

ANALYSIS OF FUNCTIONS AND MANAGERIAL
SKILLS OF DIETITIANS IN
BUSINESS AND INDUSTRY

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JUDITH TERESA BOOG

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Thesis Approved:

Lee L. King

Thesis Adviser

W. M. Jantz

Esther Waterfield

Doana R. Watson

Norman N. Muehler

Dean of Graduate College

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CHAPTER I

INTRODUCTION

A growing number of dietitians are seeking positions in business and industry with increased responsibility. Dietitians have not previously held these positions, therefore, this trend has exciting possibilities for the profession. Certain problem areas surface, however, that could prohibit the profession from taking full advantage of the trend. More specifically, employers need and desire dietitians who have attained specific skills, while universities continue to offer a generalist curriculum for the dietetics major. In fact, 80 out of 107 internships and 42 out of 66 coordinated undergraduate programs (CUP) are generalist programs (Directory of Dietetic Programs, 1985).

Rinke, David, and Bjoraker (part I, 1982) stated that "practitioners are increasingly questioning preparation adequacy of the entry-level dietitian" (p. 132). This questioning attitude on the part of the dietitian is a result of both rising student enrollment and a proliferation of routes to membership with unequal education experiences (The Task Force on Competencies, 1978). In addition, employers of dietitians assume certain skills they want dietitians to master, but they find the level of competence and preparation in these skills low (Rinke et al., part II, 1982).

Dietitians have expertise in food science and nutrition, which employers value, however, have not attained mastery of the specific

managerial skills to apply their expertise. In support of this view, Dowling (1981) stated that

While the current and potential jobs in the private sector require the basic knowledge of food and nutrition, the successful performance of most would require management coursework and expertise in addition to that which is normally provided in a general dietetic curriculum (pp. 159-160).

The dietetic curricula need reevaluation to insure the inclusion of the necessary managerial skills.

The skills and characteristics essential to be an effective manager include (Hoover, 1983; Dowling, 1981; Rinke, David, and Bjoraker, part II, 1982)

- 1) Financial expertise (plan, understand, and manage a budget; all aspects of cost control and financial management)
- 2) Public relations (work with, manage, and influence people; leadership)
- 3) Communication skills (translate technical knowledge into understandable and useful terms)
- 4) Assertiveness
- 5) Marketing
- 6) Systems design skills
- 7) General management skills (quantitative techniques, and operation management)
- 8) Interpersonal skills
- 9) Mass media

The dietetic profession needs to place more emphasis on these nine skills to earn recognition as an effective profession and to insure continued availability of leadership positions.

Purpose and Objectives

This research analyzed the job functions and assessed the managerial skills that Dietitians in Business and Industry (DIBIs) attain and use. Specific objectives include

- 1) Determine the frequency with which Dietitians in Business and Industry perform their job function (activities, duties, or

responsibilities) identified in the Role Delineation (The American Dietetic Association, 1983).

2) Describe the important managerial skills DIBIs use in their jobs.

3) Determine how DIBIs perceive their academic preparation in managerial skill areas.

4) Make recommendations for further studies involving DIBIs.

Hypotheses

This study postulated the following hypotheses:

H_{0_1} : DIBIs will exhibit no significant differences in the frequency of their functions (activities, duties, or responsibilities) based on

- 1) age
- 2) highest degree obtained
- 3) place of employment
- 4) job title
- 5) R.D. status
- 6) years of experience in dietetics
- 7) years of experience as DIBI

H_{0_2} : DIBIs will exhibit no significant differences in their managerial skills based on the same variables as in H_{0_1} .

H_{0_3} : DIBIs will exhibit no significant differences in how they perceive the adequacy of their education and experience in preparing them for their current positions based on the same variables as in H_{0_1} .

Limitations and Assumptions

Only Dietitians in Business and Industry found on The American Dietetic Association's February, 1984, membership list constituted the population surveyed. Therefore, the sample chosen represents most DIBIs but does not represent all dietitians. A further limitation of this study is bias on the part of the respondents in completing the survey. The respondents may have recorded more activities completed in a typical day than actually done, or stated that certain roles or activities are important to the profession because they were important to him/her personally.

Definitions

This section refers both to terms used frequently throughout Chapters I and II, and to terms needing clarification that were pertinent to the study.

American Dietetic Association, The:

A professional organization responsible for establishing educational and supervised clinical experience requirements and standards of practice in the profession of dietetics (Arkwright, Collins, Sharp, and Yakel, 1974, p. 664).

Dietetics: A profession concerned with the science and art of human nutrition care, an essential component of health science (Arkwright et al., 1974).

ADA Dietitian: "A specialist educated for a profession responsible for the nutritional care of individuals and groups" (Arkwright et al. 1974, p. 661).

Registered Dietitian (R.D.): "An ADA Dietitian who has successfully completed the examination for registration and maintains continuing education requirements" (Arkwright, et al., 1974, p. 661).

Administrative Dietitian, R.D.: The administrative dietitian is a member of the management team and affects the nutritional care of groups through the management of foodservice systems that provide optimal nutrition and quality food. Responsibilities include planning, developing, controlling, and evaluating foodservice systems; developing short- and long-range departmental plans and programs consistent with departmental and organizational policies; managing and controlling fiscal resources and recommending budget programs: using human effort and resources efficiently and effectively; coordinating and integrating clinical and administrative aspects of dietetics to provide quality nutritional care; maintaining sanitation, safety, and security; maintaining effective written and verbal communications and public relations, inter- and intradepartmentally; compiling and using pertinent operational data to improve efficiency and quality of foodservice systems; planning, conducting, and evaluating orientation and inservice educational programs; interpreting, evaluating, and using pertinent current research relating to nutritional care; developing menu patterns and evaluating client acceptance; developing specifications for the procurement of food, equipment, and supplies; planning or participating in the development of program proposals for funding; planning layout designs and determining equipment requirements for new or renovated foodservice facilities; administering personnel policies as established by the department and organization (Arkwright et al., 1974).

Coordinated Undergraduate Dietetics Program (CUP: established in 1962): A formalized baccalaureate educational program in dietetics sponsored by an accredited college or university and approved by The American Dietetic Association. The curriculum coordinates didactic and supervised clinical experiences to meet the qualifications for practice in the profession of dietetics (Arkwright et al., 1974).

Dietetic Internship (established in 1927): A formalized post-baccalaureate educational program in dietetics sponsored and conducted by an organization and approved by The American Dietetic Association. The curriculum provides didactic and supervised clinical experience to meet the qualifications for practice in dietetics (Arkwright et al., 1974).

Analysis: "The separation of an intellectual or substantial whole into constituents for individual study" (Morris, 1981, p. 47).

Function: "The nucleus of activities, responsibilities, or duties so homogenous in character as to fall logically into a unit for purpose of execution" (Tead and Metcalf, 1925, p. 59).

Competency: "Competency is knowledge, skills, and judgement which the student will demonstrate at a predetermined proficiency level before initial and/or continuing certification" (Proceedings of the Seventh Conference of Foodservice Systems Management Education Council, 1973, p. 36).

Skill: "The ability to perform a task or job" (Becker, 1977, p. 21).

CHAPTER II

REVIEW OF LITERATURE

A literature search provided information in four areas pertinent to this study of DIBIs: an historical perspective of the Practice Group Dietitians in Business and Industry, the functions of the DIBI, DIBIs' managerial skills and competencies, and research involving future challenges for DIBIs and the profession as a whole.

Historical Perspective

In 1917, 38 dietitians throughout the country formed The American Dietetic Association (ADA). The Association, formed in response to the need created during WWI, held the first annual meeting in September of 1918. In order to accommodate the needs of the first members in attendance, the Association established four sections or areas of practice: dieto-therapy, teaching, social welfare, and administration. Over the years, the names of these sections changed. In addition, special interest groups emerged, however, The ADA and the major sections failed to meet the specific needs of these interest groups. As a result of these unmet needs, The ADA decided to reevaluate its structure (Langholz, 1982).

The need for this structural reevaluation prompted forming The 1970 Study Commission on Dietetics. The Commission recommended change in organizing The American Dietetic Association and developed Bylaws as a

means to govern the Association. In their study, The Commission recognized the need for members with similar interests to share information and plan for growth. The Commission provided for this need through eliminating the four sections and organizing the Council on Practice in 1977 (Lanz, 1983; The Profession of Dietetics, 1972).

