied with their careers and those who are not satisfied when compared on personality factors.

6. None of the four variables, EI, SN, TF, JP, will discriminate better than others between dietitians who are satisfied or not satisfied with their career.

The remaining hypotheses tested several aspects of specialty satisfaction, including the predictive aspects of the data.

7. There are no significant differences between the distribution of MBTI types of dietitians who are satisfied with their current specialty and those who are not satisfied.

8. There are no significant differences between the ages of dietitians who are satisfied with their current specialty and those who are not satisfied.

9. There are no significant differences between years of practice of dietitians who are satisfied with their current specialty and those who are not satisfied.

10. There are no significant differences between the distribution of MBTI types who are satisfied or not satisfied with their current specialty for the following groups:

- a) clinical dietitians,
- b) administrative dietitians,
- c) educational dietitians.

11. None of the variables, EI, SN, TF, JP, will discriminate better than others between dietitians who are satisfied or not satisfied with their current specialty for the following groups:

- a) clinical dietitians,
- b) administrative dietitians,
- c) educational dietitians.

Definition of Terms

Allied health: A concept describing a cluster of occupations which possess a commonality of concern for physical, mental, and social well-being of individuals.

Allied health occupations: Those occupations whose primary focus is upon physical, mental, social well-being of individuals, generally requiring post-secondary education or technical training.

The American Dietetic Association: "A professional organization responsible for establishing educational and supervised clinical experience requirements and standards of practice in the profession of dietetics" (Arkwright et al., 1974, p. 664).

ADA dietitian:

A specialist educated for a profession responsible for the nutritional care of individuals and groups. This care includes

the application of the science and art of human nutrition in helping people select and obtain food for the primary purpose of nourishing their bodies in health or disease throughout the life cycle. This participation may be in single or combined functions; in food service systems management; in extending knowledge of food and nutrition principles; in teaching these principles for application according to particular situations; or in dietary counseling. (Arkwright et al., 1974, p. 661)

(1) Administrative dietitian: The administrative dietitian

. . . is a member of the management team and affects the nutritional care of groups through the management of food service systems that provide optimal nutrition and quality food. (Arkwright et al., 1974, p. 661)

(2) Clinical dietitian: The clinical dietitian

. . . is a member of the health care team and affects the nutritional care of individuals and groups for health maintenance. The clinical dietitian assesses nutritional needs, develops and implements nutritional care plans, and evaluates and reports these results appropriately. (Arkwright et al., 1974, p. 662)

(3) Educational dietitian: The dietitian engaged in educational activities " . . . plans, conducts, and evaluates educational programs in one or more dietetic subject matter areas" (Arkwright et al., 1974, p. 663).

Career satisfaction: A pleasurable emotional state resulting from an individual's employment, abilities and

aspirations, interests and attitudes, values and life style.

Dietetics:

A profession concerned with the science and art of human nutritional care, an essential component of health science. It includes the extending and imparting of knowledge concerning foods which will provide nutrients sufficient to health and during disease throughout the life cycle and the management of group feeding. (Arkwright et al., 1974, p. 665)

Health: A positive state of physical and mental well-being.

Health care or health care systems: A process of providing appropriate resources to maintain or restore well-being of individuals.

Health career or health occupation: An occupation whose practitioners are engaged in some aspect of caring for physical or mental well-being of individuals.

Health professionals: Practitioners in health occupations whose positions require technical training and probably at least a four-year college degree (Siporin, 1973).

Health services: Provision of preventive remedial care to provide physical and mental well-being of individuals.

Health workers: Practitioners in occupations who are engaged in some aspect of caring for physical or mental well-being of individuals.

Myers-Briggs Type Indicator: An instrument for measuring Jungian personality types (described in greater detail in Chapter III).

Personality type: An indication of differences in personality that result from the way an individual perceives his world and the way he makes judgments about his perceptions. Personality type is described in terms of four dichotomous dimensions known as personality preferences:

(1) Extraversion-Introversion (EI) preference:

orientation toward the outer world of people and things or the inner world of ideas.

(2) Sensing-Intuition (SN) preference: the way in which an individual becomes aware of his world, either relying on realistic, practical evidence or taking a more imaginative approach.

(3) Thinking-Feeling (TF) preference: the manner in which an individual attaches a value to an experience, either logically, based on facts, or with consideration for personal values.

(4) Judging-Perceiving (JP) preference: the approach to the outer world, either a planned, orderly way, or else a flexible, spontaneous approach.

Organization of Subsequent Chapters

A review of the literature is presented in Chapter II. Major areas of research considered are the influence of

personality characteristics on occupational choice, and job satisfaction.

Chapter III presents the design and methodology of the study. A description of the MBTI, treatment of the data and statistical procedures for analyses of the data are included in this chapter.

In Chapter IV results for each hypothesis are described and discussed. Summary, conclusions and recommendations may be found in Chapter V.

CHAPTER II

REVIEW OF LITERATURE

Organization of the Chapter

This chapter is divided into two major categories:

(1) the influence of personality characteristics on occupational choice and (2) job satisfaction. Within the first category, theories of career choice are reviewed initially followed by a section on factors affecting working women. This latter section was included because career choice models have been based on male characteristics. However, dietitians are predominantly female and experience influences in their working lives that differ from those of men. Interrelationships of personality and career preference are discussed in the next section. Evidence, both for and against the role of personality in career preference is presented. This section is followed by a review of studies in which the MBTI was used to investigate relationships between personality type and occupational choice. Finally in this category, personality characteristics of dietitians are reviewed.

The job satisfaction category is divided into several sections. Theories of job satisfaction are reviewed first, followed by sections presenting factors found to influence job satisfaction, and prediction of job satisfaction. Finally, job satisfaction of dietitians is reviewed.

Personality Characteristics and Occupational Choice

Theories of Career Choice

Work, a major function in human life, has attracted attention of behavioral scientists. For at least 60 years, and increasingly in the past two decades, investigators have sought the determinants of man's choice of work. Several theories of career choice (also termed vocational choice or career development) have been proposed.

The oldest theoretical approach was an attempt to match individual abilities and interests with opportunities in the world of work. The vocational testing movement subsequently rose to prominence so that such instruments as the Strong Vocational Interest Blank (SVIB), Kuder Preference Record (KPR), and Guilford-Zimmerman Aptitude Survey became common tools of vocational counselors (Osipow, 1973). More recently, theories became less simplistic as theorists strove to explain interactions of personality, psychological development, socio-cultural influences, family environment, and education, with the world of work. Career choice has

been conceptualized as an extension of personality and an attempt to implement broad personal behavior styles into life's work (Williams, 1972; Hall, 1969; Holland, 1959; Roe, 1956).

Roe (1956) emphasized the role of personality in career choice. She was interested particularly in inherited predisposition and childhood experiences, and postulated that by studying an individual's childhood and family influences, and by assessing aptitude, it was likely that the general occupational class he would enter could be predicted. In addition, it was possible that people in different occupations would describe distinctive childhood environments.

Super (1957) assumed that vocational activities reflected life style and proposed that a person tried to implement his self-concept by choosing to enter the occupation he saw as most likely to permit his self-expression. Not only was the role of self-concept important, but also the stage of life development, or maturity. Thus, attempts to make career decisions during adolescence would be different from those made in middle age because of the changing demands of the life cycle on attempts to implement a self-concept. A less systematic though similar approach was described by Ginzberg et al. (1951) prior to Super's formulation.

Holland's theory of career development postulated that as well as personality involvement in occupational choice,

individuals held stereotypic views of occupations (1958). Thus, individuals tended to select careers consistent with their personal orientations. Holland developed a set of scales, the Vocational Preference Inventory (VPI), with which to project hierarchical patterns that indicated appropriate occupational environments.

Personality development was a common concept to some degree in all career choice theories stated Osipow (1973), but he thought it constituted a distinctive theoretical approach to career choice. Thus, if basic patterns of behavior could be observed, then better predictions would be made about an individual's occupational behavior. There would be inherent differences in roles that occupations require people to play, yet at the same time exposure to activities and climate of any given occupation would influence the individual's personality. Osipow reported that there was effort to improve accuracy of identifying distinctive personality attributes inherent in membership of various careers.

Other approaches taken to career choice have included social effects on career choice (Lipsett, 1962), psychoanalytic explanations (Bordin et al., 1963; Steimel and Suziedelis, 1963), and effects of psychological needs (Darley and Haganah, 1955). Career development for women was not treated adequately by any of the theories (Osipow, 1973). Most instruments were masculine-based and failed

to provide either helpful information for women or a useful understanding of women's career behavior.

Women and the World of Work

While men followed a relatively simple, straightforward career pattern, that of women was much more complex. With the exception of women who had never married, work patterns of women were greatly influenced by home and family life (Ginzberg, 1966; Hall and Gordon, 1973). Women's careers were characterized by many starts and stops, leading Ginzberg to remark "Men have careers, women have jobs" (1966, p. 1). About one in three married women worked, either full- or part-time. Ginzberg's study reported that children were primary determinants of a woman's decision to work, followed by educational achievement, specialization, location, and career plans. Weil (1961) listed factors that predisposed a woman to work: (1) her husband's attitude toward outside employment was positive; (2) she had worked before marriage in a career requiring high educational or professional qualification, or specialized training; (3) she had continued to work after marriage; (4) when her husband was willing to share household duties; and (5) if children were of school age.

As expected, married women placed priority on home-related activities, and those who worked experienced most conflict from home pressures (Hall and Gordon, 1973).

Overall this study reported that women employed full-time were more satisfied than women working part-time. Part-time activity was the most popular type of employment sought by this sample, but part-timers reported more conflicts, more roles to manage, and lowest satisfaction ratings about their jobs.

Women showed some variation in work values according to age, marital status, socio-economic class, career pattern, employment status, field of work, and education (Blai, 1970). However, there was a strong degree of similarity between expressed work values sought by women. All demonstrated high needs for mastery-achievement and social values, and for interesting activity. Independence emerged as a moderately rated need but this sample of women did not seek control over others, responsibility, leadership or a feeling of importance. Differences on the SVIB patterns were found between women planning marriage and women planning professional careers (Wagman, 1966). Martin and Saunders (1970) found that job satisfaction of women depended on possession of personality characteristics appropriate to the job and adequate educational preparation.

Interrelationships of Personality and Career Preference

Rettig (1965) observed that persons possessing more or less of a certain quality performed better in their career than those with different profiles. Holland (1958)

explained that occupations represented a way of life, something more than a set of isolated work functions or skills, and that individuals tended to select occupations which were perceived to fit their personality pattern. Data supporting and negating such contentions are presented in the sections below.

College students

A number of investigators have studied college students, attempting to show relationships between personality factors and occupational preference. Many of these studies utilized more than one instrument. Williams (1972) studied graduate students, using discriminant analysis to determine relationships among personality factors, value patterns and occupational choice as it was implied by graduate school major. A battery of tests included Holland's classification of occupations and the VPI. It was concluded that life values, work values, and personality characteristics were related to occupational choice, and that careers selected were compatible generally with values and personality.

A longitudinal study of personality characteristics and career choice of Harvard undergraduates indicated support for successful prediction of occupational choice (French, 1959). Successful junior college students in four majors (data processing, secretarial administration, nursing, engineering) were administered a personality test

(Jones, 1969). Three of the four groups were differentiated based on personality. Grace (1969) compared 200 students in four areas of business administration with 200 experienced men and women in the field, using the Guilford-Zimmerman Temperament Survey and SVIB. There were similarities in interests between the student and employed groups that implied differentiation was possible among the specialty groups. In a group of 148 graduate students in business, personality type and reinforcement history were related to occupations that were perceived to be compatible (Scott and Day, 1972). Home Economics students in three major interest areas were differentiated according to need satisfaction expressed through the Edwards Personal Preference Survey (EPPS) and a questionnaire (Hoddick, 1964).

Employed workers: Non-health fields

Investigations of persons already employed in occupations showed evidence that occupations can be differentiated according to personality factors of its members. Seigelman (1958) studied chemists, ministers, and military officers, finding distinguishable patterns in each group. Biographical data was combined with interests, attitudes, needs, and temperament to test a hypothesis that personality is important in the choice of career as well as in subsequent success and satisfaction in the chosen work (McClung, 1963). Different occupational personality types were isolated and described for life insurance salesmen,

clergymen, engineers, journalists, and theoretical physicists. Discriminating interest patterns were found between artists, farmers, ministers, physicists, purchasing agents, real estate salesmen, and newsmen (Suziedelis and Lorr, 1973). Nachman (1960), interested in the effect of early childhood backgrounds on occupational membership, found that lawyers, dentists, and social workers had identifiable traits in childhood experiences. By examining interest profiles, Dunnette (1957) discriminated between four specialties in engineering.

Health professionals

In the allied health and medical fields, medical-surgical nurses differed from psychiatric nurses, according to results from a battery of tests (Lukens, 1964). Donovan et al. (1972) studied personality data of physicians comparing it with specialties they entered. Discriminant analysis was performed on 15 variables and indicated significant mean differences between specialties. Medical students tended to select specialties which were perceived to satisfy individual aspects of cognitive style, attitudes, values, and personality preferences. For example, those whose values were oriented to practical-useful, who had less preference for theoretical-abstract, and who had higher needs for appreciation from others tended to select obstetrics and gynecology. Those who selected psychiatry were less oriented to practical-useful, were more highly

oriented to theoretical-abstract, emphasized interpersonal relations, and exhibited a marked tendency to analyze behavior. However, it was stressed that most subjects had individual patterns that were compatible with several specialty choices and a significant number did not select specialties for which their data appeared most compatible. Other factors, such as location, may have helped determine specialty choice.

Studies not supporting the role of personality in career choice

Another group of studies had less success in predicting occupational membership based on personality preferences, or in determining personality traits among occupation members. Matis (1968) compared female college students majoring in speech pathology with a group in other professional majors. One of several tests given, the Minnesota Multiphasic Personality Inventory (MMPI), did not establish differences between the two groups. However, data from other tests supported the conclusion that occupational choice was related to personality needs and interests, but the author recommended replications before generalizing results. Graduate students in education were investigated to see if choice of professional education and specialty were related to temperament, values, and vocational preferences (Hall, 1969). Only small relationships were noted. Osipow et al. (1966) tested Holland's theory with male and female

college freshmen and found that although they tended to choose occupations consistent with personality types, results were not consistent.

Hughes (1972) investigated 400 employed males, testing Holland's theory. There were mixed results with only low-level support for the theory that people work in jobs appropriate to personality orientation. Two studies based on Roe's theory generally failed to substantiate her classification system. Hoffman (1963) reported that although certain aspects of personality influenced the formation of vocational aspirations, no consistent patterning of personality needs was evident as a major influence on the process. Hagen (1960) obtained data from a longitudinal study of Harvard undergraduates. His results did not support the contention that certain kinds of family atmosphere oriented an individual to certain career groups.

In general, low and often inconsistent relationships have resulted from attempts to demonstrate associations between personality and vocational interests. In some cases relationships between personality and vocational interests have not been high enough to predict one from the other. Rohila (1969) experimented with complex statistical techniques using data from MMPI, California Psychological Inventory (CPI), and SVIB. Results failed to produce high one-to-one associations between personality and vocational interests. The conclusion was that personality accounted for at most 50 percent of the variance in vocational

interests, because personality constituted only one source of variation in vocational interests. Personality referred to qualities of behavior, while vocational interests had reference to the direction of behavior.

Studies of Personality and Occupational Choice Using the Myers-Briggs Type Indicator

Health professions

The most comprehensive study of health professions using the MBTI^{*} was reported by Myers and Davis (1964). A 12-year follow-up of 4,274 physicians was conducted exploring the relationships between personality types and medical specialty. Hypothesized attractions of certain types for certain specialties were confirmed. For example, pediatrics appealed most to warm-hearted ISFJ and ESFJ types; anaesthesiology appealed most to IS-P types who had ability to be acutely watchful for long periods of time. Extraverts with sensing preferred surgery and obstetrics because such specialties demanded "skill in action," an extravert trait, as well as maximum awareness through the senses, particularly touch, which is a trait of sensing types. The most marked differences occurred between sensing and intuitive types. Intelligence was not a factor that influenced the observed differences in choice of specialty. The authors concluded that their data supported the view that type was associated with vocational choice:

^{*}See explanation of MBTI pages 47-53.

The reason . . . would seem to be that people like to use their preferred kind of perception and their preferred kind of judgment, and tend to choose occupations that give them that choice. (Myers and Davis, 1964, p. 9)

Otis and Weiss (1973) analyzed medical student ratings of their inclination or disinclination to practice in various specialty and practice settings. The MBTI was one of several data-gathering instruments. Ten patterns of career preference were identified, each of which was associated with specific personality characteristics. For example, Pattern 7 was identified with physicians who were not idea-oriented, but were adept at handling tools, machinery, and materials; who were authoritarian, "thick-skinned," extremely confident, realistic, and possessed of a good memory for facts and details. This pattern was associated with surgical specialties, and the MBTI data indicated less introverts, more sensing and thinking characteristics for this pattern. These findings corroborated those of Myers and Davis (1964). MBTI data was distinctive for each pattern.

Studies of occupational therapists (Brown, 1973) indicated that 56 percent of the group were either ISFJ, ENFP, ESFJ, ENTJ, or ISTJ. Preferences for feeling and judging were well defined indicative of warm-heartedness and ability to handle people. Stephens' study (1972) of occupational therapy students in an art class determined that such students were mainly extraverted feeling types who liked people and react in a warm and friendly manner.

These characteristics were different from two other groups of students in the art class.

Type preferences of medical technologists were analyzed by Bowling (1973) and Hill (1974). Bowling compared pathologists and medical technologists. Fifty-seven percent of the medical technologists were either ESTJ, ISFJ, ISTJ, or ESFJ, with a strong preference for sensing and judging. Medical technologists favored precision, variety, organization, and harmony, while the pathologists preferred theory, solitude, impersonal analysis, and organization. Hill, who compared three levels of clinical laboratory personnel, reported a preference in his sample for sensing, thinking, and judging. These types were realistic, observant and could be attentive to detail; they were logical, analytical, and organized, all qualities required by the nature of the occupation.

Pharmacy and medical technology students tended to be sensing-judging types. In a sample of dental students, 44 percent preferred the sensing-judging combination, as did 26 percent in a sample of medical students (McCaulley and Tonesk, 1974). Diploma nursing students who preferred sensing, feeling, and judging were most interested in nursing and least likely to drop out (Myers, 1967).