The Council on Practice consists of five Divisions of Practice: Clinical Dietetics and Research, Educators, Management Practices, Consultation and Private Practice, and Community Dietetics. Within each of the Divisions are a number of Dietetic Practice Groups. In 1982 The American Dietetic Association formally recognized 22 such Practice Groups and today (1985) the total numbers 23. Currently these Practice Groups include

- *Public Health Nutritionists
- *Gerontological Nutrition
- *Dietetics in Developmental and Psychiatric Disorders
- *Community Nutrition Research
- *Research Dietitians
- *Renal Dietitians
- *Dietitians in Pediatric Practice
- *Diabetes Care and Education
- *Dietitians in Critical Care
- *Sports and Cardiovascular Nutritionists
- *Dietetics in Physical Medicine and Rehabilitation
- *Dietitians in General Clinical Practice
- *Dietitians in Business and Industry
- *ADA Members with Management Responsibilities in Health Care Delivery Systems
- *School Foodservice
- *College and University Foodservice
- *Dietetic Educators of Practitioners
- *Nutritionists in Nursing Education
- *Nutrition Education
- *Dietitians in Medical and Dental Education
- *Clinical Nutrition Managers

In addition to these, another 25 less visible groups exist, however, a list of these groups was not available (Langholz, 1982; Lanz, 1983; Report of the 1984 Study Commission on Dietetics).

The Council on Practice (COP) gives dietetic practitioners an opportunity to interact with members having similar interests. In addition, COP coordinated the Division of Practice and Dietetic Practice Groups. The large number and variety of Practice Groups reflect the diversity among the membership. Practice Groups are also a fast-growing component of the Association. For example, membership in Dietetic Practice Groups exceeded 13,200 in 1982 and in 1984 membership totaled 26,653. The Practice Group determines continuing education needs for its area of practice, identifies continuing education needs for its members, and plans as well as implements activities to meet educational needs (Lanz, 1983; Report of the 1984 Study Commission on Dietetics).

The Dietetic Practice Group, Dietitians in Business and Industry is a part of the Division of Management Practices. Membership in this Practice Group numbers 1,221 and DIBI is among the eight largest practice groups (Report of the 1984 Study Commission on Dietetics). Of course, a member of The American Dietetic Association may join any number of Practice Groups, so that members of this group may also be members of one or more other groups. DIBI members may also maintain their membership, yet not practice in Business and Industry. As a result, it becomes difficult to determine if the 1,221 members constitute the number of dietitians practicing in Business and Industry or not.

Functions of Dietitians in Business and Industry

What type of jobs do Dietitians in Business and Industry have? What are the duties of a DIBI? These questions, as well as others, prompted this study.

Dowling (1981) defined business and industry as the "organizational division which includes accounts such as employee cafeterias and executive dining rooms" (p. 215). Of course, DIBIs also function in a much wider array of positions. Taylor (1984) determined several types of businesses and industries (pp. 48, 126) that employed dietitians and the dietitians' position titles (pp. 44, 125). Types of businesses or industries employing DIBIs ranged from "Foodservice Management Companies" to "Publishing Companies." Some of the positions held by DIBIs ranged from "Foodservice Analyst" to "Account Executive." DIBIs may also function as marketing, advertising, or mass media specialists (Appendix A). The possibilities are endless as dietitians cross over into the management sphere and assume new positions. Depending on the management position, the DIBI may maintain traditional roles or may assume new responsibilities. To date, the closest document to a role delineation and verification for DIBIs is The American Dietetic Association's 1983 Role Delineation and Verification for Entry-level Positions in Foodservice Systems Management. The Role Delineation describes the functions all entry-level management dietitians must achieve competence in upon completing required education and training. In other words, it correlates knowledge statements with performance responsibility statements for the entry-level dietitian. The entry-level dietitian may then use this document as a standard with which to compare her performance.

The ADA's position paper on the Administrative Dietitian (1975) stated that

The administrative dietitian must possess competence to perform the specialized functions required to manage increasingly complex foodservice systems (p. 478).

Bobeng (1984, p. 461) listed the functions of the administrative dietitian as

- *program planning and resource allocation
- *establishing and maintaining standards for ethical operations
- *executing controls
- *effecting fiscal responsibility
- *manpower planning and development
- *developing communication networks
- *designing foodservice facilities
- *planning and managing change

Blaker (1973) defines the unique role of the dietitian as ". . .managing the resources that make nutritional care possible" (p. 427).

The administrative dietitian's role or function receives direct influence from the dietitian's skills and competence. The dietitian's competency requirements change with time and societal needs therefore, the dietitian needs to stay abreast of these changes. Only then will the successful dietitian be a successful manager (Zallen, 1983).

At The ADA meeting in Los Angeles in 1953, Anthony J. Rourke, M.D. made an interesting comment that holds true today (1985):

When the day comes that your executive ability equals your scientific knowledge, your profession will be secure. Until that day, you will be faced with a constant and unwelcome challenge (Journal of The American Dietetic Association, 1954, p. 132).

Since Rourke's comment in 1953, dietitians have not realized their full potential as executives. To achieve this level of expertise, the profession must first determine the skills needed to educate and train competent dietitians.

Competencies and Managerial Skills

Competent dietitians are vital to achieving the profession's objectives and maintaining its high standards (ADA Position Paper, 1981). But what exactly is competency? An overabundance of definitions

causes some confusion yet a common link is evident. The following are some of the more prevalent:

Competency is the minimum knowledge, skills, affective behavior, and/or judgement which a person is certified to possess on a set of criteria and level of expectation (Bell, 1976, p. 133).

A Competency, then, is the dynamic interplay of knowledge, understanding, skills, values, attitudes, and interests (Becker, 1977, p. 21).

Components of competence are the elements of competence. They are its essential, formative parts. They serve - help to constitute an area of competence; they are the essential constituents of ingredients of that whole. . . Major families of the components of competence are requisite knowledge, ability, capability, skill, judgement, attitudes, and values (Gale and Pol, 1975, p. 21).

Competency is knowledge, skills, and judgement which the student will demonstrate at a predetermined proficiency level before initial and/or continuing certification (Seventh Biennial Conference of the Foodservice Systems Management Education Council, 1973, p. 36).

Apparently several parts comprise a competency or an area of competence. Knowledge, skills, and judgment form the link among these definitions. This view agrees with the 1983 Role Delineation and Verification for Entry-level Positions in Foodservice Systems Management. More specifically, the Role Delineation's competency statements include both fundamental knowledge statements and the more concrete "competency" or skill. "Judgment" or the "affective domain," however, does not appear within the Role Delineation.

The Role Delineation also deals with entry-level competencies.

According to Bell (1976)

Entry-level competencies are competencies which the individual should be able to perform independently, as well as those which require guidance from a specialist, at least in the first position or job (p. 134).

For a dietitian to achieve competence in the required skills, training

and education must begin at the undergraduate level. Wenberg and Dahl stated, at the 11th Biennial Conference of the Foodservice Systems Management Education Council (1981), that "all dietitians need training in the management process at the undergraduate level to obtain basic skills for initial competence in the profession" (p. 80). These competencies must also reflect the current needs of society. Holmes (1982) also reflected this view when he stated

The American Dietetic Association periodically reviews the changing role of the dietitian in society and follows through with appropriate changes in the academic requirements for membership. Each dietetic education program has the responsibility to examine and revise its curriculum continually to meet these changes in academic requirements and to reflect the dietitian's current role in the profession (p. 573).

In 1982, Parks and Kris-Etherton (p. 576) conducted a study in Pennsylvania to obtain practitioner's opinions concerning essential entry-level competencies. The most critical competencies for the entry-level dietitian include

- a) an understanding of the managerial processes of planning, organizing, leading, evaluating, and controlling, as well as their relationship to the management of human, material, and financial resources.
- b) an understanding of the process, functions, and interrelationships of various systems of the human body.
- c) an ability to integrate knowledge of biological, social, and professional sciences into a comprehensive concept of human nutrition.

To achieve these competencies, the entry-level generalist dietitian needs a strong knowledge base in the following areas: nutrition and disease, normal nutrition, food selection and planning, and food production systems (Parks and Kris-Etherton, 1982, p. 576).

The ADA's 1981 position paper on recommended salaries and employment practices for members of The ADA standardized the

qualifications for entry-level ADA Dietitians and R.D.s:

The basic professional education of a dietitian includes a baccalaureate degree from an accredited college or university with a major in foods, nutrition, foodservice management, institution management, or related sciences, plus successful completion of one of the following, accredited internship; accredited CUP; approved dietetic traineeship; advanced degree and work experience; approved professional practice (p. 63).

Since 1981, however, The ADA eliminated the approved dietetic traineeships. Plan IV represents the current academic standards for the professional dietitian's educational preparation (Junkermier and Wenberg, 1982). Plan IV requires basic competencies and knowledge areas. One area of Plan IV involves the foodservice systems management competencies.

Jeske (1983), in her study, explored the foodservice systems management competencies of The ADA Plan IV academic programs. Her study revealed "a need for standardization of course titles, course content, teaching, and evaluation strategies to ensure foodservice management competency attainment" (p. 135). Competence in the component of foodservice systems management is vital to DIBIs and other dietitians desiring management positions. As a result, the dietitians desiring management positions need to seek ways to improve their competence.

Two strategies for improving managerial competency include curriculum enhancement and continuing education. Enhancing management areas in dietetics education is a viable alternative to improve manager competency. Courses containing advanced coverage of management theories and quantitative models results in managerial performance at a higher level of competency. A more rigorous and comprehensive management emphasis will assure the profession's continued viability (Hoover, 1983). Parks and Kris-Etherton (1982) perceived "a need for academic

institutions to train both specialists and generalists in the 1980s" (p. 576). In accordance with this statement, Wenberg and Dahl (1981) stated that the "undergraduate curriculum should support a graduate program" (p. 80).

To educate generalist dietitians at the undergraduate level and specialists at the graduate level presents a possible solution to the dietitians' lack of managerial effectiveness. Holmes (1982) stated that

Competency-based education is an approach to education curricula which has gained increased emphasis both in higher education and in secondary school systems (p. 573).

In addition to this, Bell (1976) stated,

Competency-based education refers to behavior that requires a selective and creative blending of the three learning domains--cognitive (intellectual), affective (feelings), and psychomotor (motor skills)--and encompasses a total program (p. 133).

Both The ADA and FSMEC (Foodservice Systems Management Education Council) considered several approaches to competency-based education. One approach emphasized entry-level competencies while the other emphasized role-competencies (Holmes, 1982). Both approaches are useful however, most literature appears to emphasize entry-level competencies. Bell (1976) stated that

The real strength of the competency-based education effort lies in its emphasis on the total program. . . . The studies and learning opportunities of students must meet specific objectives developed on assessed needs in the profession. The resulting output can then be evaluated against standards or a set of criteria (p. 136).

In her article titled "Enhancing Managerial Effectiveness in Dietetics" (1983), Hoover stated,

In these tough economic times, incumbents in leadership positions are being evaluated in terms of their managerial effectiveness. Technical expertise is insufficient; to be seen as capable of assuming important responsibilities, one must have managerial skills. Much more emphasis must be

placed on mastering resource management and managerial skills if we wish to be recognized as effective professionals and chosen to assume leadership positions (p. 58).

In light of Hoover's statement, Bell's (1976) statement (develop objectives based on assessed needs in the profession) gains new significance. Hoover stated a need, therefore, the profession should begin to seek ways to compensate for these deficiencies.

The skills and characteristics that Hoover listed as essential to managerial effectiveness include marketing orientation, systems design skills, quantitative operations management techniques, financial expertise, and leadership. These abilities will ease decision-making and achieve long-term cost-effectiveness (1983, p. 61). King (1982) also listed skills to upgrade effectiveness. The skills he considered important include assertiveness, business skills, appearance, confidence, and knowledge of trends.

In an article titled "Arrangement Model for the 1980's," Garen approached managerial skills from the corporation standpoint. Eight skills that corporations use in assessing managerial potential include oral communications, written communications, leadership, flexibility, decision making ability, inner work standards, organization and planning, and performance stability (1982, p. 43).

The skills Dowling (1981) delineated in her study overlap with some of the skills on the other three lists, yet some additional skills emerged. Dowling's study identified interpersonal and communication skills, general management skills, skills related to all aspects of cost control and financial management, public relations skills, marketing, and mass media techniques (p. 159). Each of these skills is important individually, but collectively they may mean the difference between

competence and incompetence for the dietitian. Letourneau, in 1957, recognized the managerial skills' importance:

Administrative skill is now a necessity in the professional world. Those who take the trouble to learn management can look forward to rich rewards (p. 693).

In addition, Fruin (1983) stated

If the dietetic profession is to increase the number of its members in management positions, attitudes about the importance of management and acquiring of management skills must change (p. 420).

Letourneau's (1957) and Fruin's (1983) statements emphasize the crucial role of managerial skills and competent dietitians.

After defining a competency and reiterating specific skills necessary to manage effectively, the appropriate question becomes "How do you determine and maintain competence?" On June 1, 1969, The ADA launched voluntary professional registration. "The ADA designed registration to assure continuing competency of dietitians, guaranteed by evidence of self-improvement through continuing education" (Bogle, 1974, p. 616).

Requirements for registration became,

- a) membership in The ADA
- b) successful completion of written exam
- c) annual payment of a registration fee
- d) completion of 75 clock hours of continuing education every five years (p. 616).

In 1982, Holli stated

Continuing education is a lifelong responsibility of professionals. Practitioners are expected to maintain and upgrade their knowledge and skills in order to improve their competence to practice. A great deal of an individual's time, effort, and money may be devoted to continuing professional learning (p. 53).

The problem with continuing education is that of lacking evaluative systems (Rinke, David, and Bjoraker, part I, 1982). These systems are

vital to determining if learning actually occurred. Without measures to assure that change has taken place, the profession can not be sure their members' performance is at the desired level. Solutions to this problem abound, yet none of them are flawless. The most reliable measure of participation continues to be an advanced degree (Holli, 1982). These statements are evidence that many challenges face the profession as a whole and DIBIs in particular.

Challenges for DIBIs

As dietitians accept new managerial positions, the need for improving performance becomes evident. As Owen (1984) stated, "management in the 1980s will require a high degree of sophistication and competency" (p. 289). To develop conceptual skills, the manager's education requires emphasizing practical and realistic learning opportunities. Employers of entry-level dietitians also play a vital role in the continued development of critical skills. Employers need to structure training programs and continuing education to aid in assuring continued competence (Owen, 1984).

While Owen (1984) stated that employers have responsibility for the continued competence of dietitians, Galbraith (1980) takes another approach:

Refinement of dietetic practice makes increased responsibility for self-development an individual commitment (p. 531).

The 1984 Study Commission on Dietetics perceived a . . .

. . .need for substantial change if the profession is to fulfill its potential in the years ahead. Dietitians are experts in the science of foods and nutrition, and their expertise is needed in today's world (p. 1052).

The limitations placed on the dietitian's ability to pursue new career

paths, and succeed, result from a lack of knowledge and, once acquired, the ability to sell that knowledge. Conarroe (1981, p. 24-44) delineated 10 items that managers need to consider when planning a self-marketing program:

- 1) Make yourself known
- 2) Look the part
- 3) Act the part
- 4) Speak the part
- 5) Sell your abilities
- 6) Sell your ideas
- 7) Take calculated risks
- 8) Learn the rules of survival
- 9) Conserve your time and energy
- 10) Understand the value of specialization

Before the dietitian can sell his/her managerial expertise, she/he must acquire it. As the 1984 Study Commission stated,

The profession must become more dynamic and more assertive, but in order to do so, it must increase its depth of knowledge and expertise. This will require changes in the education of dietitians at undergraduate, graduate, and continuing levels. It will also require changes in the patterns of dietetic practice and in the activities of The ADA (p. 1052).

For DIBIs, these statements reflect 1) the need to determine actual functions; 2) the need to determine DIBIs' actual managerial skills; and 3) the need to determine the competency areas needs improvement and recommendations for such improvements.

CHAPTER III

METHODS AND PROCEDURES

This study analyzed the responsibilities and activities of Dietitians in Business and Industry and assessed their managerial skills. This chapter outlines the research design; sample; data collection, including planning and development, instrumentation, and survey procedures; and data analysis.

Research Design

This investigation used the descriptive status survey. Descriptive research

involves the description, recording, analysis, and interpretation of conditions that exist. It involves some type of comparison or contrast and attempts to discover relationships between existing nonmanipulated variables (Best, 1981, p. 25).

In this study, the dependent variables consisted of the answers in the form of scores obtained from the questionnaires. The seven independent variables included personal, educational, and experiential variables.

Dietitians in Business and Industry are one of the five Practice Groups in the Division of Management, Council on Practice of The American Dietetic Association. The American Dietetic Association provided the membership list containing names and addresses of 1,221 DIBI members. The listing of DIBI members provided the source for the

simple random sample of 500 DIBIS. The researcher surveyed only DIBIS, thereby limiting generalizations of the results to this same group.

Data Collection

Planning and Development

Planning and development began in the Fall of 1984, and continued through the Spring semester of 1985. The researcher determined procedures for collecting data and techniques for analyzing data in light of the research hypotheses.

Instrumentation

The research instrument evolved into a multi-page questionnaire adapted from Faye (1982), Fisher (1984), Dowling (1981), Jeske (1983), and Taylor (1984), with updated additions. The questionnaire consisted of multiple choice questions, checklists, short answers, and a diary to record activities of a typical day's work. Certain questions also required explanations of responses.