Other professions

Reynolds and Hope (1970) administered the MBTI to high school students and were able to distinguish advanced science students. There were more INTPs than in other groups of students. INTP people had ability to concentrate and to grasp complex problems; they were insightful, analytical, and logical. College freshmen expressed career preferences that supported Jungian theory (Conary, 1965). Some types were more highly represented in some fields than others. For instance, business majors appealed to the realistic, logical, decisive, executive, sensing thinking (ST) types. Objective, analytical, inventive, intuitive thinking (NT) types who like to solve complex problems were attracted to engineering. Conary reported that achievement was related to type difference, a point also made by Myers (1962; 1967).

Health and physical education majors preferred ESFP, indicating a tendency to be sociable, adaptable, and practical. By comparison, students majoring in home economics education preferred ESTP, indicating they were more interested in underlying theories, as well as being sociable and practical (Stroops, 1971). A sample of mathematics teachers was predominantly sensing judging (SJ). Those who preferred to teach college-bound students were more intuitive (N); those who chose non-college mathematics courses were more sensing (S), and selected teaching assignments in lower-grade levels (Story, 1972).

The MBTI has been used in a number of investigations relating to achievement, creativity, career choice, and employee turnover (Myers, 1962). An additional annotated bibliography (Educational Testing Service, 1968) listed research applications of the MBTI from 1962 to 1968 that encompassed characteristics of school teachers, school administration students, ministers, engineers; predictions of student performance; applications in educational and clinical counseling, and other areas. Twenty theses and dissertations using the MBTI had been completed at the University of Florida between 1971 and 1974, and more were under way (Typology Laboratory, 1974). Topics included career studies, achievement, counseling, and interpersonal relations.

Characteristics of Dietitians

Significant aptitudes for dietitians measured on the General Aptitude Test Battery (GATB) were Intelligence, Verbal, and Numerical Aptitudes (Bureau of Employment Security, 1954). Holland et al. (1970) published a psychological classification of occupations in which dietitians were characterized as Social, Investigative, Enterprising (SIE). Working with the SVIB, Wagman (1966) stated that the dietitian scale correlated positively with scales for buyer, elementary teacher, physical education teacher, laboratory technician, occupational therapist, nurse,

business education teacher, math-science teacher, office worker, housewife, and home economics teacher. Negative correlations were established with scales for social worker, psychologist, insurance saleswoman, lawyer, musician, performer, artist, librarian, English teacher, author. The dietitian scale correlated positively with the economic scale (.26) and negatively with the political scale (-.40).

Factors in career development of dietitians were reported by Beal and Newton (1966). Dietetics was chosen frequently as an alternate to some other field, and because of an interest in food. One-third of the sample expressed a desire to work in a hospital, and one-quarter mentioned that interest in science was the reason for their choice. About two-thirds of the respondents decided to major in dietetics between the eleventh grade and the sophomore year in college, but dietetic interns had misconceptions of their future career role. They entered the field not knowing what a dietitian did on the job, and almost all experienced "reality shock" in learning the role of a therapeutic dietitian. All were frustrated by the latent visibility of the profession.

Frustration was not reflected in a definitive study of personality characteristics of dietitians (Cleveland, 1963). Cleveland's assumption, common among theories of occupational choice, was that individuals tended to seek careers that gratified personal needs such as status, ambition, power. Nursing students and staff were compared

with dietetic interns and dietitians using the Thematic Aperception Test (TAT), and motivation for career choice was explored. In their TAT stories, dietitians put much greater emphasis on achievement and success, and concern with prestige and power. They attributed more manipulative power to story characters, and feelings towards parents were more positive than those of nurses. Dietitians conveyed an air of confidence, a feeling of natural superiority in dealing with others. Descriptions of motivation for career choice indicated that all groups sought contact with people, but for nurses it was in the sense of self-serving sacrifice, and for dietitians because they wanted to influence others. Dietitians looked for challenge, compared with nurses who sought stability of a well-defined role. Dietitians showed strong attraction to scientific aspects and to the "prestige of medicine." The development of dietitian's occupational role has been characterized by a struggle to establish professional status, especially in relation to other well-established health care roles of nursing and medicine. Dietitians must impart knowledge to others, as in advising and persuading people to follow appropriate diets; or in supervising employees whose technical skills could be greater than theirs. Cleveland concluded that dietitians seemed able to face a challenging and unstable occupational role because of the feeling of capability, confidence, and social facility that was reflected in results from this study.

Two thousand dietitians completed the KPR (Hornaday, 1963). The scientific interest scale was highly differentiating for dietitians, indicative of a preference for solving problems and discovering new facts. Power and authority interest was highly rated, indicative of a liking for influencing thoughts and activities of others, and for being in a position of authority. Social service interest was found to be of importance to dietitians, but nurses, ministers, social workers, and hospital attendants scored higher than dietitians. Dietitians rated very low on the clerical interest scale. This study showed that dietitians could be differentiated from many other occupations on the basis of the KPR, but there was a possibility of misclassification into such occupations as pediatrician, and special supplementary techniques were called for to make accurate differentiations. Hornaday distinguished five subgroups within dietetics: nutritionists, college professors, hospital dietitians, commercial dietitians, and school services. An attempt to subdivide hospital dietitians into three specialties, therapeutic, teaching, administrative, failed to produce significant differentiation. There was a trend for power interest to be greatest in administrators and least in therapeutic specialties. This study concluded that dietitians could be differentiated from women in general by use of the KPR, and trends were found that had potential to distinguish between specialties within dietetics.

Job Satisfaction

Job satisfaction measurements could be made in two ways:

One method is to investigate the specific factors on the job and the resulting attitudes. The other . . . includes the overall factors that contribute to satisfaction in life. Neither method is necessarily right or wrong. (Blum and Naylor, 1968, p. 385)

Theories of Job Satisfaction

Measurement of job satisfaction was made difficult by a lack of agreement concerning factors that determined job satisfaction, according to Blum and Naylor (1968).

One of the more prominent theories concerning the dynamics of job satisfaction was Maslow's need hierarchy. Jobs that satisfied more of Maslovian needs would mean greater job satisfaction on the part of the employee. In a study of 470 people in many occupations, Blai (1964) found that strongest job satisfiers were interesting duties followed by job security and self-actualization.

Vroom's Valence Force Theory stated that job satisfaction reflected the valence of the job for its incumbent, and satisfaction would be negatively related to turnover and absenteeism (Vroom, 1964). The Herzberg Model (Herzberg et al., 1959) postulated two classes of work variables, satisfiers and dissatisfiers. Satisfiers were such factors as achievement, recognition, advancement, responsibility and were associated with high satisfaction. They were

called content factors. Factors associated with dissatisfaction were those dealing with company policy, supervision, salary, and working conditions, which form the context of a job. In the health field, jobs were perceived as satisfying that allowed adequate direct patient-staff interaction (job content) and were judged dissatisfying when quality of patient-staff interaction was deficient. Context factors of salary, policy, etc. were not negative influences as long as content was adequate in aides' jobs (Labovitz and Orth, 1972).

Factors Affecting Job Satisfaction

Employed adults were surveyed by Hoppock (1935) in a community study. Unskilled workers had the lowest job satisfaction index, and professionals had the highest. Herzberg et al. (1957) reported that security was the most important single job factor in a study of over 11,000 workers. However, ranking of factors affecting job satisfaction varied by class and occupation of the workers. People in higher occupational and/or educational levels valued intrinsic aspects of the job, and security was not so important.

The degree to which job satisfaction was related to other aspects of work behavior has been investigated by Vroom (1964). High job satisfaction correlated negatively with turnover, but results for absenteeism gave inconclusive findings. Brayfield and Crockett (1955) determined there

was relationship between job satisfaction and job performance, a finding that negated the notion that a satisfied worker was a more productive worker. Vroom failed to find more than a small association between variables of job satisfaction and performance.

A worker would not be satisfied if he did not get along with the working group (Blum and Naylor, 1968). Workers must feel approved and respected by workmates. A person whose abilities and interests were not at a compatible occupational level would probably not be satisfied with the job.

People are not capable of working any length of time at a job which they feel is below them. This is also true of people who do not possess necessary abilities. (Blum and Naylor, 1968, p. 379).

Kornhauser (1940) reported that occupational level was associated with job satisfaction. Job satisfaction seemed to be related to fulfillment of personal needs (Schaffer, 1953). Job satisfaction thus appeared to be a complex of attitudes towards job factors, individual, and group relationships. Blum and Naylor (1968) suggested that techniques for attitude measurement were appropriate for the study of job satisfaction.

Prediction of Job Satisfaction

Intelligence, employment history, psychological tests, interest in the work itself were other variables suggested as determinants for job satisfaction:

When a person's interests are in line with the job he can be expected to be absorbed on the job . . . interest can be divided into two categories: interest in people and interest in things. Individuals in the first group find the greatest outlet for their interest in jobs that essentially involve people. . . . People in the second group, . . . find their maximum outlet in jobs which require designing or producing articles, tools, etc. . . .

Last but not least of the contributors to job satisfaction is personality. (Blum and Naylor, 1968, p. 387)

Locke (1968) defined job satisfaction as:

. . . the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values Job satisfaction and dissatisfaction are a function of the perceived relationship between what one wants from one's job and what one perceives it as offering or entailing. (p. 10)

Locke complained that job satisfaction was not yet properly identified, and so to measure and correlate, as is frequently the approach, did not give satisfactory answers. Harwood and Brown (1968) agreed with Locke that job satisfaction lacked adequate definition. It was a multi-dimensional attitude that could be positive towards some aspects of a job, while being negative in other aspects. Sedlacek (1966) also found that job satisfaction was a poorly defined concept. It had arisen without any scientific underpinnings from a combination of terms and factors. Conflicting results and conclusions were evident because of lack of agreement as to definition of job satisfaction, and because many instruments and methods had been utilized.

There was no best way to measure job satisfaction concluded Wanous and Lawler (1972) who applied multiple treatments to the same set of data. One direct rating measure of overall satisfaction: "Generally speaking, I am very satisfied with my job" gave results that were similar to those from composite measures.

Job Satisfaction of Dietitians

The Maslovian theory was used by Tansiongkun and Ostenso (1968) who investigated psychologic need satisfaction and thereby determined job satisfaction of 125 dietitians. Respondents reported their positions most often satisfied social and security needs, but higher order needs were less satisfactorily met. Dietitians with positions at higher management levels reported more fulfillment of psychologic needs and therefore a greater degree of job satisfaction than dietitians at lower management levels.

CHAPTER III

DESIGN AND METHODOLOGY

Organization of the Chapter

The design and methodology of the study are described in this chapter. Included are a description of the type of study, target population, and instruments used to assemble data. Procedural aspects include administration of the instrument, and treatment and analyses of the data.

Type of Study

This study sought to describe personality characteristics of dietitians, their satisfaction with their career and current specialty, and any significant differences between dietitians in different specialties or those expressing satisfaction or dissatisfaction with their career. The purpose of the data was to

... cast light on current problems by a further description and understanding of current conditions. . . . to understand the present. . . . to describe it more fully and adequately than now possible. (Fox, 1969, p. 45)

The study was an exploratory study of a type that Kerlinger (1973) defined as

. . . ex post facto scientific inquiries aimed at discovering the relationships and interactions among sociological, psychological and educational variables in real social structures. . . . like communities, schools, factories, organizations and institutions. (p. 405)

Kerlinger defined an ex post facto study thus:

. . . a systematic empirical inquiry in which the scientist does not have direct control of independent variables because their manifestations have already occurred, or because they are inherently not manipulable. Inferences about relations among variables are made without intervention, from concomitant variation of independent and dependent variables. (p. 379)

Target Population

A nation-wide random sample of employed members of the American Dietetic Association was obtained from a December 1973 list of members in good standing. There were 24,075 members listed, of whom approximately 25 percent were unemployed. These were eliminated from the population leaving a residual population of about 18,000 employed dietitians from which to draw the sample. Four hundred names were selected by random methods to constitute the sample. With the exception of Wyoming and Nevada, all states were represented in the sample as well as the District of Columbia, Puerto Rico, and the Virgin Islands.

Instrumentation

Two instruments were used in this study. One was a short questionnaire (Appendix A) developed for the study to obtain demographic information and that relating to

variables of career and specialty satisfaction. Personality characteristics were identified by the Myers-Briggs Type Indicator, Form F.

Questionnaire

The short questionnaire was designed to provide information on age, years of practice, current specialty, satisfaction with career, and satisfaction with specialty. Subjects were asked to list their present position title and place of employment as a means of checking the decision they made concerning their area of specialty. If not satisfied with current specialty, subjects were asked to indicate the specialty area they preferred.

Wanous and Lawler (1972) analyzed measurements of job satisfaction and concluded that one general question about job satisfaction gave results equivalent to more composite measurements. In this study career satisfaction was established by the response to the following broad question:

If a young person expressed interest and seemed to have the necessary aptitudes, would you counsel him/her to become a dietitian?

It was assumed that career satisfied dietitians would feel sufficiently enthusiastic to recommend their profession as a career to young people with appropriate interests and abilities. However, dietitians dissatisfied with their profession were assumed to feel sufficiently negative that they would not recommend the profession as a career.

Respondents were asked if they would take the MBTI and space was provided on the questionnaire for their answer.

Pilot study

A pilot study was conducted. Eleven dietitians employed in two Veterans' Administration hospitals agreed to be subjects for the pilot study. All respondents readily understood the questions and gave appropriate answers. However, two questions were rejected because they did not provide data that was relevant to the variables under consideration. Average time required to answer the original questionnaire was seven minutes. The shortened version could be assumed to require less time because of the omitted questions.

Myers-Briggs Type Indicator

The MBTI is a forced-choice, self-report inventory used with normal subjects. The instrument is untimed but Sundberg (1965) reported that about 50 minutes were required to complete it. Content of the 166 items is nonthreatening. Developed by Isabel Myers Briggs and Kathryn Myers, it is intended to measure Jungian theory of type.

The gist of the theory is that much apparently random variation in human behavior is actually quite orderly and consistent, being due to certain basic differences in the way people prefer to use perception and judgment. (Myers, 1962, p. 1)

The purpose of the inventory was to assess basic preferences concerning perception and judgment. In his psychoanalytic practice, Jung noted two basic kinds of human orientation. Some people were conditioned by the objects of their interest (extraverts) and other people were conditioned by their own inner selves (introverts) (Jung, 1923). Jung developed the typology to include not only the extraverted-introverted "attitude" dimension, but also to include four functions, sensing, intuition, thinking, feeling, which described the way a person became aware of his world (through sensing or intuition) and the way he came to conclusions about his world (thinking and feeling). Through innate predisposition and environmental opportunities, one of each function-type developed and became more natural for a person to use. Because the preferred process was used more than its counterpart, a person became adept and more comfortable with his preferences. These led to important differences in behavior.

Thus a person characteristically directs his cognitive functioning either toward the outer world (E) or toward subjective experience (I), and comes to emphasize one of the judging functions (T or F) and one of the perceptual functions (S or N) as his preferred, most characteristic mode of dealing with experience. (Levy et al., 1972, p. 643)

The preference for judging (TF) was independent of the preference for perceiving (SN) and either kind of judgment could combine with either kind of perception. Myers and Briggs developed the fourth dimension, judging-perceiving.

(JP), to indicate which function was dominant in a person's life (1962). There were 16 types derived from combinations of these dichotomous dimensions. Each of the types represented qualitatively different patterns of organization of the basic Jungian variables.

The items on the questionnaire evolved over more than two decades and several revisions of the MBTI. Surviving items aimed to assure homogeneity within a scale and independence between scales. Items had at least two alternatives, each reflecting bi-polar differences. Scores were obtained for each of the eight dimensions, but a single numerical score for each dichotomy was obtained by subtracting the smaller from the larger score on each dimension and applying a transformation formula that eliminated zero scores (Myers, 1962). Continuous scores could be obtained for statistical purposes, 100 marking the division point of the dichotomy.

The appropriate letters, indicating the preferred process on each dimension were derived from the single score. Respondents to the MBTI received their scores converted to the letter types, and as a single numerical value displayed on a grid. Continuous scores were used for statistical procedures in this study. Continuous scores under 100 represented either E, S, T, or J, and those over 100 represented the opposite of the respective dichotomies, I, N, F, or P. The 16 possible combinations of type,

traditionally displayed in a conventional order known as a Type Table, are displayed below. Introverts are in the top two rows and extraverts in the bottom two. Sensing types are in the left vertical rows and intuitives in the right vertical rows. Thinking types are placed in the outside columns and feeling types in the two middle columns, and judging types are in the top and bottom row, and perceiving types are in the two middle rows.

Introverts	Sensing	Perceiving	Thinking	Feeling	Thinking	Judging
Extraverts						Perceiving
						Judging

The completed type table is presented below:

= marks the dominant process for the type

- marks the process which is auxiliary

<u>I</u> STJ	<u>I</u> SFJ	<u>I</u> NFJ	<u>I</u> NTJ
<u>I</u> STP	<u>I</u> SFP	<u>I</u> NFP	<u>I</u> NTP
<u>E</u> STP	<u>E</u> SFP	<u>E</u> NFP	<u>E</u> NTP
<u>E</u> STJ	<u>E</u> SFJ	<u>E</u> NFJ	<u>E</u> NTJ

Descriptions of the characteristics of each type have been developed by Myers (1962, 1970).

Reliability

The Manual (Myers, 1962) reported split-half procedures used to establish reliability. Correlations on each of the dimensions, EI, SN, and JP, ranged from .80 to .94. The TF scale was lower with correlations ranging from .44 to .86. Stricker and Ross (1963), investigating internal consistency reliability, found a similar pattern. Internal consistency reliability of continuous scores was generally in the range of .75 to .85, but the TF scale had a consistently low coefficient. Test-retest reliability coefficients for continuous scores on all four dimensions ranged from .69 to .83 and were statistically reliable (Levy et al., 1972). In the same study type categories showed stability, 53 percent of respondents staying the same type, 35 percent showing a shift on one scale, 10 percent shifting on two scales, and 2 percent shifting on three scales. Stricker and Ross (1964) studied test-retest reliability over 14 months, obtaining correlations of .73 (EI) to .48 (TF). Sundberg (1965) stated that reliability figures were comparable to those of leading personality inventories.

Levy et al. (1972) said

. . . [there is] considerable support for use of the MBTI as a psychometrically stable instrument capable of reflecting important group differences. . . . Dimensions are more stable than indicated by previous research and provide presently unique data suggesting that qualitative type designations are also remarkably stable. (p. 652)

Validity

Validity data presented in the Manual (Myers, 1962) were mainly congruent or concurrent. Instruments used to establish congruent validity included the Gray-Wheelwright Psychological Type Questionnaire, Strong Vocational Interest Blank, Edwards Personal Preference Inventory, Allport-Vernon-Lindzey Study of Values, and the Personality Research Inventory.

Nontest criteria, including job turnover, creativity studies, and academic performance, were used also in validating the instrument.

Stricker and Ross (1964) questioned construct validity; that is whether the scales were capable of measuring underlying personality types postulated by Jung. They concluded that SN and TF scales probably reflected dimensions they were theorized to represent, but that EI and JP scales were more questionable. Levy et al. (1972) felt that more work was needed to extend construct validation.

There was criticism of the content of questions (Mendelsohn, 1965) because they were considered shallow and perhaps one-sided. In addition, it was contended that two basic assumptions were not supported by evidence. The first questionable assumption was that scales were dichotomous and the second was that scales interacted in a complex manner. Neither of these assumptions seemed valid. Siegel

(1963) was critical of the validation procedures which he said should have been based on clinical or intuitive validation and not the more usual methods of psychometric validation. Nevertheless, the following comments were made by Mendelsohn (1965):

. . . [the instrument] has considerable potential utility . . . [because] type scores relate meaningfully to a wide range of variables, including personality, ability, interest, value, aptitude and performance measures, academic choice and behavioral ratings . . . Although there are better predictors for particular tasks, few instruments appear to provide as much information as can be derived efficiently from the MBTI. It would seem useful then for personality research and, given its relationships to measures of interest, value, aptitude and achievement, for academic counseling.

A consideration of the available data suggests that the MBTI does not represent a successful operationalization of Jungian concepts, but does appear to have potential utility for research and counseling if scores are interpreted in the light of their empirical relationships rather than their assumed theoretical significance. (p. 322)

Procedure

Administration of the Instrument

Data collection for this study was conducted by mail. The initial mailing contained a cover letter (Appendix B) which briefly described the study and the MBTI, the short questionnaire (Appendix A), and a stamped, self-addressed envelope. The questionnaire was printed on blue paper to attract attention and make it easier to identify. Post cards (Appendix B) were sent in two follow-ups after three and six weeks.

The MBTI was mailed to all respondents who met the following criteria: (1) they returned the initial questionnaire, (2) they consented to take the MBTI, and (3) they were currently employed either full- or part-time. Another cover letter (Appendix B), the answer sheet, and a stamped, self-addressed return envelope were included. The MBTI was mailed immediately upon receipt of the returned questionnaire, distributing the administration process over eight to ten weeks. Follow-up post cards (Appendix B) were mailed after two, four, and six weeks. Those who completed and returned the MBTI comprised the experimental group.

MBTI responses were processed in several batches by the Typology Laboratory at the University of Florida. An individual report of MBTI results was mailed to each subject who completed the indicator. Type data and a description of the characteristics of the type were included in the report. A message included on the report thanked respondents for their cooperation and offered an opportunity to obtain further explanation, if desired.

Treatment of the Data

Responses from the short questionnaire were coded for statistical processing and recorded on key punch cards. Details of the coding systems may be found in Appendix C. Age and years of practice were not coded.

Two sets of information were obtained from the MBTI responses for use in statistical analysis. The letter code for each type and the letter code for each of the four dimensions (EI, SN, TF, JP) were obtained. Continuous scores for each of the four dimensions also were obtained.

Analysis of Data

The computer program used to analyze data was the Statistical Package for the Social Sciences (SPSS) (Nie et al., 1970). It was a multipurpose program that gave a variety of descriptive, comparative, and analytical measures. Descriptive statistics used were means and standard deviations. The subprogram Crosstabs computed linear relationships between nominal variables. The chi-square test tested significance or relationships among these variables. Linear relationships between variables producing interval data were tested for significance using one-tailed Student's t-test. Hypotheses were tested at the .05 level of significance.

Selection ratios were computed by this computer program to test the first hypothesis. The Self-Selection Index (I) was the ratio of the percentage of a type in the sample group to the percentage of the type in a base population. Populations selected to compare to the data for dietitians were nursing, medical technology, physical therapy, occupational therapy; and two student groups, female college

freshmen and students in an introductory health professions course.

Stepwise discriminant analysis was performed to see which combination of variables, if any, would be best predictors of career and specialty satisfaction and choice of specialty. The SPSS computer program was used for the analysis. A second computer program, Statistical Analysis Systems (SAS), developed by the Department of Statistics, North Carolina State University, was used to test the ability of predictive equations to correctly classify subjects into appropriate groups. A chi-square procedure for testing "goodness" of the discriminant function was recommended by Press (1972, p. 381) as a means of testing whether the discriminant function performed better than just random assignment.

Cooley and Lohnes (1966) explained that discriminant analysis was a useful procedure for examining or predicting group membership of individuals from a set of attributes measured as continuous variables. The objective of this analysis was to determine which combination of variables was the best predictor for group membership (Crowley et al., 1972). Computational processes involved a one-way analysis of variance on each set of variables. The variable with the highest F ratio was entered first, and remaining variables followed in descending order of the magnitude of

their F-ratios. The procedure stopped when it reached a nonsignificant F ratio. If no F ratios were significant, then none had the ability to discriminate between groups. Since it was customary to treat MBTI scores as if they were continuous variables (Myers, 1962), independent variables for this procedure were the continuous scores on the four personality dimensions (EI, SN, TF, and JP). The standard procedure (Manual, 1962) was followed in computing continuous scores, 100 being the division point on each dichotomy.

CHAPTER IV

RESULTS AND DISCUSSION

Organization of the Chapter

This chapter describes and discusses results obtained from analyses of the data. The responding sample is described first. Hypotheses are grouped according to their focus. Personality characteristics of the sample are described in the first hypothesis. Hypotheses 2, 3, and 4 focus on personality characteristics of clinical, administrative, and educational dietitians. Career satisfaction is analyzed in Hypotheses 5 and 6, and satisfaction with specialty is examined in Hypotheses 7 through 11.

Short summaries occur at the end of each section, and at the end of the chapter.

Responding Sample

Of the 400 subjects originally contacted, 341 (85 percent) responded to the first questionnaire. Some of these respondents declined to participate, some declined to participate further and take the MBTI, and some were rejected because they did not meet the employment criteria. Several respondents wrote that they had not received the

questionnaire. The experimental group included 243 subjects (61 percent).

The experimental group was predominantly female (98.8 percent). This was comparable to sex distribution among members of the ADA. Marital status of respondents was: single, 19.3 percent; married, 64.2 percent; previously married, 11.9 percent; and 4.5 did not report. The sample was predominantly white, but there were seven blacks, nine orientals, and two respondents of Latin American origin.

Two-thirds of the sample were employed in a hospital or extended care facility, on either full-time or part-time basis. Twelve percent worked for universities in extension, food service, or as faculty. Almost 8 percent worked in school lunch or as consultants to school districts. Almost 7 percent were employed by county, state, or federal nutrition programs. The remainder worked in varying capacities. One was a high school teacher. Several were employed by dairy or wheat boards, and a small group was self-employed.

Ages ranged from 24 to 73 years with a mean age of 41.8 years and a standard deviation of 11.83 years. Years of practice ranged from 0 to 52 years. The mean years of practice was 14.3 years with a standard deviation of 10.26 years.

Personality Characteristics of Dietitians

The first step in establishing personality characteristics of employed dietitians was to construct a type table for the total responding sample. The number of subjects and percentage distribution by type for dietitians are presented in Table 1. Dietitians showed a slight preference for extraversion (51.9 percent) to introversion (48.1 percent); they preferred sensing (61.7 percent) to intuition (38.3 percent); feeling (53.9 percent) to thinking (46.1 percent), and judging (69.1 percent) to perceiving (30.9 percent). Dietitians exhibited a group preference for ESFJ.

If personality types were distributed by chance alone, a frequency of 15 would be expected in each type category. Four types were over-represented, and all the others except two were under-represented. The most common type for women, ESFJ, was well represented, but the most common type for college women, ENFP, was not well represented by dietitians. The three men in the sample were represented by the types INTP, INTJ, and INFP.

Almost half (48 percent) of the sample were distributed into four types: ISTJ, ISFJ, ESTJ, and ESFJ. People characterized by sensing and judging, common traits to these four types, were ". . . skilled at handling concrete experiences and details . . . like to have things organized . . . are thus particularly qualified to give detailed

Table 1

PERSONALITY TYPES OF EMPLOYED DIETITIANS:
NUMBER AND PERCENTAGE DISTRIBUTION

SENSING TYPES INTUITIVE TYPES
with THINKING with FEELING with FEELING with THINKING

ISTJ N = 29 % = 11.9	ISFJ N = 30 % = 12.3	INFJ N = 11 % = 4.5	INTJ N = 9 % = 3.7	JUDGING INTROVERTS	
ISTP N = 8 % = 3.3	ISFP N = 7 % = 2.9	INFP N = 18 % = 7.4	INTP N = 5 % = 2.1		PERCEPTIVE INTROVERTS
ESTP N = 7 % = 2.9	ESFP N = 11 % = 4.5	ENFP N = 12 % = 4.9	ENTP N = 7 % = 2.9		
ESTJ N = 30 % = 12.3	ESFJ N = 28 % = 11.5	ENFJ N = 14 % = 5.8	ENTJ N = 17 % = 7.0		JUDGING EXTRAVERTS

	N	%
E	126	51.9
I	117	48.1
S	150	61.7
N	93	38.3
T	112	46.1
F	131	53.9
J	168	69.1
P	75	30.9
IJ	79	32.5
IP	38	15.6
EP	37	15.2
EJ	89	36.6
ST	74	30.5
SF	76	31.3
NF	55	22.6
NT	38	15.6
SJ	117	48.1
SP	33	13.6
NP	42	17.3
NJ	51	21.0
TJ	85	35.0
TP	27	11.1
FP	48	19.8
FJ	83	34.2

NOTES: N=243

systematic care in health related fields" (McCaulley and Morgan, 1973, p. 50). Sensing thinking people characteristically looked for facts, and handled them through logical analysis. They tended to be practical, matter-of-fact, observant, and realistic. Sensing feeling people, also practical, observant, and realistic, handled facts with personal warmth and a sympathetic, friendly attitude. The qualities, sensing judging with thinking or feeling, were preferred by 48 percent of the sample of dietitians.

In the remainder of the sample, there were only two other types represented by more than 15 subjects. These were INFP (18) and ENTJ (17). The INFP type was characterized by insightfulness and curiosity, sympathy and adaptability. ENTJ types were sociable, organized, intellectual, possessed of vision and concern for long-range possibilities, and able to put their vision into action.

The first hypothesis was formulated to compare MBTI type preferences of dietitians with other groups' preferences. Two student groups were selected; one group was female college freshmen and the second was students in an introductory course for health related profession students. Both groups were selected because they represented college populations from which potential dietitians could select themselves. Four health professional groups were selected. Nursing was selected because it is a primary care

health profession. Occupational therapy and physical therapy were selected because they function on the health care team providing expert care to some patients and function in a patient care role similar to that of the dietitian. They required educational preparation that is similar to that required for dietetics. Medical technology was chosen because the educational preparation is similar to that of dietitians, and the rigorous scientific emphases are similar in both professions.

Hypothesis 1

Hypothesis 1. There are no significant differences between the distribution of MBTI types of employed members of the ADA and those of selected populations for which type data are available.

Groups selected for comparison were:

1. Female college freshmen (N=1591),
2. University of Florida students in HRP 101:
Introduction to Health Related Professions (N=1042),
3. Nursing students, faculty and practitioners
(N=414),
4. Occupational therapy students, faculty and
practitioners (N=158),
5. Physical therapy students, faculty and prac-
titioners (N=130),
6. Medical technology students, faculty and prac-
titioners (N=431).

Selection ratios

Selection ratios were computed to make the requisite comparisons. The selection ratio or Index is a ratio of percentage of a type in the sample group to percentage of the same type in the base population (comparison group). This sample of dietitians showed both similarities and differences when compared with other groups. Selection ratios based on type categories are presented in Table 2. Table 3 shows selection indices based on individual variables (EI, SN, TF, JP) and combinations thereof.

In the following presentation and discussion of results, results for each group are presented separately. Within each group, differences by type category (ISTJ, ISFJ, etc.) are presented, followed by differences among the individual variables (EI, SN, etc.). After results are given for each of the six groups which served as comparisons for the dietitian sample, overall patterns of difference are discussed. Again, patterns among type categories are discussed first, then patterns of differences among individual variables and their combinations are discussed.

Female college students

Dietitians were compared with female college freshmen (Table 2). ISTJ, ESTJ and ENTJ types were attracted to dietetics significantly more than their proportion in the female college freshmen group indicated. These three types

Table 2

SELECTION RATIOS BY TYPE CATEGORY

	Female Freshmen Ratio	HRP 101 Ratio	Nursing Ratio	Occupational Therapy Ratio	Physical Therapy Ratio	Medical Technology Ratio
ISTJ	2.3***	2.1***	1.2	1.2	1.1	1.0
ISFJ	1.3	1.1	1.0	1.0	1.0	1.0
INFJ	1.1	1.1	1.0	0.8	0.9	1.0
INTJ	1.4	1.9*	1.2	0.9	1.2	0.9
ISTP	1.7	1.5	1.6	1.2	1.1	1.3
ISFP	0.5*	0.7	0.8	1.2	0.7	0.5*
INFP	0.8	0.7	0.8	1.0	0.8*	0.9
INTP	0.7	0.9	0.9	0.6*	1.1	0.8
ESTP	1.3	1.2	1.4	1.3	1.4	1.2
ESFP	0.7	0.7	1.1	1.2	0.8	1.1
ENFP	0.4***	0.4***	0.4**	0.6***	0.6**	1.0
ENTP	0.8	1.0	1.0	0.8	0.9	0.6
ESTJ	1.5*	1.7***	1.3	1.4**	1.3**	1.1
ESFJ	0.8	0.9	1.0	1.0	1.0	1.0
ENFJ	0.8	0.7	0.8	1.1	1.2	1.2
ENTJ	1.9**	2.1***	1.6**	1.0	1.1	1.1

*Significant at $p < .05$ **Significant at $p < .01$ ***Significant at $p < .001$

Table 3

SELECTION RATIOS BY INDIVIDUAL VARIABLES AND COMBINATIONS

	Female Freshmen Ratio	HRP 101 Ratio	Nursing Ratio	Occupational Therapy Ratio	Physical Therapy Ratio	Medical Technology Ratio
E	0.9*	0.9*	1.0	1.0	1.0	1.0
I	1.2*	1.1*	1.0	1.0	1.0	0.9
S	1.1**	1.2**	1.1**	1.1***	1.0	1.0
N	0.8**	0.8**	0.8**	0.9***	0.9	1.0
T	1.5***	1.6***	1.3***	1.1	1.1**	1.0
F	0.8***	0.8***	0.8***	0.9	0.9**	1.0
J	1.3***	1.3***	1.1**	1.1*	1.1***	1.1
P	0.7***	0.7***	0.8**	0.9	0.8***	0.9
IJ	1.5***	1.4***	1.1	1.0	1.1	1.0
IP	0.8	0.8	0.9	1.0	0.8*	0.8
EP	0.6***	0.6***	0.7**	0.8*	0.8*	0.9
EJ	1.1	1.2	1.1	1.1*	1.2**	1.1

ST	1.7***	1.7***	1.3**	1.3***	1.2**	1.1
SF	0.9	0.9	1.0	1.0	0.9	0.9
NF	0.7***	0.6***	0.7***	0.9**	0.8**	1.0
NT	1.3	1.5**	1.2	0.8	1.1	0.9
SJ	1.3***	1.3***	1.1*	1.1*	1.1*	1.0
SP	0.8	0.9	1.1	1.2*	0.9	0.9
NP	0.6***	0.6***	0.7***	0.7***	0.8***	0.8
NJ	1.2	1.2	1.1	1.0	1.1	1.1
TJ	1.8***	1.9***	1.3***	1.2**	1.2**	1.1
TP	1.1	1.1	1.2	0.9	1.1	0.9
FP	0.6***	0.6***	0.7***	0.9	0.7***	0.9
FJ	1.0	1.0	1.0	1.0	1.1	1.1
IN	0.9	0.9	0.9	0.9	0.9	0.9
EN	0.7**	0.7**	0.8*	0.8*	0.9	1.0
IS	1.4**	1.3**	1.1	1.1	1.0	0.9
ES	1.0	1.1	1.2	1.2**	1.1	1.1

*Significant at $p < 0.05$ **Significant at $p < 0.01$ ***Significant at $p < 0.001$

had preferences for thinking judging (TJ) in common. Significantly less attracted to dietetics than to the college group were ISFP and ENFP.

Comparisons of dietitians and the college group on individual variables (Table 3) revealed that preferences on every one of the individual variables (EI, SN, TF, JP) were significantly different. Introverted, sensing, thinking, judging types were more likely to select dietetics and extraverted, intuitive, feeling, perceiving types were less likely to select dietetics. These differences were amplified when combinations of variables were compared: people with IJ, ST, SJ, TJ and IS preferences were attracted to dietetics in significantly greater ratios than were found in this college group; and people with EP, NF, NP, FP, EN preferences were attracted to dietetics in significantly fewer numbers than to college groups.

Students in introduction to health related professions

Compared with University of Florida students in a course titled "HRP 101: Introduction to Health Related Professions" the type distribution of dietitians again revealed significant differences. ISTJ, INTJ, ESTJ, and ENTJ types were attracted to dietetics in significantly greater proportions than to health related professions generally (Table 2). Again, ENFPs entered dietetics in significantly less numbers than health related professions in general.

Comparing individual variables and their combinations showed many significant differences between the dietitian group and this group of students (Table 3). Dietitians preferred introverted, sensing, thinking, judging significantly more than HRP 101 students. Dietitians preferred IJ, ST, NT, SJ, TJ, IS significantly more than HRP 101 students, and significantly less EP, NF, NP, FP, EN than this student group.