The eight page questionnaire consisted of four sections (Appendix B):

- Section one - questions concerning relevant demographic information.
- Section two - questions about performance, mainly the DIBI's functions and activities.
- Section three - questions focused on the adequacy of education and experience in preparing the DIBI member for his/her position.
- Section four - contained the diary of a typical day's activity along with an explanation of its relevance to the study.

The graduate faculty of the Food, Nutrition, and Institution Administration and Statistics Departments at Oklahoma State University

and six DIBI members practicing in a variety of locations in the U.S. formed a panel to examine the research instrument for content validity, clarity, and format. Suggestions from the panel resulted in minor alterations of the questionnaire. The final draft of the questionnaire incorporated the panel's suggestions. Questionnaire printing involved typing then photocopying on light blue bond paper. A cover letter from both the researcher and a DIBI member accompanied the questionnaire to explain the survey and to solicit cooperation and participation from the DIBI members (Appendix C). The researcher designed the questionnaire to facilitate refolding, stapling, and returning. The researcher also provided postage, in the form of a permit number, to encourage easy return of the completed questionnaire.

Survey Procedures

The researcher mailed the coded questionnaires with cover letters to 500 members of the Dietitians in Business and Industry Practice Group on February 26, 1985, from Central Mailing using bulk rate, third class. On April 5, 1985, the researcher conducted a follow-up mailing consisting of a post card that encouraged increased participation. Due to problems with the Postal Service, many of the DIBI members in the sample did not receive their questionnaires until after the stated return date. A few of the respondents called or wrote requesting additional questionnaires after discarding their first copy when the date expired. Therefore, those requesting a second questionnaire received such immediately.

Data Analysis

The researcher transcribed and processed the collected data onto computer work sheets, then directly onto the IBM terminal (Series 3101 20) using the time sharing option (TSO). This interaction allowed the user direct access to the mainframe computer (IBM 3081D). The researcher selected appropriate programs to analyze the data using the Statistical Analysis System (SAS) (Helwig, 1979) and Chi Square, a standard statistical procedure.

CHAPTER IV

RESULTS AND DISCUSSION

This study assessed the managerial skills and analyzed the functions of Dietitians in Business and Industry. The research instrument, described in Chapter III, was the vehicle for obtaining the data. Five hundred randomly selected members of the DIBI practice group received questionnaires. Total response from the sample surveyed was 20.0% (N=100). Six of the responses were incomplete, hence the researcher analyzed data from only 96 in order to answer the research questions.

Characteristics of Survey Participants

Sex, Marital Status, and Age

The female respondents totaled 99% (N=93), while the male respondent comprised the other 1% (N=1). Fifty-three percent of the respondents were married, 27% (N=25) were single, and the remaining 20% (N=19) were either divorced, separated, or widowed. Twenty-eight percent (N=26) of the respondents were 30 years old or less, 26% (N=24) were 46 and older, 24% (N=23) comprised the group 35-45 years of age, while 22% (N=21) were in the group 31-35 years of age (Figure 1).

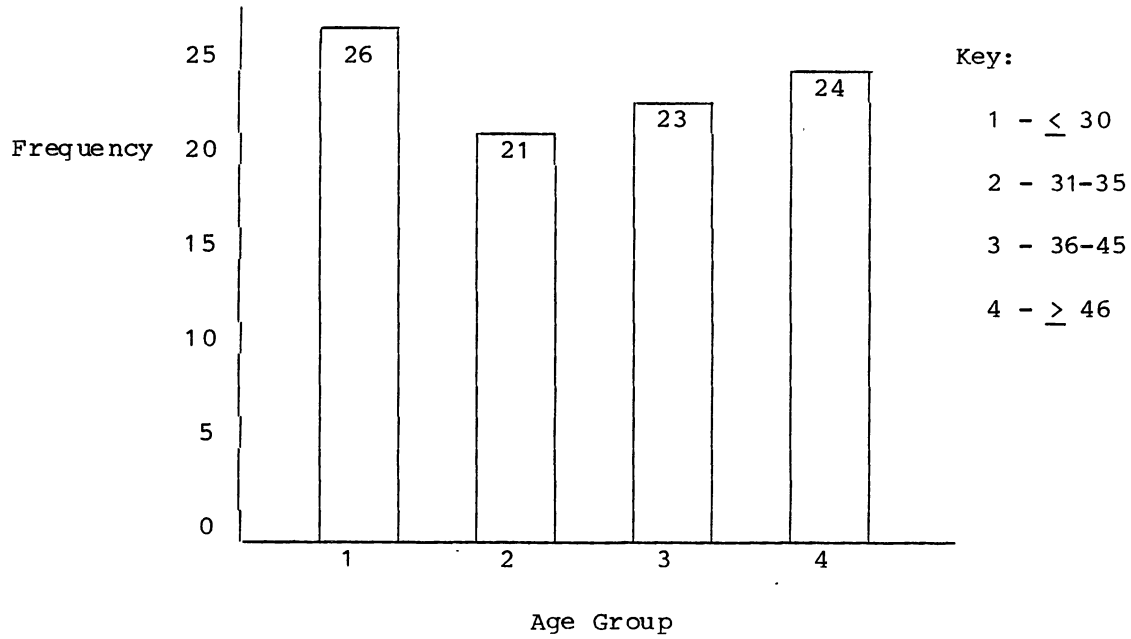


Figure 1. DIBI Respondents by Age Group

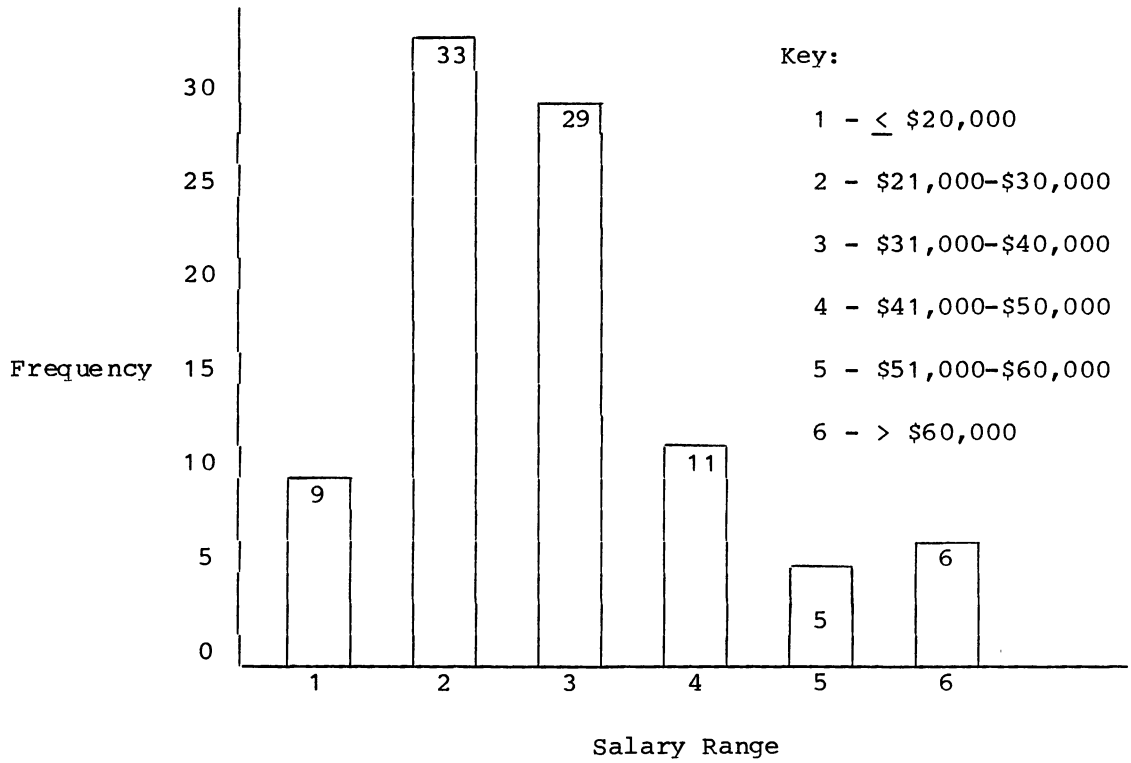


Figure 2. DIBI Respondents by Salary

Highest Level Degree Obtained and Major

Of the respondents, 52% (N=48) obtained advanced degrees, while 48% (N=45) earned a bachelor's degree. Eighty-percent (N=63) majored in dietetics, nutrition, or institution management, 11% (N=9) comprised the "other" category (Appendix D), while the remaining 9% (N=7) majored in some area of business.

R.D. Status

Ninety-nine percent (N=92) of the respondents were R.D.s, while 1% (N=1) was non-R.D. One other respondent did not answer this question. The researcher then arbitrarily eliminated R.D. status as an independent variable in all hypotheses.