Nursing students, faculty
and practitioners

Comparison of selection indices on type tables of nurses and this sample of dietitians revealed significant differences. In the dietitian group, ENTJs were significantly more attracted to dietetics than to nursing ($p < .01$). ENFP types were attracted to dietetics significantly less than into nursing ($p < .001$) (Table 2).

When selection ratios for individual variables of the MBTI and their combinations were contrasted for the nursing and dietetic groups, differences were apparent (Table 3). Significant among these were that dietitians preferred sensing, thinking, judging more than the nursing group and intuition, feeling, and perceiving less. Ratios of preference for extraversion and introversion in each profession were not different.

Among combinations of variables, dietitians in this sample preferred ST, SJ, TJ significantly more than nurses. Subjects with preferences for EP, NF, NP, FP, EN were significantly less attracted to dietetics than to nursing (Table 3).

Occupational therapy students,
faculty, and practitioners

Significantly more ($p < .01$) ESTJs selected dietetics over occupational therapy. There were significantly less INTP and ENFP types in dietetics than in occupational therapy (Table 2).

Comparing dietetics with occupational therapy on individual MBTI variables revealed significantly more sensing and judging types attracted to dietetics and significantly fewer intuitives found in dietetics. The combinations of variables showed significantly more EJ, ST, SJ, SP, TJ, ES types, and significantly fewer EP, NF, NP, EN types in the dietitian group than in occupational therapy (Table 3).

Physical therapy students,
faculty and practitioners

Significantly more ($p < .01$) ESTJs were found in dietetics than in physical therapy, and significantly fewer INFP and ENFP types were found in dietetics than in physical therapy (Table 2).

Further significant differences were apparent when individual MBTI variables were contrasted for dietitians and physical therapists. Significantly more thinking and judging types selected dietetics than physical therapy and significantly fewer feeling and perceiving types selected dietetics (Table 3). In addition, preferences for EJ, ST, SJ, TJ combinations of variables were found significantly more in dietetics than in physical therapy, while significantly fewer types with IP, EP, NF, NP, FP combinations selected dietetics.

Medical technology students, faculty and practitioners

There was only one significant difference between this sample of dietitians and medical technologists. Significantly fewer ISFP types were attracted to dietetics (see Tables 2 and 3). No significant differences were exposed when data from individual variables were compared for the two groups.

Discussion of differences

Type classification

Selection ratio data (presented in Table 2) revealed several patterns of differences between the sample of dietitians and other selected groups. The first difference occurred in the ISTJ type category. The proportion of ISTJs in dietetics was greater than in either of the

student groups, although no differences were apparent between dietitians and the other health profession groups. It was possible that ISTJs in the student groups perceived health occupations as potentially satisfying and selected themselves into these careers in larger numbers than other areas. Myers (1962) reported frequency ratios for different college students, and the ISTJ category was less attractive for liberal arts, science, and medicine. ISTJ types had a well-developed sense of responsibility. They were practical, realistic, persevering, but as administrators preferred working with logistics of situations to working with personnel aspects of management. The practical realism, attention to detail and sense of responsibility are characteristics required of those in positions of responsibility in health care settings.

A second dominant pattern was the avoidance of dietetics by ENFPs. With the exception of medical technology, which attracted about the same ratio as dietetics, all other groups in Table 2 were more attractive to ENFPs than was dietetics. ENFP was the most common type in both student groups (see Appendix D which presents type tables for the six groups). These types were characterized by enthusiasm and creativity. Interested in people, and possibilities for people, ENFPs were oriented toward communication and sought to develop interpersonal relationships. Students in the ENFP category

would be expected to seek working environments that provided abundant opportunity for contact with people. Students' perceptions of the dietitian's role may not characterize it as sufficiently people-oriented. Nursing provides primary care; occupational therapists and physical therapists are likewise involved directly with primary care. These occupations can be popularly perceived to offer more opportunity than dietetics for people-oriented ENFPs to utilize their unique characteristics.

The third pattern that emerged from data in Table 2 was that dietetics was significantly more attractive to ESTJs in four of the six groups. More ESTJ types were found in dietetics than in either of the student groups or in occupational or physical therapy. Differences between these two health professions and dietitians may have occurred because of the small sample in ESTJ category for occupational and physical therapy which violates one assumption underlying contingency table analysis (see Appendix D). In addition, the selection index for nursing (1.3) was identical to the one for occupational therapy, but not significant. Therefore, significance of the findings for physical therapy and occupational therapy had to be regarded with caution.

Qualities that characterize ESTJ types are manifested in logical, decisive, organized, executive-type behavior. They value efficiency and careful planning. Myers' (1962) frequency ratios for this type among college majors were high only for business majors. Thus the two student groups

used in this study have shown results consistent with several other student groups. The role of a dietitian demands planning, assessing, organizing and implementing, and could be expected to be attractive to ESTJ types.

The last major pattern observed in Table 2 is that greater proportions of ENTJ types were found in dietetics than in student groups and nursing. ENTJ types, as described above, are characterized by an ability to see long-range possibilities, but their thinking judging qualities give them an impersonal, logical approach to their dealings with people. The data suggested that as the focus of health professions became more specialized (that is, occupational therapy, physical therapy, medical technology), and less concerned with the overall care of the patient (as in nursing), ENTJ types were more apparent.

Individual variables and combinations

Generally, types attracted to dietetics preferred sensing, thinking, and judging significantly more especially when compared to the two student groups and to nursing (Table 3). On the EI variable, only the two student groups were significantly different from dietitians, extraverts being less attracted to dietetics and introverts being more attracted. Data for the SN variable indicated that sensing types occurred in greater proportions and intuitive types in lesser proportions in dietetics than in either of the student

groups or in nursing or occupational therapy. Selection ratios for the TF variable indicated that significantly more thinking and significantly less feeling types were attracted to dietetics than to nursing or physical therapy. Another pattern of preference was apparent on the JP variable, where dietetics attracted significantly more judging types than the student groups, nursing, occupational therapy and physical therapy; and significantly fewer perceiving types than student groups, nursing or physical therapy.

The sensing, thinking, and judging nature of the dietetic group could be observed in the type category data of Table 2. Each of the four TJ types were represented in a larger proportion in the dietetic group than in the student groups.

When combinations of variables for dietitians were compared with each of the six groups, patterns of differences were observed again. The two student groups showed consistent differences. The selection ratios were significantly higher for dietetics in IJ, ST, SJ, TJ, IS categories (and in the NT category for HRP 101 group). They were significantly lower in EP, NF, NP, FP, EN categories for dietetics compared with students. These findings amplified data already presented for type categories and for the individual variables.

When the health professions groups were contrasted with dietetics using combinations of variables, patterns of

significant difference appeared again. There was a significantly lower ratio of EP, NF, NP types in dietetics than in nursing, occupational therapy or physical therapy. Selection ratios for FP were significantly lower for dietetics than for nursing or physical therapy; and those for EN were lower for dietetics than for nursing or occupational therapy.

Significantly greater ratios were found for dietetics on EJ preference (compared with occupational therapy or physical therapy); ST, SJ, TJ preferences (nursing, occupational therapy or physical therapy); SP and ES preferences were significantly higher in dietetics than in occupational therapy.

The consistency of these differences emphasized not only differences between types attracted to dietetics and other health professions, but also the similarity between medical technology and dietetics in terms of types who were attracted to each field. In all the selection ratio data, only one significantly different selection index was noted between medical technology and dietetics.

Summary

To summarize, selection index data showed many significant differences between this sample of dietitians and other student or health profession groups. Considering type categories (Table 2), dietitians appeared most like

medical technologists in that one significant difference was noted. Dietetics attracted more ISTJ, ESTJ, INTJ, ENTJ types than one or more of the comparison groups. Dietetics attracted notably fewer ENFP types than all groups except medical technology. Other types who seemed to under-select dietetics were ISFP, INFP, and INTP.

Selection index data for individual variables corroborated patterns noted in the type category data and emphasized the appeal of dietetics for sensing, thinking, judging types. There were marked differences between student groups and dietitians in terms of the types they attracted. Not only did dietetics attract a larger ratio of introverted, sensing, thinking, judging characteristics, but it also attracted more of every possible combination of these characteristics (IJ, ST, SJ, TJ, IS), and significantly less of the counterparts (EP, NF, NP, FP, EN).

Many of these differences were reflected in the health professions groups. In most cases general directions of trends were consistent throughout all groups. Medical technology was most similar to dietetics. In fact, no significant differences were apparent in the selection data for individual variables and combinations.

Generally sensing, thinking, judging types and their combinations were significantly more likely to be attracted to dietetics, while intuitive, feeling, perceiving types were significantly less likely to be attracted to dietetics.

From an empirical point of view, these differences would seem to reflect accurately the role of dietitians in health care. Like medical technologists, their educational background demanded more rigorous preparation in the sciences than other health professions groups cited here. Both occupations evidently attracted people who possess logical thinking processes, impersonal approaches to decision making and attention to detail. Both share an interest in body composition, medical technologists from the viewpoint of assessing chemical status, and dietitians from the viewpoint of assessing nutritional intake and status.

In evaluating this data it should be noted that the dietitian sample was composed entirely of practitioners. Data used for the other health professions, nursing, occupational therapy, physical therapy, medical technology, included students and faculty as well as practitioners.

Based on the differences noted and discussed, evidence indicated that MBTI type distribution for dietitians differed in several significant ways from other selected health professions groups and student groups from which dietitians select themselves. Hypothesis 1 was not accepted, because the type distribution of dietitians differed from those of other selected groups.

Personality Type and Choice of Specialty

Three aspects of personality type and choice of specialty were investigated. Hypotheses 2 and 3 tested

differences between type distributions for clinical, administrative and educational specialties. Hypothesis 2 was concerned with type categories (ISTJ, ISFJ, etc.), and Hypothesis 3 dealt with the individual variables, EI, SN, TF, and JP, and their combinations. Hypothesis 4 represented an attempt to predict choice of specialty based on MBTI scores.

Hypothesis 2

Hypothesis 2. There are no significant differences between the distribution of MBTI types for each of the three specialties: clinical, administrative, and educational.

Respondents were asked in a questionnaire to classify themselves into one of three specialties, according to how they spent the major part of their time. MBTI data were distributed on separate type tables for each specialty. The number of subjects and percentage distribution by type for each of the groups are presented in Tables 4, 5, and 6.

There were 243 subjects in the sample: 89 were in clinical specialties, 120 in administration, and 34 in education. In the sections below, each specialty is described in terms of its type distribution, and the analyses are discussed following these descriptions.

Clinical dietitians

The number of subjects and percentage distribution by type for 89 clinical dietitians are shown on Table 4.

Table 4

CLINICAL DIETITIANS: NUMBER AND PERCENTAGE FREQUENCIES FOR 16 PERSONALITY TYPES

SENSING TYPES INTUITIVE TYPES
with THINKING with FEELING with FEELING with THINKING

ISTJ N = 8 % = 9.0	ISFJ N = 15 % = 16.9	INFJ N = 8 % = 9.0	INTJ N = 5 % = 5.6
ISTP N = 3 % = 3.4	ISFP N = 2 % = 2.2	INFP N = 6 % = 6.7	INTP N = 1 % = 1.1
ESTP N = 0 % = 0	ESFP N = 6 % = 6.7	ENFP N = 4 % = 4.5	ENTP N = 1 % = 1.1
ESTJ N = 12 % = 13.5	ESFJ N = 9 % = 10.1	ENFJ N = 5 % = 5.6	ENTJ N = 4 % = 4.5

JUDGING

INTROVERTS

PERCEPTIVE

PERCEPTIVE

EXTRAVERTS

JUDGING

N	%
E 41	46.1
I 48	53.9
S 55	61.8
N 34	38.2
T 34	38.2
F 55	61.8
J 66	74.2
P 23	25.8
IJ36	40.4
IP12	13.5
EP11	12.4
EJ30	33.7
ST23	25.8
SF32	36.0
NF23	25.8
NT11	12.4
SJ44	49.4
SP11	12.4
NP12	13.5
NJ22	24.7
TJ29	32.6
TP 5	5.6
FP18	20.2
FJ37	41.6

NOTES:

N=89

Table 5

ADMINISTRATIVE DIETITIANS: NUMBER AND PERCENTAGE FREQUENCIES FOR 16 PERSONALITY TYPES

SENSING TYPES		INTUITIVE TYPES		N	%
with THINKING	with FEELING	with FEELING	with THINKING		
ISTJ N = 19 % = 15.8	ISFJ N = 12 % = 10.0	INFJ N = 2 % = 1.7	INTJ N = 3 % = 2.5	E 63	52.5
ISTP N = 5 % = 4.2	ISFP N = 3 % = 2.5	INFP N = 10 % = 8.3	INTP N = 3 % = 2.5	I 57	47.5
				S 78	65.0
ESTP N = 7 % = 5.8	ESFP N = 4 % = 3.3	ENFP N = 5 % = 4.2	ENTP N = 4 % = 3.3	N 42	35.0
				T 64	53.3
ESTJ N = 14 % = 11.7	ESFJ N = 14 % = 11.7	ENFJ N = 6 % = 5.0	ENTJ N = 9 % = 7.5	F 56	46.7
				J 79	65.8
				P 41	34.2
				IJ 36	30.0
				IP 21	17.5
				EP 20	16.7
				EJ 43	35.8
				ST 45	37.5
				SF 33	27.5
				NF 23	19.2
				NT 19	15.8
				SJ 59	49.2
				SP 19	15.8
				NP 22	18.3
				NJ 20	16.7
				TJ 45	37.5
				TP 19	15.8
				FP 22	18.3
				FJ 34	28.3

NOTES: N=120

More clinical dietitians preferred introversion (53.9 percent) to extraversion, more preferred sensing (61.8 percent) to intuition, more preferred feeling (61.8 percent) than thinking, and more preferred judging (74.2 percent) than perceiving. These data tended to indicate preferences for introversion, sensing, feeling, judging (ISFJ) on the four type dimensions among clinical dietitians. Table 4 shows that 16.9 percent of the sample were classified ISFJ. The ISFJ type was realistic, practical, and stable. The most thorough of all types, ISFJs, possessed ability to cope with detail and routine. Combined with other qualities the "super-dependable" designation was appropriate for ISFJ types (Myers, 1970). Tactful and sympathetic, interested in people, the qualities of an ISFJ fit him to be an effective person in the health setting, capable of building relationships with patients on a one-to-one basis, as would be required for diet counseling.

The cell with the second largest number of clinical dietitians was ESTJ with 13.5 percent of the sample so classified. The ESTJ type of person was realistic, logical, and authoritarian. They liked their life organized and efficient, and disliked confusion. In working with people in the clinical situation, such people would be expected to give clear directions, but they might not listen closely enough to the counselee's point of view.

The ESFJ cell accounted for 10.1 percent of clinical dietitians. Such types were friendly, sympathetic, tactful,

practical, and worked well with people. They were gregarious but persevering and adept at organization. These were the warm-hearted types who had many desirable qualities for the caring and helping professions.

Two other cells, ISTJ and INFJ, each represented 9 percent of the clinical sample. The ISTJ type was thorough, dependable, hardworking, and systematic. They were realistic, organized, and responsible, and would be expected to provide much support to their patients and clients in diet adjustment situations. INFJ types were innovative, insightful, and able to work out complex problems. They could apply ingenuity to solve problems in unconventional ways and this combined with their skill in handling people in sympathetic and understanding ways would help them relate well to people whom they counsel on diet matters.

Of the remaining 11 types, all but one were represented to some degree by this sample. There were no clinical dietitians classified in the ESTP category.

Administrative dietitians

The number of subjects and percentage distribution by type for 120 administrative dietitians is presented in Table 5. More administrative dietitians preferred extraversion (52.5 percent) to introversion, more preferred sensing (65 percent) than intuition. More preferred thinking (53.3 percent) than feeling and more preferred

judging (65.8 percent) than perceiving. These data tended to indicate preferences for extraversion, sensing, thinking, judging (ESTJ) on the four variables for administrative dietitians. The ESTJ was an executive type, who liked his life organized, his plans well laid, and demanded efficiency. He disliked confusion. Such a person was analytical, logical, and decisive.

Inspection of Table 5 revealed that ISTJ represented more administrative dietitians than other types (15.8 percent). This type was dependable and responsible, realistic, logical, and organized. They were thorough and able to work with detail. The sensing-thinking combination made them practical and matter-of-fact.

Types representing the second largest number of administrative dietitians were ESTJ and ESFJ, each with 11.7 percent of the group. ESTJ was the executive type described above, but the ESFJ type was more sympathetic, tactful and friendly, and worked well with people.

Ten percent of administrative dietitians were represented by ISFJ. This type was described in the above section on clinical dietitians as being super-dependable. An ISFJ person was tactful and sympathetic and liked to be organized. These were all desirable qualities for the administrative role. The INFP type represented 10 administrative dietitians or 8.3 percent. Tolerant, open-minded,

understanding and flexible, INFP types were also insightful. They were apt to show much zeal for their jobs if their jobs provided intrinsic satisfaction.

The remaining 11 categories on the type table each represented administrative dietitians. It should be noted that administrative dietitians were the only specialty represented by the type ESTP. This type was characterized by adaptability, realism, and powers of observation. They had a great affinity for facts. They were able to size up other people and, like good negotiators, could find areas of compromise. It was possible that they preferred the challenges and variety found in administrative jobs to the task of dealing with people on a one-to-one basis, as happened frequently in clinical situations, but generalizations were difficult because of the small sample.

Educational dietitians

The number of subjects and percentage distribution by type for 34 educational dietitians is shown in Table 6. More educators preferred extraversion (64.7 percent) than introversion, half (50 percent) preferred sensing and half preferred intuition. More educators preferred feeling (58.8 percent) than thinking, and more preferred judging (67.6 percent) than perceiving. These data indicated a collective preference for extraversion, feeling, and judging (E-FJ), with either sensing or intuition as the auxiliary

process. Types with extraversion, feeling, and judging were sociable and friendly and worked well with people. Also organized, persevering, and responsible, they might insist that others be the same. These types were often found in teaching.

Fourteen of the 16 cells on the type table represented educators. Because of small sample size (34) frequencies in each type were low, ranging from 1 to 5. The type with the largest number of educational dietitians was ESFJ (14.7 percent), whose qualities have been described in the section above (administrative dietitians). Types with the second largest number of educational dietitians were ESTJ and ENTJ with 11.8 percent of the sample in each cell. ESTJ people were the "executive" type, described in sections for clinical and administrative dietitians. The ENTJ type focused his attention on possibilities rather than facts, was intellectual, and had a liking for the theoretical. Yet he remained organized, analytical and efficient, disliking confusion.

Of the remaining 13 cells on the type table, two (ISTP and ESTP) were not represented by the educational specialty. As described, ESTP dietitians may prefer the challenges and changing fortunes of the administrative role, and since ISTP types are quieter and reserved, almost shy, the role of an educator may not be appealing to them.

Summary of type distribution of specialties

Table 7 summarizes percentage distribution of dietitians by personality type for the total group and for each specialty. A contingency table analysis was performed to test Hypothesis 2 concerning each specialty. Data from this sample showed there were no significant differences in the distributions of the 16 personality types for any of the specialties. Thus, specialty and MBTI type were independent ($\chi^2 = 32.05$ with 30 degrees of freedom, $p = 0.365$). On the basis of this evidence, Hypothesis 2 was not rejected.

Hypothesis 3

Hypothesis 3. There are no significant differences between the distribution of clinical or administrative or educational dietitians on any of the four personality variables: EI, SN, TF, or JP.

On the basis of data in Tables 4, 5, and 6, employing the percentage distribution of subjects by personality type, the four personality variables were summarized below for each of the specialties.

Table 7

PERCENTAGE DISTRIBUTION FOR 16
PERSONALITY TYPES OF DIETITIANS

Type	N=243	N=89	N=120	N=34
	Total Group	Clinical	Administrative	Educational
	%	%	%	%
ISTJ	11.9	9.0	15.8	5.9
ISFJ	12.3	16.9	10.0	8.8
INFJ	4.5	9.0	1.7	2.9
INTJ	3.7	5.6	2.5	2.9
ISTP	3.3	3.4	4.2	0
ISFP	2.9	2.2	2.5	5.9
INFP	7.4	6.7	8.3	5.9
INTP	2.1	1.1	2.5	2.9
ESTP	2.9	0	5.8	0
ESFP	4.5	6.7	3.3	2.9
ENFP	4.9	4.5	4.2	8.8
ENTP	2.9	1.1	3.3	5.9
ESTJ	12.3	13.5	11.7	11.8
ESFJ	11.5	10.1	11.7	14.7
ENFJ	5.8	5.6	5.0	8.8
ENTJ	7.0	4.5	7.5	11.8
	100.0	100.0	100.0	100.0

Variable	Specialties			p
	Clinical Percentage	Administrative Percentage	Educator Percentage	
E	46.1	52.5	64.7	0.18
I	53.9	47.5	35.3	
S	61.8	65.0	50.0	0.28
N	38.2	35.0	50.0	
T	38.2	53.3	41.2	0.08
F	61.8	46.7*	58.8	
J	74.2	65.8	67.6	0.45
P	25.8	34.2	32.4	

*p < .05 when administrative group compared with rest of sample

Extraversion-introversion

There was an apparent distinction between extraverts (E) and introverts (I) between clinical and the other two groups. In the clinical group, 46.1 percent preferred extraversion, while 52.2 percent in the administrative group and 64.7 percent in the educational group preferred extraversion. In the total sample, preferences for extraversion and introversion were almost evenly divided, 51.9 percent preferring extraversion and 48.1 percent preferring introversion (see Table 8). Contingency table analysis failed to show significant differences between specialties on the EI variable.

Table 8

PERCENTAGE DISTRIBUTION FOR
DIETITIANS' PERSONALITY VARIABLES

Variable	N=243	N=89	N=120	N=34
	Total Group	Clinical	Administrative	Educational
	%	%	%	%
E	51.9	46.1	52.5	64.7
I	48.1	53.9	47.5	35.3
S	61.7	61.8	65.0	50.0
N	38.3	38.2	35.0	50.0
T	46.1	38.2	53.3	41.2
F	53.9	61.8	46.7	58.8
J	69.1	74.2	65.8	67.6
P	30.9	25.8	34.2	32.4
IJ	32.5	40.4	30.0	20.6
IP	15.6	13.5	17.5	14.7
EP	15.2	12.4	16.7	17.6
EJ	36.6	33.7	35.8	47.1
ST	30.5	25.8	37.5	17.6
SF	31.3	36.0	27.5	32.4
NF	22.6	25.8	19.2	26.5
NT	15.6	12.4	15.8	23.5
SJ	48.1	49.4	49.2	41.2
SP	13.6	12.4	15.8	8.8
NP	17.3	13.5	18.3	23.5
NJ	21.0	24.7	16.7	26.5
TJ	35.0	32.6	37.5	32.4
TP	11.1	5.6	15.8	8.8
FP	19.8	20.2	18.3	23.5
FJ	34.2	41.6	28.3	35.3
IN	17.7	22.5	15.0	14.7
EN	20.6	15.7	20.0	35.3
IS	30.5	31.5	32.5	20.6
ES	31.3	30.3	32.5	29.4

Sensing-intuition

On the SN dimension 61.8 percent of the clinical dietitians and 65 percent of administrative dietitians preferred sensing. Educators were evenly divided on the SN preference. The total sample preferred sensing over intuition, 61.7 percent being sensing. No significant differences were found between the specialties on the SN variable when contingency table analysis was performed.

Thinking-feeling

Administrative dietitians showed a greater preference for thinking than did the other groups. The percentage of administrative dietitians who preferred thinking was 53.3, but 38.2 percent of clinical dietitians and 41.2 percent of the educational dietitians demonstrated a preference for thinking. In the total sample, 46.1 percent preferred thinking. On the initial contingency table analysis when administrative dietitians were compared with the other groups, that is the clinical and educator groups combined, there was a significant difference found ($p < .05$). Administrative dietitians appeared to prefer thinking more than the rest of the group. However, when the three groups were compared, the significance of the difference was not upheld. Therefore, no significant differences were found between the specialties on the TF variable.

Judging-perceiving

On the JP variable, 74.2 percent of the clinical dietitians preferred judging. In the administrative group, 65.8 percent preferred judging, and 67.6 percent of the educators preferred judging. In the total sample, 69.1 percent preferred judging. No significant differences existed between the groups for this variable.

Summary

A test of the hypothesis of no significant difference between specialties of dietitians and their distribution on four personality variables (EI, SN, TF, JP) failed to show significant differences. Based on this evidence, the hypothesis was not rejected. There was apparently no relationship between the personality variables of dietitians and the specialties they selected.

Hypothesis 4

Discriminant analysis was used to determine whether choice of specialty could be predicted if an individual's continuous scores for the MBTI were known.

Hypothesis 4. None of the four variables, EI, SN, TF, JP, will discriminate better than others between the three specialties in dietetics.

Means and standard deviations for the four variables and three groups are summarized in Table 9. Significant F

Table 9

MEANS AND STANDARD DEVIATIONS OF FOUR PERSONALITY
VARIABLES FOR THREE SPECIALTY GROUPS
AS COMPUTED BY DISCRIMINANT ANALYSIS

Variable		N=89 Clinical	N=120 Administration	N=34 Education
EI	\bar{x}	102.79	97.30	95.12
	SD	24.29	25.19	23.79
SN	\bar{x}	88.95	90.35	101.29
	SD	24.71	25.20	26.40
TF	\bar{x}	105.97	99.62	104.12
	SD	20.46	21.70	18.95
JP	\bar{x}	85.61	86.90	87.65
	SD	25.15	27.27	28.82

values were found between the three specialty groups on the SN variable ($F_{.05, 2, 240} = 2.99$).

EI	SN	TF	JP
1.760	3.146	2.469	0.094

Findings with this original F ratio augmented findings implied in data from the four variables in Table 9. The mean SN score for clinical specialties was 88.99 compared with 90.35 for administrators and 101.29 for educators. Because the initial F test between the three specialty groups showed them to differ significantly on the SN variable only, it was the best single discriminator between the groups. Further analysis revealed SN distinguished significantly between clinical and educational specialties and between administrative and educational specialties, but not between administrative and clinical specialties (see Table 10).

To distinguish between clinical and educational dietitians, this discriminant function applied:

$$Y = 1.850 - 0.019 (\text{SN score})$$

If $Y > 0$, classify as clinical.

To distinguish between educational and administrative dietitians, the following discriminant function applied:

$$Y = 1.653 - 0.017 (\text{SN score})$$

If $Y \geq 0$, classify as administrative.

Table 10

MULTIVARIATE F's TESTING TWO SPECIALTIES
 AT A TIME WITH SN VARIABLE IN EQUATION

$$F_{.05, 1, 240} = 3.84$$

Group	Clinical	Administrative
Administration	0.16	--
Education	5.90*	5.00*

*Significant at .05 level

To distinguish between clinicians and administrators, the following discriminant function was found, but it was not significant:

$$Y = 0.197 - 0.002 (\text{SN score})$$

If $Y > 0$, classify as clinical.

These discriminant functions were tested using the Statistical Analysis Systems (SAS) computer program. On the basis of their SN scores, dietitians in the sample were classified into specialties as follows:

Actual Specialty	Observations Classified into Specialty		
	Clinical	Administrative	Educator
Clinical	39	23	27
Administrative	38	44	38
Educator	9	5	20

In the clinical dietitian group, 39 of 89 were correctly classified. The discriminant function correctly identified 44 of 120 administrative dietitians, and 20 of 34 educators. A chi-square test, recommended by Press (1972, p. 381), gave a significant result (chi-square = 8.96 with 1 degree of freedom, $p < .05$). Therefore, the discriminant function performed significantly better than random assignment.

In that two specialties, clinical and administration, can be distinguished from the education specialty on the basis of the SN score, this hypothesis was not accepted.

Caution should be applied because the SN score will not discriminate between clinical and administrative specialties. In addition, small sample size of the educator group may result in poor estimates of their true mean values on the variable and this could lead to erroneous differences rather than any true differences in the characteristics of the subjects.

Summary

This series of hypotheses indicated that there were no significant differences between personality types of dietitians who chose any of the three specialties. That is to say, none of the personality types were attracted in significant numbers to any specialty. Discriminant analysis demonstrated that knowledge of an individual's SN score served to differentiate educational dietitians from either clinical or administrative dietitians, but the educator group was small and results should not be generalized until further studies are made.

Career Satisfaction

Career satisfaction data for the total group was analyzed to determine if certain types were more likely to be satisfied than others. In Hypothesis 6, an attempt was made to predict career satisfaction based on MBTI scores.

Hypothesis 5

Hypothesis 5. There are no significant differences between employed members of the ADA who are satisfied with their career and those who are not satisfied when compared on personality factors.

Seventeen respondents expressed dissatisfaction with their career as dietitians, by declining to recommend dietetics to suitably qualified young people. Numbers and percentage distribution of personality types of those satisfied and dissatisfied with their career are indicated in Table 11. The largest number of dissatisfied dietitians was represented by the ISTJ category. Four of the 25 ISTJ subjects, or 1.6 percent of the total sample, reported dissatisfaction with their career. Three other categories showed two dissatisfied dietitians in each, seven categories had one dissatisfied dietitian in each, and in five type categories (ISFP, ESFP, INTP, ENTP, and ENTJ), all subjects were satisfied with their career.

A contingency table analysis was performed to test the relationship of MBTI type to career satisfaction of dietitians. It resulted in no significant differences between MBTI type and career satisfaction (chi-square 12.28 with 15 degrees of freedom, $p = 0.658$). Since there were only 17 respondents who were dissatisfied with their career, more than one-fifth of the cells were empty or had expected frequencies less than five. This violated one of the assumptions underlying contingency table

Table 11

CAREER SATISFACTION AND DISSATISFACTION FOR DIETITIANS:
NUMBERS AND PERCENTAGE DISTRIBUTION FOR 16 PERSONALITY TYPES

		SENSING TYPES with THINKING with FEELING		INTUITIVE TYPES with FEELING with THINKING		Satis.		Dissatis.		
		ISTJ	ISFJ	INFJ	INTJ	N	%	N	%	
Satis.		N = 25 % = 10.3	N = 29 % = 11.9	N = 9 % = 3.7	N = 8 % = 3.3	E	120	95.2	6	4.8
						I	106	90.6	11	9.4
Dis-satis.		N = 4 % = 1.6	N = 1 % = 0.4	N = 2 % = 0.8	N = 1 % = 0.4	S	141	94.0	9	6.0
						N	85	91.4	8	8.6
Satis.						T	104	92.9	8	7.1
						F	122	93.1	9	6.7
Dis-satis.						J	156	92.9	12	7.1
						P	70	93.3	5	6.7
Satis.		ISTP	ISFP	INFP	INTP	IJ	71	89.9	8	10.1
		N = 7 % = 2.9	N = 7 % = 2.9	N = 16 % = 6.6	N = 5 % = 2.1	IP	35	92.1	3	7.9
Dis-satis.		N = 1 % = 0.4	N = 0 % = 0	N = 2 % = 0.8	N = 0 % = 0	EP	35	94.6	2	5.4
						EJ	85	95.5	4	4.5
Satis.		ESTP	ESFP	ENFP	ENTP	ST	67	90.5	7	9.5
		N = 6 % = 2.5	N = 11 % = 4.5	N = 11 % = 4.5	N = 7 % = 2.9	SF	74	97.4	2	2.6
Dis-satis.		N = 1 % = 0.4	N = 0 % = 0	N = 1 % = 0.4	N = 0 % = 0	NF	48	87.3	7	12.7
						NT	37	97.4	1	2.6
Satis.		ESTJ	ESFJ	ENFJ	ENTJ	SJ	110	94.0	7	6.0
		N = 29 % = 11.9	N = 27 % = 11.1	N = 12 % = 4.9	N = 17 % = 7.0	SP	31	93.9	2	6.1
Dis-satis.		N = 1 % = 0.4	N = 1 % = 0.4	N = 2 % = 0.8	N = 0 % = 0	NP	39	92.9	3	7.1
						NJ	46	90.2	5	9.8
Satis.						TJ	79	92.9	6	7.1
						TP	25	92.6	2	7.4
Dis-satis.						FP	45	93.8	3	6.3
						FJ	77	92.8	6	7.2

NOTES:

Satisfied N = 226
Dissatisfied N = 17

analysis and weakened the approximation of the statistic to the chi-square distribution.

Based on the evidence and considering the relatively small number of dietitians who were dissatisfied with their career, this hypothesis was not rejected.

Hypothesis 6

Hypothesis 6. None of the four variables, EI, SN, TF, or JP, will discriminate better than others between dietitians who are satisfied or not satisfied with their career.

The purpose of this hypothesis was to test if knowledge of an individual's continuous scores on the MBTI dimensions would enable prediction of career satisfaction. Data was assigned to two groups, those satisfied with their careers and those not satisfied with their career. Means and standard deviations for the four variables and the two groups are summarized in Table 12.

The data showed no significant F values for any of the variables and, therefore, none of the variables discriminated between those satisfied with their career and those not satisfied with their career. This hypothesis was not rejected. Career satisfaction in this group of dietitians could not be predicted.

Table 12

MEANS AND STANDARD DEVIATIONS OF FOUR VARIABLES
FOR DIETITIANS SATISFIED AND DISSATISFIED
WITH CAREER CHOICE

N=243

Variable		N=226	N=17
		Satisfied	Dissatisfied
EI	\bar{x}	98.47	106.18
	SD	24.66	25.62
SN	\bar{x}	91.16	94.18
	SD	25.30	27.60
TF	\bar{x}	102.63	101.82
	SD	21.10	21.70
JP	\bar{x}	86.20	90.88
	SD	26.53	28.50

Summary

Analyses of data in this study failed to show relationships between MBTI personality types of dietitians and their career satisfaction as expressed on the questionnaire used for this study. One criterion for the sample was that subjects be currently employed, and this eliminated any who were sufficiently dissatisfied to seek employment in other fields. In addition, the question regarding career satisfaction was general and may not have reflected adequately certain aspects of career dissatisfaction. It was not possible to predict personality types likely to be more satisfied or less satisfied with a career in dietetics. A closer approximation to career satisfaction might be made by surveying all members of the ADA instead of limiting investigation to employed dietitians.

Specialty Satisfaction

The following hypotheses were used to analyze the data from the viewpoint of specialty satisfaction. These hypotheses represented an attempt to provide information to help counsel dietitians into jobs most likely to prove satisfying, based on the belief that people performed best when doing work they enjoy.

The first three hypotheses were directed towards specialty satisfaction of the entire group. One sought to establish whether any of the personality types were more

likely to be dissatisfied with their current specialty regardless of the specialty. Also investigated was the effect of age and years of practice on specialty satisfaction in general.

Hypothesis 10 examined data for clinical dietitians who were satisfied and dissatisfied with their current specialty; then for administrative dietitians who were satisfied and dissatisfied, and finally for educational dietitians who were satisfied and dissatisfied with their current specialty.

The final hypothesis in this series was an attempt to use MBTI continuous scores to predict dietitians who would be satisfied as clinical, administrative, or educational dietitians.

Hypothesis 7

Hypothesis 7. There are no significant differences between the distribution of MBTI types of dietitians who are satisfied with their current specialty and those who are not satisfied.

To test this hypothesis, the sample group was divided into those who expressed satisfaction with their current specialty and those who expressed dissatisfaction with their current specialty. Two hundred six (84.8 percent) dietitians expressed satisfaction with their current specialty, and 37 (15.2 percent) respondents stated they

were dissatisfied. Table 13 shows the number and percentage distribution by type of dietitians who were satisfied and dissatisfied with their current specialty. Nine of the 20 ISTJ dietitians expressed dissatisfaction with their current specialty, as did three of the six INTJ dietitians, and six of the 12 INFP dietitians. The following types represented only dietitians who were satisfied with their current specialty: ESTP, ISFP, ESFP, INTP, and ENTP. Four of these groups, ISFP, ESFP, INTP, and ENTP, also expressed unanimous satisfaction with their career (see Table 11). Of four dietitians who expressed dissatisfaction both with career and current specialty, two were INFP and the others were ISTJ and ENFJ.

Because only 37 respondents were classified as dissatisfied, many cells on the type table were empty or had expected frequencies less than 5 (see Table 13). Therefore, individual dimensions of the MBTI were examined as this was more likely to satisfy assumptions for contingency table analysis. The following table shows percentages of dietitians who were satisfied and dissatisfied with their current specialty on each of the eight variables, extraversion, introversion, sensing, intuition, thinking, feeling, judging, and perceiving.