Annual Salary

Ten percent (N=9) of the respondents earned an annual salary that was under \$20,000 (Figure 2). Some possible reasons for this were "working only nine months," "first year in position," "new business," and "doing six month work experience." Also, some of these respondents were part-time consultants which could be indicative of consultants in general. This was consistent with what The ADA suggested as an entry-level, full-time salary. The April, 1981, issue of the Journal of The American Dietetic Association suggested approximately \$16,000 annually for entry-level practitioners. In contrast to this, 7% (N=6) of the respondents earned greater than \$60,000 annually. This information was of interest in light of Taylor's 1984 study of the quality of worklife of DIBIs. Taylor set the upper limit on the salary range at \$40,000 and

this category was one of the two groups with the greatest percentage of respondents.

The most prevalent salary ranges in this study were \$21,000-\$30,000 with a 36% (N=33) response rate and \$31,000-\$40,000 with a 32% (N=29) response rate. These figures agree in part with Taylor's results. She discovered that \$25,000-\$29,000 and \geq \$40,000 were the most prevalent salary ranges.

Number of Years in Dietetic Profession, Business
and Industry, and Present Job

Twenty-six percent (N=24) of the respondents indicated employment five years or less in the dietetic profession. Twenty-six percent (N=24) also indicated employment from six to 10 years. Twenty-four percent (N=23) indicated employment in the dietetic profession from 11 to 19 years and 24% (N=23) indicated 20 or more years of employment. Employment in business and industry for 48% (N=45) of the respondents totaled five years or less. Employment for 23% (N=21) ranged from six to 10 years and 23% (N=21) ranged from 11 to 19 years, while the remaining six percent (N=6) worked in business and industry 20 or more years. Of the 93 respondents 74% (N=69) occupied their present job five years or less, while 17% (N=16) maintained their present positions six to 10 years. In addition, six percent (N=6) of the respondents maintained their positions from 11 to 19 years and only three percent (N=2) maintained their present positions 20 or more years.

Position Title

Consultants/clinical dietitians represented 24% (N=22) of the respondents. Both manufacturing/sales representatives and directors/administrators/executives ranked second with 23% (N=21) of the respondents each. The position title "other" ranked third with 19% (N=18) of the respondents, while presidents and vice-presidents ranked fourth with 12% (N=11) of the respondents. Table I lists the position titles along with their frequency of response and percentage of response. For a list of "other" position titles, please refer to Appendix D.

TABLE I
POSITION TITLES

Position Title	Frequency	Percentage*
Consultants/Clinical Dietitians	22	24%
Manufacturing/Sales Representatives	21	23%
Directors/Administrators/Executives	21	23%
"Other"	18	19%
Presidents and Vice-Presidents	11	12%

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

Type of Business and Industry

The group "other" (Appendix D) employed the largest number of respondents with 46% (N=41). The group business--food/nonfood employed 42% (N=37) of the respondents, while 12% (N=11) comprised the hospital/health care group. Table II contains the types of business and industry employing DIBIs as well as their frequency and percentage of total. As expected, the majority of respondents were employees of some form of business organization, however, a surprising number were hospital/healthcare employees. This fact is possibly a result of The ADA allowing members to join one or more practice groups regardless of whether they are practicing in that group or not. Also, healthcare industry may indeed have hospitals, and/or a number of nursing homes, run as a business.

TABLE II
TYPE OF BUSINESS OR INDUSTRY

Type	Frequency	Percentage
Other	41	42%
Business--Food/Nonfood	37	12%
Hospital/Healthcare	11	46%

Managerial Skills

The list of 11 managerial skills appeared in two places on the questionnaire. The first set of managerial skills dealt with their importance to the respondents' positions. The second set of managerial skills dealt with the respondents' academic preparation in the 11 specific skill areas. The researchers also compared the respondents' academic preparation in the skill areas to the importance to their jobs to determine if some correlation exists.

Interpersonal Skills

This skill area encompassed all skills needed to interact with employers, peers, and employees. As the researcher expected, the majority of the 94 respondents felt this skill to be very important in their jobs. In addition, the six demographic variables did not significantly affect this skill area. Academic preparation of the respondents in this skill area varied. The majority of respondents felt their preparation was either adequate or fair. As with this skill area's importance to the respondents' jobs, the six demographic variables did not significantly affect academic preparation either. It is difficult to say why the six variables did not affect this managerial skill, however, one possible reason could be that, across all groups, the respondents received adequate preparation.

Written Communications Skills

This managerial skill dealt with the importance of the ability to write effectively and accurately and how the DIBIs' academic training prepared them in this area. The majority of the 94 respondents felt

that this skill was either "very important" or "important" to their jobs. Academic preparation in this skill area ranged from "excellent" to "poor" with the majority of responses as being "adequate."

The variables of age, highest degree obtained, place of employment, job title, and years of experience in dietetics did not significantly affect written communication skills. The variable years of experience as DIBI, however, significantly affected ($p=0.0220$) written communication skills. Of the 46 respondents employed five years or less in business or industry, 59% ($N=27$) felt that written communication skills were very important to their jobs. The remaining 41% ($N=19$) of those employed five years or less indicated that written communication skills were either important or slightly important to their jobs. The 20 respondents employed six to 10 years in business or industry exhibited an inverse relationship to the previous group. More specifically, 55% ($N=11$) felt written communication skills were important or slightly important while only 45% ($N=9$) felt this skill was very important. The remaining groups, 11-19 years and 20 or more years, followed the same pattern as those employed five years or less. More respondents indicated that written communication was very important to their jobs rather than important or slightly important. As expected, this variable was very important to DIBIs' positions. It does seem unusual that the group employed six to 10 years did not feel it was as important as the other three groups. Perhaps those with six to 10 years experience may have had different job responsibilities. The entry level DIBIs may have to do more writing therefore it is more important to their positions. The researcher also expected the variable years experience in dietetics to have a significant effect, yet it did not.

TABLE III

SIGNIFICANT ASSOCIATIONS BETWEEN MANAGERIAL SKILLS AND DEMOGRAPHIC VARIABLES

Variable	Managerial Skill	Written Communication Skills (MS2)	General Management Skills (MS4)	Cost Control Skills (MS5)	Financial Management (MS6)	Mass Media (MS8)	Computer Application Skills (MS11)
Years experience as DIBI	χ^2 df p= 6	14.790 0.0220 (a)	0.2212 (a)	0.4125 (a)	0.4196 (a)	0.4000 (a)	0.7781 (a)
Job title	χ^2 df p= 4	0.1749 (a)	13.291 0.0099 (a)	0.3081 (a)	0.6739 (a)	0.0568 (a)	0.5607 (a)
Highest degree obtained	χ^2 df p= 2	0.5817 (a)	7.274 0.3487 (a) 0.0263 (b)	0.1232 (a)	0.2736 (a)	0.1000 (a)	0.3877 (a)
Place of employment	χ^2 df p= 4	0.5565 (a)	0.3738 (a)	21.635 0.0002 (a)	22.048 0.0002 (a)	10.658 0.0307 (a)	0.1697 (a)
Age	χ^2 df p= 6	0.3481 (a)	0.8981 (a)	0.4934 (a)	13.058 0.3763 (a) 0.0421 (b)	0.9988 (a)	20.220 0.8611 (a) 0.0025 (b)
Years experience in dietetics	χ^2 df p= 6	0.5543 (a)	0.7070 (a)	0.6124 (a)	12.405 0.1398 (a) 0.0535 (b)	0.9034 (a)	0.2555 (a)
Computer application skills (Importance to job)	χ^2 df p= 4	-----	-----	-----	-----	-----	11.012 0.0264 (b)

(a) Importance to the job

(b) Academic preparation

Explanations for these occurrences were not evident, however Dowling's study (1981) supported the importance of this managerial skill.

Verbal Communication Skills

This skill area included all oratory and grammatical skills. As expected, the majority of the 94 respondents determined this skill area to be very important to their jobs. The academic preparation in this skill area appeared to be evenly dispersed among the excellent, adequate, and fair responses. These responses were not significantly affected by the six variables. Possible reasons for no significant effect were not determined, however, Dowling's study (1981) supported the importance of this managerial skill.

General Management Skills

This skill area covered the basic management skills. The majority of the 94 respondents felt this skill area to be either very important or important to their jobs. In contrast, their academic preparation in this area tended to be only either adequate or fair.

The variables of age, highest degree obtained, place of employment, years of experience in dietetics, and years of experience as DIBI did not significantly affect the importance of this skill area in relation to the DIBIs' jobs. On the other hand, job title did significantly affect ($p=0.0099$) the importance of this skill area (Table III).