Table 13

SPECIALTY SATISFACTION AND DISSATISFACTION FOR DIETITIANS:
 NUMBERS AND PERCENTAGE DISTRIBUTION FOR 16 PERSONALITY TYPES
 Satisfied N=206 Dissatisfied N=37
 SENSING TYPES INTUITIVE TYPES

with THINKING with FEELING with FEELING with THINKING

	ISTJ	ISFJ	INFJ	INTJ
Satis.	N = 20 % = 8.2	N = 27 % = 11.1	N = 10 % = 4.1	N = 6 % = 2.5
Dis-satis.	N = 9 % = 3.7	N = 3 % = 1.2	N = 1 % = 0.4	N = 3 % = 1.2
Satis.	N = 6 % = 2.5	N = 7 % = 2.9	N = 12 % = 4.9	N = 5 % = 2.1
Dis-satis.	N = 2 % = 0.8	N = 0 % = 0	N = 6 % = 2.5	N = 0 % = 0
Satis.	N = 7 % = 2.9	N = 11 % = 4.5	N = 9 % = 3.7	N = 7 % = 2.9
Dis-satis.	N = 0 % = 0	N = 0 % = 0	N = 3 % = 1.2	N = 0 % = 0
Satis.	N = 26 % = 10.7	N = 26 % = 10.7	N = 11 % = 4.5	N = 16 % = 6.6
Dis-satis.	N = 4 % = 1.6	N = 2 % = 0.8	N = 3 % = 1.2	N = 1 % = 0.4

JUDGING
 INTROVERTS
 PERCEPTIVE
 PERCEPTIVE
 EXTRAVERTS
 JUDGING

	Satis.		Dissatis.	
	N	%	N	%
E	113	89.7	13	10.3*
I	93	79.5	24	20.5*
S	130	86.7	20	13.3
N	76	81.7	17	18.3
T	93	83.0	19	17.0
F	113	86.3	18	13.7
J	142	84.5	26	15.5
P	64	85.3	11	14.7
IJ	63	79.7	16	20.3
IP	30	78.9	8	21.1
EP	34	91.9	3	8.1
EJ	79	88.8	10	11.2
ST	59	79.7	15	20.3
SF	71	93.4	5	6.6
NF	42	76.4	13	23.6*
NT	34	89.5	4	10.5
SJ	99	84.6	18	15.4
SP	31	93.9	2	6.1
NP	33	78.6	9	21.4
NJ	43	84.3	8	15.7
TJ	68	80.0	17	20.0
TP	25	92.6	2	7.4
FP	39	89.2	9	10.8
FJ	74	81.3	9	18.8

NOTES:

* p < .05

Variable	Satisfied with Specialty Percentage	Dissatisfied with Specialty Percentage	p
E	89.7	10.3	0.04*
I	79.5	20.5	
S	86.7	13.3	0.39
N	81.7	18.3	
T	83.0	17.0	0.60
F	86.3	13.7	
J	84.5	15.5	0.97
P	85.3	14.7	

*p < .05

When subjects who were satisfied and dissatisfied with their specialty were compared on the EI dimension, a significant difference was found (chi-square = 4.127 with 1 degree of freedom, $p = 0.04$). A larger percentage of extraverts (89.7 percent) were satisfied with their current specialty than introverts, only 79.5 percent of whom were satisfied. Differences between the two groups on the other dimensions were not as great as the EI differences, and none were significant.

Combinations of personality dimensions as shown in Table 13 were analyzed also. Significant differences were found on the ST:SF:NF:NT combination, when comparing those satisfied and those dissatisfied with their current specialty. Sensing feeling types were most satisfied with their current specialty (93.4 percent), followed by NT

types of whom 89.5 percent were satisfied. Of the ST types 79.7 percent were satisfied with their current specialty, but only 76.4 percent of the NF types expressed satisfaction with their specialty (chi-square = 0.525 with 3 degrees of freedom, $p = 0.02$).

Thus, it appeared that extraverted dietitians were more likely to be satisfied with their current specialty than their introverted colleagues. In addition, dietitians preferring SF characteristics (those who considered facts with personal warmth and were sociable and friendly) were significantly more likely to be satisfied with their current specialty than dietitians preferring NF characteristics (looking for possibilities, enthusiastic, insightful, warm-hearted). There seemed to be an association between personality characteristics of dietitians who were satisfied with their current specialty and those who were not satisfied. Based on this evidence, the hypothesis was not accepted.

Hypothesis 8

Hypothesis 8. There are no significant differences between the ages of dietitians who are satisfied with their current specialty and those who are not satisfied with their current specialty.

In the total sample there were 37 dietitians who were dissatisfied with their current specialty. Table 14 shows

Table 14
 AGE OF DIETITIANS
 MEANS AND STANDARD DEVIATIONS

	Total Group	Satisfied with Specialty	Dissatisfied with Specialty
\bar{x}	41.8 years	42.0	40.5
SD	11.8	11.8	12.3
$t = 0.704$			

the mean age for the total sample was 41.8 years with a standard deviation of 11.8 years. The mean age of dietitians satisfied with their current specialty was 42.0 years with a standard deviation of 11.8 years. For dietitians dissatisfied with their current specialty, mean age was 40.5 years with a standard deviation of 12.3 years.

Student's t-test was performed to test for significance of difference between the mean age of dietitians satisfied with their current specialty and the mean age of those not satisfied with their specialty. A t value of 0.704 was obtained from the data. At the .05 level of significance there was no significant difference between mean ages of the two groups ($t_{.025, 241} = 1.97$). Based on this evidence, this hypothesis was not rejected.

Hypothesis 9

Hypothesis 9. There are no significant differences between years of practice of dietitians who are satisfied with the current specialty and those who are dissatisfied with their current specialty.

Years of practice ranged from 0 to 52 in the total sample. The mean years of practice was 14.3 with a standard deviation of 10.3 years. Dietitians who were satisfied with their current specialty had practiced 14.7 mean years with a standard deviation of 10.4 years. Those who were dissatisfied with their current specialty had practiced

12.5 mean years with a standard deviation of 9.6 years (see Table 15).

Student's t-test was used to test for significant differences between the mean years of practice of dietitians who were satisfied with their specialty and those who were not satisfied. A t value of 1.15 was obtained from the data. At the .05 level of significance there was no significant difference between the two group means for years of practice ($t_{.025, 241} = 1.97$). Accordingly, the groups were considered to be from the same population and the hypothesis was not rejected.

Hypothesis 10

Hypothesis 10. There are no significant differences between the distribution of MBTI types who are satisfied and not satisfied with their current specialty for the groups:

- a) clinical, dietitians,
- b) administrative, dietitians,
- c) educational, dietitians.

To test this hypothesis each specialty group was examined separately for differences between satisfied and dissatisfied members. Data from the individual variables (EI, SN, TF, JP) were analyzed because the individual type tables for these groups (for example, satisfied clinical versus dissatisfied clinical) had many empty cells, or

Table 15

YEARS OF PRACTICE OF DIETITIANS
MEANS AND STANDARD DEVIATIONS

	Total Group	Satisfied with Specialty	Dissatisfied with Specialty
\bar{x}	14.3 years	14.7	12.5
SD	10.3	10.4	9.6
$t = 1.15$			

cells with less than five observations. An underlying assumption of contingency table analysis was that not more than 20 percent of the cells contain less than five observations (Fox, 1969). Each specialty is considered separately in the ensuing discussion, and results are summarized at the end of the section.

Clinical specialty

In the clinical sample 19.1 percent of the 89 respondents were dissatisfied with their current specialty. Table 16 shows number and percentage distribution of each type for those satisfied and dissatisfied with the clinical specialty. Several type categories had no dissatisfied dietitians: ISTP, ISFP, ESFP, ESFJ, INFJ, INTP, and ENTP. Of these, only ESFP and ESFJ contained more than five observations. INFP represented more dissatisfied than satisfied subjects.

Contingency table analysis on the eight variables and their combinations failed to show any significant differences between satisfied clinicians and dissatisfied clinicians.

Administrative specialty

There were 120 respondents in the administrative group of which 11.7 percent expressed dissatisfaction with their current specialty. Table 17 presents number and percentage

SATISFIED AND DISSATISFIED CLINICAL DIETITIANS:
NUMBERS AND PERCENTAGE DISTRIBUTION FOR 16 PERSONALITY TYPES

Satisfied N=72 Dissatisfied N=17
SENSING TYPES INTUITIVE TYPES

with THINKING with FEELING with FEELING with THINKING

Satis. Dissatis.

N % N %

E	35	85.4	6	14.6
I	37	77.1	11	22.9
S	47	85.5	8	14.5
N	25	73.5	9	26.5
T	25	73.5	9	26.5
F	47	85.5	8	14.5
J	54	81.8	12	18.2
P	18	78.3	5	21.7
IJ	29	80.4	7	19.4
IP	8	66.7	4	33.3
EP	10	90.9	1	9.1
EJ	25	83.3	5	16.7
ST	17	73.9	6	26.1
SF	30	93.8	2	6.2
NF	17	73.9	6	26.1
NT	8	93.8	3	27.3
SJ	36	81.8	8	18.2
SP	11	100.0	0	0
NP	7	58.3	5	41.7
NJ	18	81.8	4	18.2
TJ	20	69.0	9	31.0
TP	5	100.0	0	0
FP	13	72.2	5	27.8
FJ	34	91.9	3	8.1

JUDGING

INTROVERTS

PERCEPTIVE

PERCEPTIVE

EXTRAVERTS

JUDGING

Satis.

Dis-satis.

Satis.

Dis-satis.

Satis.

Dis-satis.

Satis.

Dis-satis.

ISTJ	ISFJ	INFJ	INTJ
N = 5 % = 5.6	N = 13 % = 14.6	N = 8 % = 9.0	N = 3 % = 3.4
ISTP	ISFP	INFP	INTP
N = 3 % = 3.4	N = 2 % = 2.2	N = 2 % = 2.2	N = 1 % = 1.1
ESTP	ESFP	ENFP	ENTP
N = 0 % = 0	N = 6 % = 6.7	N = 3 % = 3.4	N = 1 % = 1.1
ESTJ	ESFJ	ENFJ	ENTJ
N = 9 % = 10.1	N = 9 % = 10.1	N = 4 % = 4.5	N = 3 % = 3.4
N = 3 % = 3.4	N = 0 % = 0	N = 1 % = 1.1	N = 1 % = 1.1

NOTES:

SATISFIED AND DISSATISFIED ADMINISTRATIVE DIETITIANS:
NUMBERS AND PERCENTAGE DISTRIBUTIONS FOR 16 PERSONALITY TYPES

Satisfied N=106 Dissatisfied N=14
SENSING TYPES INTUITIVE TYPES

with THINKING with FEELING with FEELING with THINKING

	ISTJ	ISFJ	INFJ	INTJ
Satis.	N = 15 % = 12.5	N = 11 % = 9.2	N = 2 % = 1.7	N = 3 % = 2.5
Dis-satis.	N = 4 % = 3.3	N = 1 % = 0.8	N = 0 % = 0	N = 0 % = 0
	ISTP	ISFP	INFP	INTP
Satis.	N = 3 % = 2.5	N = 3 % = 2.5	N = 8 % = 6.7	N = 3 % = 2.5
Dis-satis.	N = 2 % = 1.7	N = 0 % = 0	N = 2 % = 1.7	N = 0 % = 0
	ESTP	ESFP	ENFP	ENTP
Satis.	N = 7 % = 5.8	N = 4 % = 3.3	N = 3 % = 2.5	N = 4 % = 3.3
Dis-satis.	N = 0 % = 0	N = 0 % = 0	N = 2 % = 1.7	N = 0 % = 0
	ESTJ	ESFJ	ENFJ	ENTJ
Satis.	N = 13 % = 10.8	N = 13 % = 10.8	N = 5 % = 4.2	N = 9 % = 7.5
Dis-satis.	N = 1 % = 0.8	N = 1 % = 0.8	N = 1 % = 0.8	N = 0 % = 0

JUDGING
INTROVERTS
PERCEPTIVE
PERCEPTIVE
EXTRAVERTS
JUDGING

	Satis.		Dissatis.	
	N	%	N	%
E	58	92.1	5	7.9
I	48	84.2	9	15.8
S	69	88.5	9	11.5
N	37	88.1	5	11.9
T	57	89.1	7	10.9
F	49	87.5	7	12.5
J	71	89.9	8	10.1
P	35	85.4	6	14.6
IJ	31	86.1	5	13.9
IP	17	81.0	4	19.0
EP	18	90.0	2	10.0
EJ	40	93.0	3	7.0
ST	38	84.4	7	15.6
SF	31	93.9	2	6.1
NF	18	78.3	5	21.7
NT	19	100.0	0	0
SJ	52	88.1	7	11.9
SP	17	89.5	2	10.5
NP	18	81.8	4	18.2
NJ	19	95.0	1	5.0
TJ	40	88.9	5	11.1
TP	17	89.5	2	10.5
FP	18	81.8	4	18.2
FJ	31	91.2	3	8.8

NOTES:

distribution of each type for both satisfied and dissatisfied administrative dietitians. Several type categories represented only satisfied dietitians: ESTP, ISFP, ESFP, INFJ, INTJ, INTP, ENTP, ENTJ. Of these, only ESTP and ENTJ contained more than five observations. Contingency table analysis for the eight variables and their combinations did not show significant differences between satisfied administrative dietitians and those who were dissatisfied with administration.

Educational specialty

There was a total of 34 dietitians in this specialty group, of whom 17.6 percent expressed dissatisfaction with their current specialty. Number and percentage distribution of each type for those satisfied and dissatisfied with the specialty are shown in Table 18. Type categories which represented only satisfied educator dietitians were: ESTJ, ISFJ, ISFP, ESFP, ENFP, INTP, ENTP, ENTJ. Type categories which represented only dissatisfied educator dietitians were: ISTJ, INFJ, INTJ. Categories ISTP and ESTP were not represented at all in this group of educators. Contingency table analysis revealed significant differences on the combination of EI and JP, shown in the following table:

SATISFIED AND DISSATISFIED EDUCATIONAL DIETITIANS:
NUMBERS AND PERCENTAGE DISTRIBUTION FOR 16 PERSONALITY TYPES

Satisfied N=28 Dissatisfied N=6
SENSING TYPES INTUITIVE TYPES

with THINKING with FEELING with FEELING with THINKING

	ISTJ	ISFJ	INFJ	INTJ	
Satis.	N = 0 % = 0	N = 3 % = 8.8	N = 0 % = 0	N = 0 % = 0	JUDGING
Dis-satis.	N = 2 % = 5.9	N = 0 % = 0	N = 1 % = 2.9	N = 1 % = 2.9	INTROVERTS
	ISTP	ISFP	INFP	INTP	PERCEPTIVE
Satis.	N = 0 % = 0	N = 2 % = 5.9	N = 2 % = 5.9	N = 1 % = 2.9	
Dis-satis.	N = 0 % = 0	N = 0 % = 0	N = 0 % = 0	N = 0 % = 0	
	ESTP	ESFP	ENFP	ENTP	PERCEPTIVE
Satis.	N = 0 % = 0	N = 1 % = 2.9	N = 3 % = 8.8	N = 2 % = 5.9	
Dis-satis.	N = 0 % = 0	N = 0 % = 0	N = 0 % = 0	N = 0 % = 0	EXTRAVERTS
	ESTJ	ESFJ	ENFJ	ENTJ	JUDGING
Satis.	N = 4 % = 11.8	N = 4 % = 11.8	N = 2 % = 5.9	N = 4 % = 11.8	
Dis-satis.	N = 0 % = 0	N = 1 % = 2.9	N = 1 % = 2.9	N = 0 % = 0	

Satis.		Dissatis.	
N	%	N	%
E 20	90.9	2	9.1
I 8	66.7	4	33.3
S 14	82.4	3	17.6
N 14	82.4	3	17.6
T 11	78.6	3	21.4
F 17	85.0	3	15.0
J 17	73.9	6	26.1
P 11	100.0	0	0
IJ 3	42.9	4	57.1
IP 5	100.0	0	0
EP 6	100.0	0	0
EJ 14	87.5	2	12.5
ST 4	66.7	2	33.3
SF 10	90.9	1	9.1
NF 7	77.8	2	22.2
NT 7	87.5	1	12.5
SJ 11	78.6	3	21.4
SP 3	100.0	0	0
NP 8	100.0	0	0
NJ 6	66.7	3	33.3
TJ 8	72.7	3	27.3
TP 3	100.0	0	0
FP 8	100.0	0	0
FJ 9	75.0	3	25.0

NOTES:

*p < .05

Variable	Satisfied		Dissatisfied	
	N	%	N	%
IJ	3	42.9	4	57.1
IP	5	100.0	0	0.0
EP	6	100.0	0	0.0
EJ	14	87.5	2	12.5

Educator dietitians who preferred IP or EP were all satisfied with their current specialty. However, two of fourteen who preferred EJ were dissatisfied with their current specialty and four of seven educator dietitians who preferred IJ were dissatisfied. The difference, significant at the .05 level (chi-square = 10.162 with 3 degrees of freedom, $p = 0.02$), must be viewed with caution because of the low frequencies in five of the eight cells in this contingency table.

Summary

With the exception of one significant difference found between satisfied and dissatisfied educational dietitians, neither of the other specialty groups demonstrated significant differences on any personality variables. The educator dietitians showed one significant difference on a combination of EI and JP variables between satisfied and dissatisfied groups. The educational group represented only 34 dietitians or 14 percent of the total sample. In

view of the possibility that the significant difference lacked reliability because cell frequencies violated assumptions underlying the statistical procedure, this hypothesis was not rejected.

Hypothesis 11

Hypothesis 11. None of the four variables, EI, SN, TF, or JP, will discriminate better than others between dietitians who are satisfied or not satisfied with their current specialty for the following groups:

- a) clinical dietitians,
- b) administrative dietitians,
- c) educational dietitians.

The purpose of this hypothesis was to test if knowledge of a dietitian's individual continuous scores on the MBTI would enable prediction of satisfaction with her current specialty. Each specialty is considered separately in the following discussion, and results of each specialty are summarized at the end of those sections.

Clinical dietitians

Means and standard deviations for the four variables, EI, SN, TF, JP, are summarized in Table 19. No significant differences were found on any of the four variables. Hence, none of the variables were good discriminators between satisfied and dissatisfied clinical dietitians.