Of the five groups of job titles, three groups followed the same pattern with the majority of respondents determining general management skills to be very important to their jobs. More specifically, 64% (N=7) of the eleven presidents and vice-presidents chose very important as

compared with the 36% (N=4) that chose important or slightly important. Sales/manufacturers' representatives and "others" followed this same pattern with 62% (N=13) and 72% (N=13) respectively choosing very important. The remaining 38% (N=8) of the sales/manufacturers' representatives chose important/slightly important as did the remaining 28% (N=5) of the "others".

Consultants/clinical dietitians and directors/administrators/executives had an inverse relationship to the other three groups in that the majority of respondents in both groups felt that general management skills were important or slightly important to their jobs as opposed to very important. Of the 22 consultants/clinical dietitians, 77% (N=17) selected important or slightly important with the remaining 23% (N=5) selecting very important. The same held true for the directors/administrators/executives with 62% (N=13) of the 21 respondents choosing important or slightly important and the remaining 38% (N=8) choosing very important.

The variables of age, place of employment, job title, years of experience in dietetics, and years of experience as DIBI did not significantly affect academic preparation in the area of general management skills however, the variable highest degree obtained did significantly affect ($p=0.0263$) academic preparation in general management skills (Table III). Of the 93 DIBIs who responded to this question, 48% (N=45) attained bachelor of science degrees while the remaining 52% (N=48) consisted of all other degrees.

Of the 45 B.S. degree holders, 53% (N=24) described their academic preparation in general management skills as fair or poor while the remaining 47% (N=21) described their academic preparation as excellent

or adequate. Of the 48 "other" degree holders, 44% (N=21) described their preparation as excellent or adequate while 42% (N=20) felt it was fair or poor. In addition, 14% (N=7) of the "other" group stated they had preparation in this area.

It stands to reason that position title would affect this skill in relation to importance to job. All respondents felt general management skills were at least important but the variance among groups seems to result from the orientation of the groups. For example, those with more of a business orientation, presidents/vice-presidents and sales/manufacturing representatives, thought general management skills were more important than did the consultants/clinical dietitians and directors/administrators/executives. Concerning this skill area and Academic Preparation (AP), it appears that one reason for a smaller percentage of those with B.S. degrees to select excellent/adequate as a descriptor of preparation as compared with the larger majority of advanced degree holders, is that those with B.S. degrees have not had the experience or preparation that those with advanced degrees have had. It makes sense that the more experience and academic training a person has, the more prepared he/she is in certain skill areas. Dowling's study (1981) supported this finding as she determined this area to be important as well.

Cost Control Skills

This skill area included all types of controls, their use, and importance. The majority of the 94 respondents felt that this skill was important to their jobs with slightly fewer DIBIs depicting it as very important.

The variables of age, highest degree obtained, job title, years of experience in dietetics, and years of experience as DIBI did not significantly affect the area of cost control skills, however, the variable place of employment (type of business or industry) significantly affected ($p=0.0002$) cost control skills (Table III). More specifically, the 89 respondents to this variable comprised three groups: 33% (N=29) hospital/healthcare, 40% (N=36) business--food and nonfood, and 27% (N=24) "other". Within the hospital/healthcare group, 79% (N=23) of the respondents felt cost control skills were important or slightly important to their positions, 17% (N=5) felt this skill area was very important, and four percent (N=1) felt it was unimportant. The business--food and nonfood positions followed the same pattern with 61% (N=22) of the respondents stating that this skill area was important or slightly important, followed by 31% (N=11) stating it was very important. The third group, "other", deviated from the pattern of the other two and 75% (N=18) of the respondents felt it was very important, while the remaining 25% (N=6) felt it was important or slightly important.

The responses in relation to academic preparation in this skill area clustered around fair/poor followed by excellent/adequate with several more stating they never had preparation in this area. The variables of age, highest degree obtained, place of employment, job title, years of experience in dietetics, and years of experience as DIBI did not significantly affect academic preparation in the area of cost control skills.

The fact that the majority of respondents felt cost control skills were not very important but rather important/slightly important could be the result of the majority of respondents being hospital/healthcare

employees. Therefore, they may not be directly involved in the financial aspect of the business they were in. This reasoning, however, does not explain the large number of respondents in business--food/nonfood selecting this descriptor as well. Dowling's study (1981) did, however, support the importance of this skill to DIBIs.

Financial Management

This skill area incorporated all skills dealing with the financial aspect of management such as budgeting and accounting. Of the 94 respondents, the majority determined this skill area to be very important or important to their jobs. Very few selected unimportant as an answer.

The variables age, highest degree obtained, job title, years of experience in dietetics, and years of experience as DIBI did not significantly affect this skill area and its importance to the respondents' jobs, however, the variable place of employment (type of business or industry) significantly affected ($p=0.0002$) financial management (Table III). Of the 89 respondents, 33% ($N=29$) comprised the group hospital/healthcare, 40% ($N=36$) comprised the group business--food and nonfood, and 27% ($N=24$) comprised the group other.

Within the hospital/healthcare group, 69% ($N=20$) felt financial management was important or slightly important to their positions, 28% ($N=8$) felt it was very important, and three percent ($N=1$) felt it was unimportant. The business group followed this same pattern with 64% ($N=23$) of the respondents selecting important or slightly important, 22% ($N=8$) selecting very important, and 14% ($N=5$) selecting unimportant. The group "other" had an inverse relationship to the previous groups

with 75% (N=18) selecting very important and the remaining 25% (N=6) selecting important or slightly important.

The 94 responses in relation to academic preparation in financial management tended toward fair/poor. The variables of highest degree obtained, place of employment, job title, and years of experience as DIBI did not significantly affect academic preparation in financial management, however, the variables of age and years of experience in dietetics significantly affected, ($p=0.0421$) and ($p=0.0535$) respectively, academic preparation in financial management (Table III).

Of the 26 respondents 30 years of age and less, 77% (N=20) felt that their academic preparation in financial management was fair/poor, while 11% (N=3) never had preparation in financial management. Of the 21 respondents aged 31-35, 76% (N=16) felt that their preparation in financial management was fair/poor while 19% (N=4) never had financial management. The remaining five percent (N=1) felt that their preparation was excellent/adequate. Of those aged 36-45, 44% (N=10) stated their preparation as fair/poor, while 39% (N=9) felt it was excellent/adequate, and 17% (N=4) never had financial management. Of the 24 respondents 46 years of age or older, 75% (N=18) that felt their preparation in financial management was fair/poor. Twenty-one percent (N=5) of this group felt their preparation was excellent/adequate and four percent (N=1) never had financial management. The previous data informs us that the majority of respondents throughout the age groups felt their academic preparation in financial management was fair at its best.

The variable years of experience in the profession was also significant ($p=0.0535$) (Table III). Of the 94 respondents, 26% (N=24)

had five years or less experience in the profession, 26% (N=24) have six to 10 years experience, 26% (N=24) had 11-19 years, and 23% (N=22) had 20 or more years experience in the profession. Of those in the five years or less group, 88% (N=21) looked on their preparation in financial management as fair/poor, while eight percent (N=2) felt it was excellent/adequate, and four percent (N=1) never had financial management. Of those with six to 10 years experience, 67% (N=16) felt their preparation was fair/poor, while 25% (N=6) never had financial management, and 8% (N=2) felt it was excellent/adequate. Of those with 11-19 years experience, 58% (N=14) felt their preparation in the area of financial management was fair/poor. Twenty-five percent (N=7) of this group felt it was excellent/adequate and the remaining 13% (N=3) never had financial management. Within the group that had 20+ years of experience, 59% (N=13) felt their preparation in financial management was fair/poor, while 32% (N=7) felt it was excellent/adequate, and the remaining nine percent (N=2) never had preparation in financial management. Once again, the majority of the respondents chose fair/poor to describe their academic preparation in financial management.

As expected, this managerial skill was important yet the respondents felt their preparation was only fair/poor. DIBIs in all age groups were lacking in financial skills. It did appear, however, that those respondents with fewer years experience in the profession were less knowledgeable in this skill area than those with more experience. The importance of this skill area seems justified as a result of Dowling's (1981) study as well as Hoover's statement (1983) of skills needed to be an effective manager. The lack of preparation in financial

management designates a need to incorporate this subject matter in dietetic education.

Marketing

This skill area encompassed the abilities to sell one's abilities and knowledge, as well as nutrition and its benefits. Of the 94 respondents, the majority felt that this skill was very important. In addition, the majority of respondents stated that they never received preparation in the area of marketing. Contrary to the researcher's expectations, the variables of age, highest degree obtained, place of employment, job title, years of experience in dietetics, and years of experience as DIBI did not significantly affect marketing in either its importance to the respondents' positions or their academic preparation in this area. Dowling's study (1981) reinforced the importance of this skill with over 50% of her study's respondents designating it as important. Hoover (1983) also listed this as an essential skill therefore, as a result of the lack of preparation, DIBIs should possibly consider improving this area through continuing education or some other means.

Mass Media

This skill area included all abilities dealing with radio, television, public relations, etc. Of the 94 respondents, the majority indicated this skill area to be important or slightly important to their positions. The majority of respondents also never had academic preparation in mass media skills.

The variables of age, highest degree obtained, job title, years of experience in dietetics, and years of experience as DIBI did not significantly affect mass media. Only place of employment significantly affected ($p=0.0307$) the importance of mass media in relation to the respondents' positions (Table III).

Of the 89 respondents to this variable, business--food and nonfood employed 40% (N=36). Hospital/healthcare employed 33% (N=29) of the respondents, and the remaining 27% (N=24) fell under the heading "other". Within the business--food and nonfood group, 67% (N=24) felt mass media was important/slightly important to their positions, while 22% (N=8) felt it was unimportant, and the remaining 11% (N=4) felt it was very important. Within the hospital/healthcare group, 86% (N=25) felt mass media was important/slightly important. The remaining 14% (N=4) in this group thought mass media was very important. Within the "other" group, 58% (N=14) indicated mass media to be important/slightly important to their positions, while 33% (N=8) indicated it was unimportant, and 8% (N=2) said it was very important.

Once again, we have a case where an important skill to the DIBI, mass media, is one where adequate educational preparation was absent. As expected, place of employment significantly affected this managerial skill. A possible explanation for the majority of respondents stating it was only important/slightly important could be that their positions do not involve such activities. Dowling (1981) designated this skill area as important as well as an area needing improvement in the DIBI's training.

Public Relations

This skill area involves working with people and all the specifics that accompany this task. The majority of the 94 respondents appeared to designate public relations skills as very important and important to their positions. Few respondents chose slightly important or unimportant. The majority of respondents also related that they never had academic preparation in public relations. The remaining respondents were fairly evenly dispersed among adequate, fair, and poor with very few selecting excellent as a descriptor of academic preparation. The variables of age, highest degree obtained, place of employment, job title, years of experience in dietetics, and years of experience as DIBI had no significant effect on either academic preparation or importance to position in relation to public relations skills. Results reinforced Dowling's (1981) findings that public relations skills are an important skill area in business and industry.

Assertiveness

This skill incorporates aggressiveness, availability, willingness, etc., in relation to new tasks and responsibilities. Of the 94 respondents, the majority determined this skill to be very important to their positions, whereas fewer respondents selected important to the job as a descriptor. Very few of the respondents chose slightly important or unimportant. In reference to academic preparation in this skill area, the responses appeared to be evenly dispersed among fair, poor, and never had. Although several respondents selected adequate preparation in assertiveness, considerably less selected excellent as an answer. As expected, this skill area ranked important to very important

in relation to position, yet very few received adequate training. The variables of age, highest degree obtained, place of employment, job title, years of experience as DIBI did not significantly affect assertiveness. No significant effects were found for either importance to position or academic preparation. King (1982) referred to this skill as being important to upgrading effectiveness. This statement reinforces the importance of this skill in this study. Respondents also felt their preparation was poor, therefore additional training needs to be incorporated into the DIBI's academic or experiential preparation. This may be difficult due to the fact that assertiveness is more a characteristic that one develops over time with practice, rather than a subject matter per se, but perhaps, case studies requiring role playing need to be incorporated in dietetic education to ascertain that individuals develop skills in assertiveness.

Computer Application Skills

This skill area involved all areas of computer program use, not so much programming or program development. The 94 responses appeared evenly dispersed over the descriptors for importance to position. Apparently importance of these skills varies with the position.

The variables of age, highest degree obtained, and place of employment had no significant effect on importance to position. In addition, job title, years of experience in dietetics, and years of experience as DIBI had no significant effect on the importance of computer application skills to position.

Academic preparation revealed something a little different. The majority of the responses appeared under the never had column with sparse responses in all other columns.

The variables of employment, job title, years of experience in dietetics, and years of experience as DIBI had no significant effect on academic preparation in the area of computer application skills. The variable of age did significantly affect ($p=0.0025$) academic preparation in the area of computer application skills (Table III). More specifically, of the 91 responses to this variable 26% ($N=24$) were from those 30 years of age and younger, 26% ($N=24$) were from those 46 years of age and older, 25% ($N=23$) were from those 36-45 years of age, and the remaining 22% ($N=20$) were from those 31-35 years of age. Sixty percent ($N=55$) of the 91 total responses fell into the never had column in relation to academic preparation, followed by 31% ($N=28$) in the fair/poor column, and the remaining nine percent ($N=8$) in the excellent/adequate column.

Within the 30 years or younger age group, 42% ($N=10$) selected fair/poor as the descriptor of their preparation, while 33% ($N=5$) stated they never had preparation in computer application skills. The remaining 25% ($N=6$) chose excellent/adequate as a descriptor. Within the age group 46 and older, 88% ($N=21$) stated they never had academic preparation in computer application skills. The remaining 12% ($N=3$) chose fair/poor as a descriptor of their preparation. Within those 36-45 years of age, 65% ($N=15$) stated they never had academic preparation in computer application skills, while 30% ($N=7$) chose fair/poor as descriptors, and four percent ($N=1$) chose excellent/adequate. Within those 31-35 years of age, 55% ($N=11$) stated they never received preparation, followed by 40% ($N=8$) that felt fair/poor described their preparation, and five percent ($N=1$) felt excellent/adequate was the best descriptor. An interesting, but expected, trend appeared within the above data. It

became evident that the older the respondents became the less adequate their preparation in computer application skills.

When comparing academic preparation in this skill area with importance to position, a significant ($p=0.0264$) relationship surfaced (Table III). Out of a total of 91 responses, 64% (N=58) fell within the important/slightly important column, followed by 22% (N=20) in the very important column, and 14% (N=13) in the unimportant column.

Within the important/slightly important group, 67% (N=39) stated they never had academic preparation in computer application skills, followed by 24% (N=14) that felt their preparation was fair/poor, and nine percent (N=5) that felt their preparation was excellent/adequate. Within the very important group, 55% (N=11) felt their preparation was fair/poor, followed by 30% (N=6) that never received preparation, and 15% (N=3) that described their preparation as excellent/adequate. Within the unimportant group, 77% (N=10) never received preparation, while the remaining 23% (N=3) felt their preparation was fair/poor. The pattern that receives reinforcement through this data is that those who believed that computer application skills were important to their positions never received preparation in that area.

Even though the majority of respondents never received training in computer application skills, an interesting pattern surfaced. It appeared that the older the DIBI member was, the less confident he/she was with the training received. This is understandable because computer skills were not extensively taught 20 years ago, nor were such rapid changes in technology taking place. As a result, the more recent graduates of dietetics programs would naturally be more prepared. Also, in Plan IV, required in 1972, computer application skills are

recommended in the generalist program and required in the management specialization. Prior to 1972, Plan IV did not require such a skill. When comparing this skill's importance to the DIBI's job and the DIBI's academic preparation, the same pattern surfaced.

Other(s)

Due to the number and variety of those skills written in by the respondents, the "other(s)" did not receive analysis. A complete listing along with rank may be found in Appendix D.

Additional Educational Experiences

The purpose of this question was to cover any unique experiences or advanced education otherwise overlooked on previous questions. Of the 94 instruments returned, only 81 responded to this question. These 81 responses varied a great deal. Some of the responses reflected subject matter, while others reflected processes or conceptualizations.

The variables of age, place of employment, job title, and years of experience in dietetics did not significantly affect additional educational experiences. The variables of highest degree obtained and years of experience as DIBI significantly affected, ($p=0.0235$) and ($p=0.0371$) respectively, additional educational experiences.

Responses totalled 30 for the variable highest degree obtained. Sixty-seven percent ($N=20$) of these responses were from those who held B.S. degrees. The remaining 33% ($N=10$) constituted the "other" category. Within the B.S. group, 70% ($N=14$) stated they had additional experience or on the job training, while 25% ($N=5$) fell within the "other" column, and five percent ($N=1$) stated they were working on an

advanced degree. Within the "other" degree category, 50% (N=5) stated their experiences as those other than advanced degree, and on the job training, while 30% (N=3) classified their additional training as advanced degrees, and 20% (N=2) classified theirs as experience/on the job training (OJT). The trend that surfaced here appeared to be that those who held only B.S. degrees compensated for their education through experience and on the job training. The other significant variable was years of experience as DIBI ($p=0.0371$). There were 31 respondents to this variable and 45% (N=14) of these respondents worked for five years or less as DIBI. Twenty-six percent (N=8) of the 31 respondents practiced as DIBI for six to ten years, 23% (N=7) practiced as DIBI for 11-19 years, and six percent (N=2) practiced as DIBI for 20 or more years.