Table 19

MEANS AND STANDARD DEVIATIONS OF FOUR PERSONALITY
VARIABLES FOR CLINICAL DIETITIANS SATISFIED AND
DISSATISFIED WITH CURRENT SPECIALTY

N=89

Variable		N=72 Satisfied	N=17 Dissatisfied
EI	\bar{x}	101.55	108.06
	SD	24.49	23.37
SN	\bar{x}	87.08	96.88
	SD	24.03	26.72
TF	\bar{x}	107.30	100.29
	SD	20.10	21.60
JP	\bar{x}	85.78	84.88
	SD	25.29	25.33

Administrative dietitians

Means and standard deviations for the four variables, EI, SN, TF, JP, are summarized in Table 20. No significant differences were found between the two groups on any of the four variables. Therefore, none of the variables were good discriminators between satisfied and dissatisfied dietitians.

Educational dietitians

Means and standard deviations for the four variables, EI, SN, TF, JP, are summarized in Table 21. Significant F values were found between the two groups on the EI and JP variables ($F_{.05, 1, 32} = 4.152$).

EI	SN	TF	JP
6.814*	1.432	0.524	6.567*

The findings with this original F ratio amplified findings implied on the four variables in Table 21. The mean score for EI was much higher in the dissatisfied group (116.33) compared with the satisfied group (90.57). For the JP score, the satisfied group mean score was higher (93.07) compared with the dissatisfied group mean score of 62.33.

Since the F value for the EI variable was larger than that for the JP variable, the EI score was entered first into the discriminant function. At the next step, JP had a significant partial F value and was entered into the discriminant function. With both EI and JP variables entered,

Table 20

MEANS AND STANDARD DEVIATIONS OF FOUR PERSONALITY
VARIABLES FOR ADMINISTRATIVE DIETITIANS
SATISFIED AND DISSATISFIED WITH CURRENT SPECIALTY

N=120

Variable		N=106	N=14
		Satisfied	Dissatisfied
EI	\bar{x}	95.85	108.29
	SD	25.13	23.61
SN	\bar{x}	89.68	95.43
	SD	25.05	26.69
TF	\bar{x}	99.41	101.14
	SD	21.09	26.71
JP	\bar{x}	86.38	90.86
	SD	27.80	23.30

Table 21

MEANS AND STANDARD DEVIATIONS OF FOUR PERSONALITY
 VARIABLES FOR EDUCATIONAL DIETITIANS
 SATISFIED AND DISSATISFIED WITH CURRENT SPECIALTY

		N=34	
Variable		N=28 Satisfied	N=6 Dissatisfied
EI	\bar{x}	90.57	116.33
	SD	21.73	23.04
SN	\bar{x}	103.79	89.67
	SD	26.03	27.27
TF	\bar{x}	105.21	99.00
	SD	19.04	19.35
JP	\bar{x}	93.07	62.33
	SD	28.78	8.73

the other two variables did not have significant partial F values and the procedure halted. Thus, two variables, EI and JP, significantly discriminated between satisfied and dissatisfied educator dietitians. A discriminant function was derived:

$$Y = 2.59 - 0.064 (\text{EI score}) + 0.052 (\text{JP score})$$

If $Y > 0$, classify as satisfied with educational specialty.

The SAS computer program tested whether the discriminant function performed better than just random assignment. Educational dietitians were classified by the program as follows:

Actual	Predicted	
	Satisfied	Dissatisfied
Satisfied	23	5
Dissatisfied	0	6

Twenty-three of 28 satisfied educational dietitians were correctly classified by the discriminant function given above, and all the dissatisfied educational dietitians were correctly classified. The chi-square test for testing "goodness" of the discriminant function was performed.

A significant chi-square was obtained (chi-square = 16.94 with 1 degree of freedom, $p < .001$), indicating that the discriminant function performed better than random assignment.

Although there were significant differences on the EI and JP variables for educational dietitians who were satisfied and dissatisfied with their specialty, it should be noted that the size of this specialty group was small. There were 28 respondents in the satisfied group and only six in the dissatisfied group.

Summary

There were no significant differences observed between satisfied and dissatisfied dietitians in either clinical or administrative specialties. However, there were significant differences between satisfied and dissatisfied educators on two variables. A discriminant function was derived that demonstrated ability to differentiate significantly between educators who were satisfied and dissatisfied, based on their MBTI continuous scores.

This hypothesis was not rejected for the clinical or administrator groups, since continuous scores did not differentiate satisfied and dissatisfied members of those specialties. However, for educators, the hypothesis was not accepted because a discriminant function derived from continuous scores differentiated significantly between satisfied and dissatisfied educational dietitians.

Summary

Personality Characteristics of Dietitians

There did not appear to be a single typical personality type among this group of dietitians, but four of the sixteen types, ISTJ, ISFJ, ESTJ, and ESFJ, represented 48 percent of the total group. Dietitians showed consistent preferences for sensing, thinking, and judging when compared with other groups. Preferences for intuition, feeling, and perceiving were consistently under-represented in this group of dietitians, and emphasized by the lack of appeal of dietetics for ENFP types. This type has been described as being at ease with his environment, enthusiastic and persuasive, and enjoying interpersonal contacts. The ENFP type has been found frequently among writers, artists, physical therapists, and nurses.

It appeared that dietetics appealed to people who possessed preferences for a practical, matter-of-fact approach to life, for organization and systematic attention to detail, and for an impersonal and logical approach to decision making. Dietitians did not exhibit an exclusive preferences for sensing, thinking, or judging.

In fact, more than half the sample expressed a preference for feeling. However, other groups with which dietitians were compared possessed proportionately stronger preferences for feeling (and for intuition and perception), thereby emphasizing the sensing, thinking, judging nature of this group of dietitians. Dietitians most resembled medical technologists in their preferences and personality types.

Choice of Specialty

Within the dietitian group apparently few differences existed. The sample was divided into three groups according to current specialty of subjects: clinical, administrative and educational. No preference patterns emerged when the specialty groups were compared. However, discriminant analysis revealed that educational dietitians could be distinguished from clinical and administrative dietitians based on the continuous score for the SN preference. Thus, given an individual's SN score and applying the discriminant function it would be possible to predict whether they would become an educational or clinical dietitian, or an educational or administrative dietitian.

Satisfaction

Two satisfaction measures were applied. One concerned career satisfaction. There were no differences in type preference between dietitians who were satisfied or not

satisfied with their career; nor was it possible to predict career satisfaction from MBTI preference scores. Only employed dietitians were sampled for this study and the question relating to career satisfaction was general. It might be expected that dietitians who were greatly dissatisfied would move into a more satisfying field. Also it was possible that more specific questions about career satisfaction might reveal more accurate information.

The second satisfaction measure referred to current specialty satisfaction. Satisfaction with current specialty was an important question to ask dietitians because almost all were women. Married women tended to be occupationally immobile or at least limited in their choice of jobs by family considerations and location. In many cases they had to take whatever job was available, or one that was compatible with the hours they could be away from their families. It was expected that dietitians could be satisfied with their career, yet dissatisfied with their current job in terms of duties and responsibilities, or area of specialization. Fifteen percent of this sample expressed dissatisfaction with their current specialty.

More dietitians with a preference for extraversion were satisfied with their current specialty than those with a preference for introversion. In addition, more dietitians who preferred dealing with facts in a warm

and friendly manner (SF) were satisfied with their current specialty than those who preferred dealing with people's potential in an enthusiastic manner (NF). The traditional ways of practicing dietetics would not offer these types as many opportunities to use their preferred processes as would some other health professions such as nursing.

Neither age nor years of practice affected current specialty satisfaction. Specialty satisfaction data were examined for each specialty. Satisfied and dissatisfied clinical dietitians showed no differences in personality type; neither did satisfied and dissatisfied administrators. A significant difference was found in the educator group for preferences for IJ: IP: EP: EJ, but because five of the eight cells in the contingency table contained less than five observations, this finding may not reflect a true measurement of difference.

A recurring problem in the contingency table analyses of the data was low frequencies in many cells. An underlying assumption of this analysis was that not more than 20 percent of the cells contained less than five observations. In many of the analyses performed in this study, sample sizes were small, resulting in poor estimates of true parameters that would lead to erroneous instead of true differences in characteristics of subjects.

Finally, it was not possible to predict specialty satisfaction for clinical or administrative dietitians,

but a discriminant function was derived that successfully differentiated satisfied from dissatisfied educators. It was found that satisfaction and dissatisfaction in the educational specialty could be predicted from continuous scores on the EI and JP preferences. Thus, not only was it possible to predict membership in the educational specialty (based on the SN score), but satisfied and dissatisfied educators could be discriminated (based on the EI and JP score). However, results had to be viewed with caution because of the small sample size of this group and some low cell frequencies that resulted.

Summary of Disposition of Hypotheses

The following hypotheses were not accepted:

Hypothesis 1 because it was found that dietitians were significantly different in some respects of their personality preferences.

Hypothesis 4 because it was possible to predict membership in the educational specialty.

Hypothesis 7 since dietitians who were satisfied with their current specialty revealed some differences in type preferences when compared with those dissatisfied with current specialty.

Hypothesis 11 was not accepted for educational dietitians because it was possible to distinguish satisfied

from dissatisfied educators. However, Hypothesis 11 was not rejected for clinicians and administrators among whom no differences were found in specialty satisfaction.

The following hypotheses were not rejected:

Hypothesis 2 since there were no differences between type distributions of three specialty groups.

Hypothesis 3 because no differences existed in type preferences of three specialty groups.

Hypothesis 5 because there was no difference found between dietitians satisfied or dissatisfied with their career.

Hypothesis 6 since career satisfaction could not be predicted.

Hypothesis 8 because age did not affect specialty satisfaction.

Hypothesis 9 because years of practice had no effect on specialty satisfaction.

Hypothesis 10 since there were no differences between type distributions of satisfied and dissatisfied clinicians, administrators, or educators.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

A major consideration when examining any profession in terms of type is to discover if some types are more attracted to the profession than others. If the profession has identifiable areas of specialization, another focus of interest is to examine if some types are more attracted to certain areas.

Dietitians function in many roles. Three major ones were identified for this study. Some roles involve administration of complex operations associated with mass feeding, and bring dietitians into contact with many and diverse people, but not always in intimate contact with hospital patients. Another major role is for clinical work, where a dietitian is in constant contact with patients and other health care personnel. The third role identified in this study was that of education. A number of dietitians become educators of students preparing for careers in dietetics, and function

in academic and clinical settings requiring close contact with students.

Purpose and Procedure

The reason this study was undertaken was to attempt to provide information concerning the personality characteristics of dietitians that could be used for more effective recruitment of potential dietitians and for more effective counseling of trained dietitians. The profession suffered a chronic manpower shortage and information developed could be used to recruit more people into the field and to retain those who, after training, might consider leaving it.

General purposes were threefold. The initial problem was to identify selected personality characteristics of dietitians and to compare them with those of other health professional groups. The instrument used was the Myers-Briggs Type Indicator. The second purpose was to determine whether it was possible to use MBTI scores to predict satisfaction with a career in dietetics. Thirdly, the study sought to determine the possibility of using MBTI scores to predict satisfaction with a specialty area within dietetics so that qualified dietitians might be counseled into a specialty area of greatest satisfaction for them.

Two instruments were administered to respondents. A short questionnaire was designed to provide demographic information and satisfaction measures. Personality characteristics were assessed with the MBTI, an instrument designed to measure preferences in the way people perceive and make judgments.

Four hundred subjects were randomly selected from a nation-wide listing of members in good standing of the American Dietetic Association. Of these, 85 percent responded, but only 61 percent (243) met criteria for inclusion in the study. Three areas of specialization were defined: clinical, administrative, and educational. These specialty groups were represented as follows: clinical, 89 subjects; administrative, 120 subjects; educational, 34 subjects.

Personality Characteristics of Dietitians

There was no one distinctive personality preference exhibited by this group of dietitians. A combination of four different personality types, ISTJ, ISFJ, ESTJ, and ESFJ, represented 48 percent of the total group. These types shared a common preference for sensing and judging. The sensing judging nature of dietitians was readily apparent in data for percentage representation of each of

the four MBTI personality dimensions (EI, SN, TF, and JP). While this group of dietitians was almost evenly divided in their preferences for extraversion and introversion and for thinking and feeling, preferences for sensing and judging were well defined. Preference for judging was expressed by 62 percent of the group and for sensing by 69 percent. People who prefer sensing and judging may be characterized as realistic, matter-of-fact people, skilled at handling concrete experiences and details and who value organization. Such characteristics would be appropriate for providing detailed systematic care in the health occupation fields.

Compared with the student groups from which dietitians may be expected to select themselves (female college freshmen and students in health related professions were used in this study), it appeared that those who preferred to use their sensing, thinking, and judging preferences were attracted to dietetics in proportionately greater numbers. Dietetics was not as attractive to students who preferred to use their intuition, feeling, and perception. Many of the same differences were apparent when dietitians were compared to other health professional groups. The preference of dietitians for sensing, thinking, and judging was proportionately greater than for nursing, occupational therapy, or physical therapy. Similarly the avoidance of

dietetics by people preferring intuition, feeling, and perceiving was significant when dietetics was compared to nursing, occupational therapy, and physical therapy. This difference was exemplified by the ENFP type who consistently avoided dietetics and medical technology. Personality types of dietitians were most similar to those of medical technologists. When dietitians were compared to nursing, occupational therapy, and physical therapy, the three groups had similar, though not identical, patterns of differences. Compared with other health professional groups, the preferences of dietitians characterized them as people who focused their attention on facts, handled them with impersonal analysis, and tended to be practical, realistic, matter-of-fact, and well organized.

Predicting Career Satisfaction

Respondents were asked to answer a question that related to career satisfaction (see Appendix A, number 5). Only 17 dietitians (7 percent) reported dissatisfaction with their career. There were no significant differences in type preferences between dietitians who were satisfied and dissatisfied with their career. It was not possible to predict career satisfaction based on continuous scores of the MBTI.

Predicting Specialty Satisfaction

Dietitians were asked to classify themselves into one of three areas in which they spent the major part of their time. No significant differences were found in the preferences expressed by any of the specialty groups. Type theory would predict dietitians involved with patient care would tend to attract sensing feeling types because they are sympathetic and friendly. Dietitians engaged in management activities requiring attention to detail, logical and decisive activities, powers of observation would be predicted to possess sensing, thinking, and judging preferences.

Educational dietitians whose role demands insight, personal warmth, and initiative would be expected to express preferences for intuition, feeling, and extraversion.

Clinicians and educators expressed more preference for feeling than did administrators, and they would be more sympathetic and warm-hearted in their approach to students and patients. Educators were more evenly divided in their preferences for sensing and intuition than were clinicians or administrators who retained strong preferences for judging. Thus, educators tended to prefer intellectual pursuit more than other specialties. The preference for judging remained consistent through all groups. Predictions of type theory were generally confirmed in that the most

common clinician type was ISFJ; the most common type among administrators was ESTJ; and among educators the most common type was E-FJ.

It was possible to predict specialty membership from MBTI scores to a limited extent. Discriminant analysis determined that educators could be discriminated from clinicians and administrators. The continuous score on the SN variable was the basis of the discriminant functions that were derived. However, this function seemed only to classify educators, and it did not consider whether a person would be satisfied in that specialty. Therefore, the data was analyzed again, based on satisfaction for the current specialty.

Thirty-seven dietitians (15 percent) reported dissatisfaction with their current specialty. In the whole group, that is comparing dietitians who were satisfied with their current specialty to those dissatisfied with their area of specialty, there was a significant difference according to the EI preference. Dietitians with a preference for introversion were more likely to be dissatisfied with their current specialty than those who preferred extraversion. Another significant difference was found in the combination of ST:SF:NF:NT preferences. Dietitians who preferred both intuition and feeling were more likely to be dissatisfied with their current specialty than those

with preferences for sensing and feeling. Age or years of practice did not affect specialty satisfaction.

Data for each specialty group was analyzed for satisfaction and dissatisfaction. Almost 20 percent of clinical dietitians were dissatisfied; almost 12 percent of the administrators were dissatisfied; and about 18 percent of the educators were dissatisfied. With the exception of a difference on the IJ:IP:EP:EJ variable for educators, which was based on data that did not fulfill the assumptions underlying contingency table analysis, no differences were found between satisfied and dissatisfied dietitians in any of these specialty groups.

A discriminant function was found that differentiated satisfied and dissatisfied educational dietitians. Continuous scores for EI and JP preferences were the best predictors of specialty satisfaction for educators, and in a test of the "goodness" of this discriminant function, all the dissatisfied educators were successfully classified.

Conclusions

It was concluded that personality characteristics of dietitians differed from those of some other health occupations. The distinctive sensing, thinking, and

judging nature of dietitians became apparent when they were compared with other health professionals involved in the patient care team. These characteristics may be expected to make them good managers, with ability to marshal resources to produce nutritious meals for large numbers of people and to handle information about nutrients, diets, and other data in organized and systematic ways. But dietitians are involved also in the face-to-face contact with patients and the kind of skills needed to help persuade people to change lifelong food habits require development of intuitive, feeling, and perceiving preferences.

Most dietitians included in this investigation apparently made their choice of specialty based on factors other than personality characteristics. Personality types of clinical and administrative dietitians did not differ, indicating that many dietitians were able to adapt themselves to varying job demands. Educational dietitians appeared to be an exception since there was evidence that some personality preferences were significantly different between this group and the rest of the sample. However, the small sample of educators make generalizations unwise.

Based on this set of data, it was concluded that prediction of a person's satisfaction with dietetics as

a career was not possible. Career satisfaction apparently had no relationship to personality type. While the information generated would be useful in recruiting potential dietitians, it was not of sufficient quality or quantity to develop a counseling tool that would predict the probability of an individual's satisfaction in the field of dietetics based on MBTI scores.

Within the profession and with reference to a person who already had been educated and trained, these data provided a potential, though rudimentary, tool for assisting them to find a compatible specialty. Generally, dietitians with a preference for extraversion were more likely to be satisfied with their specialty than those preferring introversion. This might be expected in a profession that involved much contact with people.

The conclusion was reached that it was possible to predict dietitians likely to enter the educational specialty, based on the SN score of the MBTI. Educators were the only group where a preference for sensing did not dominate. This difference showed that the intellectual, insightful types, who liked dealing with complex and theoretical matters, were more attracted to that specialty. This was not an unexpected finding since most educational dietitians worked in colleges and universities. It was significant also in that most educators have

graduate degrees, perhaps a manifestation of their intuitive preference. The preparation of educators for their specialty demanded in-depth academic activities, while the preparation of clinicians and administrators demanded on-the-job practical experience and there was less emphasis on graduate qualifications. Thus, required patterns of behavior were reflected in the SN score of educators and served to distinguish them from other specialties. Within the educational specialty itself, it was possible to predict satisfaction and dissatisfaction using the EI and JP scores.

While this study provided new data on the personality characteristics of dietitians, it did not provide prediction capabilities that would aid recruitment of potential dietitians. For dietitians who have completed their education and are seeking a satisfying job, some data were developed that would aid within-career counseling.

Recommendations

Based on the results from this investigation, the following recommendations are made.

Data collected in this study should be supplemented quantitatively (that is, by surveying more employed dietitians) and qualitatively by including unemployed dietitians

and those who once practiced but have since left the field. Further data are needed about the specialty areas to determine if indeed no differences exist in the personality types of clinical and administrative dietitians. An improved method of classifying respondents into specialties, or perhaps expanding the categories, could provide more accurate data.

The measures for satisfaction of dietitians should be improved to discover relationships and underlying causes. This applies to career satisfaction and to specialty satisfaction. The influence of one upon the other should be investigated. Measurement of career satisfaction would be improved by including all dietitians, whether or not they are employed, and by making special efforts to contact career drop-outs.

Another means of improving knowledge about personality characteristics of practicing dietitians would be to include a measure of effectiveness. Then not only would there be information about types of people attracted into dietetics, but also information about which types are successful performers.

Prediction of occupation based on personality traits, at best, is only moderately successful, as indicated in Chapter II. A greater degree of success has been noted in studies that utilized several instruments to measure

personality traits. It is recommended that these data be combined with existing data from earlier personality trait studies for dietitians, or that other instruments be used in conjunction with the MBTI to study personality traits.

Longitudinal studies of dietitians would be most useful in compiling profiles of dietetic practitioners and nonpractitioners. Such studies should begin at the college level, with follow-up at the career entry level and at regular intervals thereafter. Personality trait instruments could be administered in college and compared with career progress and measurements of attitudes and values over many years. This information has the most valuable potential for recruitment and counseling use, because it reflects a wide range of job behavior over a period of time.

Also at the college level, it is recommended that drop-out studies be instituted in a systematic way. The purpose of these studies should not be limited to identifying types likely to persist in their studies but should include causal factors and provide for follow-up to identify subsequent activities of drop-outs. Such data could contribute to improved planning of curriculums and learning activities in educational processes.

It has been noted in this study that dietitians are predominantly female, that many are married, and combine home responsibilities with a career. The effect of role conflicts on job satisfaction and the relationship of personality type would be of interest in assembling career profiles.

There is evidence in this study that the nature of the profession of dietetics is widely misunderstood among student groups. Certain personality types who avoided dietetics possess personality characteristics highly desirable for roles of understanding people, dealing with their nutritional problems sympathetically, and generally building effective helping relationships. Where the skills of some people to encourage and help people to successfully adjust food habits may be underdeveloped, other types of people would be most effective in this activity. Efforts should be made to attract more people with feeling and perception preferences and to utilize their talents to solve some long-standing weaknesses in traditional practice of dietetics. Initially, the profession should take a more systematic approach to recruitment, disseminating information to school guidance counselors that outlines the challenges of the profession in other than a public relations approach and identifies personality characteristics appropriate to professional practice. Also, at the secondary education level,

effective programming for career exploration and identification should be developed for the health professions, including work experiences.

Educational background for dietitians has focused on scientific preparation and development of technical skills. Basic professional education should be revised to include development of skills in interpersonal relationships and communication, which these data indicated may not be adequately developed in dietitians.

Finally, while the results obtained in this study would be of benefit in suggesting more effective recruiting of dietitians into the profession, knowledge of the qualities, aptitudes and interests of dietitians is lacking. There is more to satisfactory performance of health professionals than merely academic aptitude and achievement, a common basis for recruitment efforts. A more composite profile is required of the types of people who enjoy and are successful in the practice of dietetics. In addition, studies of the changing nature of dietetics and societal demands placed on its practitioners would give direction to recruiting and planning the education of dietitians who would contribute effectively to maintenance of health and well-being of society.

APPENDICES

APPENDIX A
QUESTIONNAIRE

Instructions

- ** Please answer all questions. The information will be kept confidential.
- ** Write all answers in the space provided. If you need more space write on a blank sheet of paper. Be sure to include the number of the question.
- ** Please return immediately in the enclosed stamped addressed envelope to: Mrs. Robin Fellers, 6259 Sarnen Drive, Mobile, Alabama 36608.

GENERAL INFORMATION

1. NAME _____
2. ADDRESS (if incorrect as shown on the envelope) _____

3. AGE _____
4. FOR HOW MANY YEARS HAVE YOU ACTIVELY PRACTICED AS A DIETITIAN? (Include part-time work and count it as full-time) _____
5. IF A YOUNG PERSON EXPRESSED INTEREST AND SEEMED TO HAVE THE NECESSARY APTITUDES WOULD YOU COUNSEL HIM/HER TO BECOME A DIETITIAN: (Check one) Yes No

PRESENT EMPLOYMENT INFORMATION

6. PLACE OF EMPLOYMENT _____
7. PRESENT POSITION TITLE _____
8. WHAT IS THE MAJOR RESPONSIBILITY OF YOUR JOB? (Even if you spend time in two or three of the areas, check the one area where you spend the majority of your time).
 1. Therapeutic or clinical nutrition, working with patients or clients.
 2. Administrative activities in food services or nutrition programs or government agencies, etc.

APPENDIX A (continued)

3. Educational activities in higher education or internships, etc.
4. I don't fit into any of the above because _____

9. WHY DID YOU ACCEPT YOUR PRESENT POSITION? (Briefly describe the factors that contributed to your decision)
10. ARE YOU ENTIRELY SATISFIED IN YOUR PRESENT SPECIALTY IN DIETETICS? (check one)
 1. Yes, I am happy in my present specialty.
 2. No, I would prefer primarily therapeutic or clinical nutrition.
 3. No, I would prefer primarily administration.
 4. No, I would prefer primarily educational activities.
 5. No, but none of the above. I prefer _____
11. HAVE YOU TAKEN THE MYERS-BRIGGS TYPE INDICATOR? (check one)
 1. Yes, my type is _____
 2. Yes, but I don't know my type.
 3. No, I have not taken the Myers-Briggs Type Indicator.
12. IF YOU HAVE NOT TAKEN THE MYERS-BRIGGS TYPE INDICATOR, OR IF YOU DON'T KNOW YOUR TYPE, WOULD YOU BE WILLING TO ANSWER THE MYERS-BRIGGS TYPE INDICATOR? (The necessary materials will be mailed to you if you consent.) (Check one)

Yes

No

Thank you for your cooperation

THE END

APPENDIX B

COVER LETTERS AND POST CARDS

6259 Sarnen Drive
Mobile, Alabama 36608

Would you give me a few minutes of your time? Your name has been randomly selected from a list of ADA members and your cooperation is sought in answering two questionnaires.

The first questionnaire is enclosed. Would you complete and return it as soon as possible in the stamped, addressed envelope, please? It will take about ten minutes of your time. The second questionnaire is the Myers-Briggs Type Indicator. If you consent to answer the Indicator, materials will be sent to you. The Indicator is concerned with valuable and interesting differences in people; it is self-administering, has 166 questions, and takes about 45 minutes to complete although there is no time limit.

You are asked to answer these two questionnaires as part of a doctoral research project designed to learn which types of people are particularly attracted to the field of dietetics, and how each type feels about the various specialties within dietetics. You will receive a report describing how the Indicator was scored, what your scores mean, and an explanation about the type you described yourself to be. We believe that you will find the report both interesting and useful.

There is no good or bad, right or wrong in the preferences you indicate. They simply describe different types of people who have different interests and abilities. People are happiest and most effective when they are using their abilities in ways they prefer to use them, and when they are in situations that call for these abilities.

Your contribution and that of others in our profession will make it possible to improve our counseling of students, bringing into the profession people likely to be happy and successful.

Your cooperation is much appreciated.

Yours sincerely,

Robin Brown Fellers
Registered Dietitian

APPENDIX B (continued)

Follow-up #1-A

A week or so ago you received a letter asking you to complete a short questionnaire. (It's on blue paper.) The Myers-Briggs Type Indicator was explained and your cooperation sought in answering that, but we cannot send the Myers-Briggs material until we hear from you.

We are eagerly awaiting the return of your completed blue questionnaire. If you have not already done so, please answer and return the questionnaire as soon as possible. In case you have mislaid the reply-paid envelope, the return address is:

Mrs. Robin Fellers
6259 Sarnen Drive
Mobile, Alabama 36608

Follow-up #1-B

We all hate being hounded by reminder notices, especially when we did not solicit that questionnaire on blue paper in the first place. But my interest in compiling data about types of people attracted to dietetics is prompting me to urge you to complete and return the blue questionnaire. We cannot send you the Myers-Briggs Type Indicator until we know that you are willing to take it. So if you have not already done so, please answer and return the blue questionnaire today.

In case you have mislaid the reply-paid envelope, the return address is:

Mrs. Robin Fellers
6259 Sarnen Drive
Mobile, Alabama 36608

APPENDIX B (continued)

6259 Sarnen Drive
Mobile, Alabama 36608

We have received your questionnaire and note that you wish to take the Myers-Briggs Type Indicator. Thank you for your interest and continued cooperation in this study.

Enclosed are the Myers-Briggs Type Indicator booklet and answer sheet. Please follow the instructions on the booklet and answer sheet and complete the Indicator at your earliest convenience. When you have finished, return both the booklet and answer sheet in the enclosed stamped, addressed envelope. The report of your results will be sent to you within a few weeks.

Your cooperation is much appreciated.

Yours sincerely,

Robin Brown Fellers
Registered Dietitian

APPENDIX B (continued)

Follow-up #2-A

REMINDER

The Myers-Briggs Type Indicator was mailed to you over two weeks ago, but as of the above date your completed answer sheet has not been received here. Please complete and return it at your earliest convenience. Of course, if you already have sent the materials back, please ignore this reminder.

If you find that you do not have time to complete the Indicator, just return the materials in the reply-paid envelope. In case you have mislaid it the address is:

Mrs. Robin Fellers
6259 Sarnen Drive
Mobile, Alabama 36608

Follow-up #2-B

REMINDER

It is over a month since the Myers-Briggs Type Indicator booklet and answer sheet were mailed to you, and as of this date we have not received your completed answer sheet. Processing of the final batch of answer sheets is being held back until we receive your answer sheet. Should you decide not to respond to the Indicator, just return the unused booklet and answer sheet in the reply-paid envelope. In case you have mislaid it the return address is:

Mrs. Robin Fellers
6259 Sarnen Drive
Mobile, Alabama 36608

Ignore this reminder if you have mailed the materials.

Follow-up #2-C

REMINDER

It is now over six weeks since the Myers-Briggs Type Indicator materials were mailed to you. Please return the booklet and answer sheet at once, whether or not you have had time to complete the questionnaire.

In case you have mislaid the reply-paid envelope, the return address is: Mrs. Robin Fellers

6259 Sarnen Drive
Mobile, Alabama 36608

APPENDIX C

CODING

Short Questionnaire

Career Satisfaction:

- 1 = Satisfied
- 0 = Not satisfied

Area of Specialty:

- 1 = Clinical
- 2 = Administrative
- 3 = Educational

Specialty Satisfaction:

- 1 = Satisfied with current specialty
- 2 = Prefer clinical specialty
- 3 = Prefer administrative specialty
- 4 = Prefer education specialty

APPENDIX D

TYPE TABLES OF BASE POPULATIONS USED
TO COMPUTE SELECTION INDICES

ISTJ N = 67 % = 4.2	ISFJ N = 150 % = 9.4	INFJ N = 64 % = 4.0	INTJ N = 40 % = 2.5
ISTP N = 27 % = 1.7	ISFP N = 96 % = 6.0	INFP N = 149 % = 9.4	INTP N = 46 % = 2.9
ESTP N = 35 % = 2.2	ESFP N = 113 % = 7.1	ENFP N = 230 % = 14.5	ENTP N = 56 % = 3.5
ESTJ N = 124 % = 7.8	ESFJ N = 225 % = 14.1	ENFJ N = 120 % = 7.5	ENTJ N = 49 % = 3.1

University Students
Female Freshmen from 2 Universities
N = 1591

APPENDIX D (continued)

ISTJ N = 46 % = 4.4	ISFJ N = 109 % = 10.5	INFJ N = 40 % = 3.8	INTJ N = 17 % = 1.6
ISTP N = 20 % = 1.9	ISFP N = 48 % = 4.6	INFP N = 122 % = 11.7	INTP N = 25 % = 2.4
ESTP N = 24 % = 2.3	ESFP N = 78 % = 7.5	ENFP N = 166 % = 15.9	ENTP N = 32 % = 3.1
ESTJ N = 61 % = 5.9	ESFJ N = 140 % = 13.4	ENFJ N = 88 % = 8.4	ENTJ N = 26 % = 2.5

Undergraduates Enrolled in a Course Called
Introduction to Health Related Professions
N = 1042

APPENDIX D (continued)

ISTJ N = 34 % = 8.2	ISFJ N = 50 % = 12.1	INFJ N = 20 % = 4.8	INTJ N = 12 % = 2.9
ISTP N = 5 % = 1.2	ISFP N = 17 % = 4.1	INFP N = 43 % = 10.4	INTP N = 10 % = 2.4
ESTP N = 7 % = 1.7	ESFP N = 17 % = 4.1	ENFP N = 64 % = 15.5	ENTP N = 13 % = 3.1
ESTJ N = 34 % = 8.2	ESFJ N = 44 % = 10.6	ENFJ N = 33 % = 8.0	ENTJ N = 11 % = 2.7

Students, Faculty and Practitioners in
Nursing
N = 414

APPENDIX D (continued)

ISTJ N = 11 % = 7.0	ISFJ N = 121 % = 13.3	INFJ N = 11 % = 7.0	INTJ N = 7 % = 4.4
ISTP N = 3 % = 1.9	ISFP N = 4 % = 2.5	INFP N = 11 % = 7.0	INTP N = 10 % = 6.3
ESTP N = 2 % = 1.3	ESFP N = 4 % = 2.5	ENFP N = 23 % = 14.6	ENTP N = 8 % = 5.1
ESTJ N = 6 % = 3.8	ESFJ N = 19 % = 12.0	ENFJ N = 7 % = 4.4	ENTJ N = 11 % = 7.0

Students, Faculty and Practitioners in
Occupational Therapy

N = 158

APPENDIX D (continued)

ISTJ N = 13 % = 10.0	ISFJ N = 14 % = 10.8	INFJ N = 7 % = 5.4	INTJ N = 2 % = 1.5
ISTP N = 3 % = 2.3	ISFP N = 9 % = 6.9	INFP N = 18 % = 13.8	INTP N = 2 % = 1.5
ESTP N = 1 % = 0.8	ESFP N = 11 % = 8.5	ENFP N = 17 % = 13.1	ENTP N = 5 % = 3.8
ESTJ N = 5 % = 3.8	ESFJ N = 13 % = 10.0	ENFJ N = 4 % = 3.1	ENTJ N = 6 % = 4.6

Students, Faculty and Practitioners in
Physical Therapy

N = 130

APPENDIX D (continued)

ISTJ N = 51 % = 11.8	ISFJ N = 52 % = 12.1	INFJ N = 19 % = 4.4	INTJ N = 19 % = 4.4
ISTP N = 9 % = 2.1	ISFP N = 31 % = 7.2	INFP N = 31 % = 7.2	INTP N = 12 % = 2.8
ESTP N = 9 % = 2.1	ESFP N = 18 % = 4.2	ENFP N = 22 % = 5.1	ENTP N = 25 % = 5.8
ESTJ N = 43 % = 10.0	ESFJ N = 47 % = 10.9	ENFJ N = 18 % = 4.2	ENTJ N = 25 % = 5.8

Students, Faculty and Practitioners in
 Medical Technology
 N = 431

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BIOGRAPHICAL SKETCH

Robin Brown Fellers was born June 8, 1941, in Auckland, New Zealand, to Margaret and Kingsley Brown, and was raised in Pukekohe, New Zealand. She was educated at the Pukekohe Primary School and the Diocesan High School for Girls in Auckland, completing her secondary education in December, 1958. She attended the School of Home Science, University of Otago, N.Z., preparing for a career as a dietitian. She graduated with a Diploma of Home Science in December, 1961, and undertook a year's training as a student dietitian at Auckland Public Hospital. In December, 1962, she successfully completed the State Examination for Registered Dietitians in New Zealand.

Her first position in dietetics was that of staff dietitian at Auckland Public Hospital, and she later was placed in charge of the dining room, Greenlane Hospital Nurses' Home, also in Auckland, which was undergoing expansion. In July, 1964, she resigned in order to fulfill a long ambition to visit the United States.

In September, 1964, she became a graduate student at Kansas State University's Department of Institutional Management. She received a Master of Science degree in

June, 1966. Her graduate research focused on computer applications in planning menus. She subsequently accepted a position at Shands Teaching Hospital, University of Florida, and was first employed as project dietitian for a National Institutes of Health grant to develop computer applications in food systems management. In June, 1967, she became Assistant Director of Dietary Services at Shands Teaching Hospital, a position held until March, 1970, when she was appointed Administrative Dietitian in the Clinical Research Center, College of Medicine, University of Florida. During this time, she completed several graduate courses in education, nutrition, and food science at the University of Florida. Granted a Kellogg Fellowship by the Center for Allied Health Instructional Personnel at the University of Florida in September, 1972, she again became a full-time graduate student, majoring in Curriculum and Instruction.

She is a Registered Dietitian in both New Zealand and the United States. In New Zealand she is a Life Member of the N.Z. Dietetic Association; in the United States, a member of the American Dietetic Association. She has held membership in Omicron Nu, a home economics honor society and in Pi Lambda Theta, an honor and professional association in education.

She is the wife of John D. Fellers. They presently reside in Mobile, Alabama.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

James W. Hensel
James W. Hensel, Chairman
Professor of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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