Within the group having five or less years experience as DIBI, 50% (N=7) stated they received additional experience and OJT, while 43% (N=6) stated they received their experience in ways other than advanced degrees and OJT. The remaining seven percent (N=1) stated advanced degrees as additional experience. Within the group having six to 10 years of experience as DIBI, 63% (N=5) stated experience/OJT as their means of additional preparation, while the remaining 37% (N=3) stated advanced degrees as their means of additional experience. Within the group having 11-19 years experience as DIBI, 71% (N=5) classified their experiences as something other than advanced degrees and OJT, while 29% (N=2) stated experience/OJT as their means of additional preparation. Within the group having 20 or more years experience as DIBI, 100% (N=2) stated their means of preparation as experience/OJT. The emergent pattern seemed to be one where as years of experience increased,

additional educational experiences decreased. Also, the most popular means of additional preparation was not advanced degrees, but rather experience/OJT. As expected, highest degree obtained and years experience in business and industry significantly affected the additional experiences of the DIBI members. As expected, those with B.S. degrees listed OJT/experience as a means of additional education because they naturally did not have advanced degrees. Those with advanced degrees achieved additional education by other means, but surprisingly, few selected OJT/experience as their means. The significance of years in business and industry as related to additional education/experience appeared to be that, those with more than 10 years experience did not attain advanced degrees. Also, those with less than five years experience achieved additional education through experience/OJT. The researcher expected that those just out of college would tend to work for a while and, as indicated by the data, after five years, the majority tended to return to school for advanced degrees.

Role Functions

This section of the questionnaire covered the functions and activities that the DIBI may have performed. The purpose of this section was to determine exactly what the DIBIs' responsibilities were and the frequency with which he/she performs the activities. In essence, a minirole delineation of DIBIs. This section is divided according to major areas of responsibility with several individual functions listed for each. For clarification and expansion of responsibilities, please refer to The ADA's Role Delineation and Verification for Entry-level Positions in Foodservice Systems

Management. The number of responses varies throughout this section due to the fact that not all functions are applicable to all DIBI positions.

Focuses Professional Services/New Products on

Nutrition Goals of Target Market

This function contains three activities. The first activity is "analyzes needs of target market." The second activity is "proposes services/products to meet needs," and the third activity is "incorporates nutrition related preferences of target market into services/products." Within this function's three activities, the variables age, and years of experience as DIBI had no significant effect, however, the variables highest degree obtained and years of experience in dietetics significantly affected ($p=0.0231$) and ($p=0.0147$) respectively, the activity "analyzes needs of target market" (Table IV). In addition, the variables highest degree obtained, job title, and place of employment significantly affected, ($p=0.0488$), ($p=0.0186$), and ($p=0.0028$) respectively, the activity "proposes services/products to meet needs." As with the previous activity, place of employment also significantly affected ($p=0.0103$) the activity "incorporates nutrition related preferences of target market into services/products" (Table IV).

Concerning the first activity, "analyzes needs of target market" and the variable highest degree obtained, 56% (N=50) of the 90 respondents stated that they performed this activity daily, weekly, or monthly (D, W, or M). An additional 27% (N=24) stated that they performed it quarterly, biannually, or yearly (Q, B-A, or Y), while the remaining 18%

TABLE IV
SIGNIFICANT ASSOCIATIONS BETWEEN FUNCTION ONE
AND DEMOGRAPHIC VARIABLES

Variable	Activity	Analyzes Needs	Proposes Services/Products	Incorporates Preferences
Highest degree				
obtained	χ^2	7.534	6.039	
	df	2	2	
	p=	0.0231	0.0488	0.4195
Years experience in				
dietetics	χ^2	15.834		
	df	6		
	p=	0.0147	0.0613	0.2599
Job title				
	χ^2		18.366	
	df		8	
	p=	0.0836	0.0186	0.2141
Place of employment				
	χ^2		16.195	13.199
	df		4	4
	p=	0.1039	0.0028	0.0103

(N=16) stated that this activity was not applicable. Forty-eight percent (N=43) of these 90 respondents had B.S. degrees while the remaining 52% (N=47) fell under the category of "other". A greater percentage of those with B.S. degrees, 67% (N=29), performed this activity D, W, or M than did those in the "other" category, 45% (N=21). Also, a greater percentage of the "other" category, (N=13, 28%), than the B.S. degree holders, (N=3, 7 percent), felt this activity was Not Applicable (NA). With regards to the first activity, the variable years of experience in dietetics, 56% of the 91 respondents performed this activity (D, W, M) while 24 (26 percent) performed it Q, B-A, and Y. The remaining 18% (N=16) felt this activity was not applicable to their position. Within the group employed five years or less in the profession, the majority, 68% (N=15) performed this function D, W, or M. The majority of those employed six to 10 years, 50% (N=12), performed this activity Q, B-A, or Y, while the majority of those with 11-19 years of experience chose D, W, or M as a descriptor. The same held true for those with 20 or more years experience with 73% (N=16) choosing D, W, or M.

Within the second activity, "proposes services/products to meet needs," and in relation to the variable highest degree obtained, 58% (N=52) of the 89 respondents chose D, W, or M. Sixty-nine percent (N=29) of those with B.S. degrees chose D, W, or M, while 49% (N=23) with "other" degrees chose D, W, or M. In relation to the variable position title, 58% (N=52) of the 89 respondents chose D, W, or M. The majority of each group, according to title, selected D, W, or M to describe the frequency with which they perform this activity. In relation to the variable place of employment, 60% (N=51) of the 85 respondents chose D, W, or M to describe the frequency with which they

perform this activity. Of the three groups under place of employment (hospital/healthcare, business--food and nonfood, and other) the majority of the hospital/healthcare group (N=12, 43%) chose Q, B-A, or Y as compared to the majorities of business--food and nonfood, (N=23, 70%), and other, (N=18, 75%), choosing D, W, or M.

Within the third activity (incorporates nutrition related preferences of target market into services/products) and in relation to the variable place of employment, 54% (N=45) of the 83 respondents chose D, W, or M to describe their performance of this activity. Once again, the majority of the group hospital/healthcare did not select D, W, or M, but rather was evenly dispersed, 35% (N=9), over both Q, B-A, or Y and NA. The majority of the other two groups chose D, W, or M as their frequency for this activity.

Advances Practitioner Competence

This function included four activities:

- 1) Assesses own performance in dietetic practice
- 2) Plans self-improvement program
- 3) Implements self-improvement program
- 4) Evaluates self-improvement program

Concerning this function's four activities, the variables age, highest degree obtained, job title, and years of experience as DIBI had no significant effect. Years of experience in the profession was significant, ($p=0.0379$) and ($p=0.0411$) respectively, for activities three and four. In addition, place of employment significantly affected ($p=0.0388$) activity four.

In regards to activity three and years of experience in dietetics, 46% (N=41) of the 89 respondents performed this activity D, W, or M, while 37% (N=33) performed it Q, B-A, or Y. The majority of those employed less than or equal to five years, 39% (N=9), and those with 11 to 19 years of experience, 73% (N=16), chose D, W, or M, while the majority of those employed six to 10 years, 43% (N=10), and 20 or more years, 52% (N=11), chose Q, B-A, or Y.

In regards to activity four and place of employment, 42% (N=35) of the 83 respondents chose Q, B-A, or Y, while 39% (N=32) chose D, W, or M. Two of the three groups that constituted place of employment (hospital/healthcare and other) followed the same pattern with 50% (N=13) and 52% (N=12) respectively, selecting Q, B-A, or Y as compared to the 35% (N=12) of the third group (Business-food and nonfood) that chose D, W, or M. In addition, 35% (N=12) of the group business--food and nonfood felt this activity was not applicable to their positions.

Concerning activity four and years of experience in dietetics, 41% (N=36), and 40% (N=35) of the 88 respondents chose Q, B-A, or Y and D, W, or M respectively. Within the four fairly evenly divided sections of years of experience in dietetics, no two groups followed a similar pattern. Within the group having five years or less experience, both Q, B-A, Y and NA received 35% (N=8) of the respondents. Within the group having six to 10 years experience, 56% (N=13) chose Q, B-A, or Y while 22% (N=5) of the respondents chose D, W, or M and 22% (N=5) chose NA. For those with 11-19 years of experience, the majority, 64% (N=14) chose D, W, or M while 45% (N=9) of those with 20 or more years experience chose D, W, or M as well as Q, B-A, or Y.

Promotes Positive Working Relations with Others

Who Impact the Services/Products

This function consisted of four activities:

- 1) Determines those individuals who impact the services/
products
- 2) Establishes communication
- 3) Establishes working relationships
- 4) Communicates system-related information

Concerning this function's four activities, none of the following variables significantly affected them: age, highest degree obtained, job title, place of employment, years experience in dietetics, and years experience as DIBI.

Utilizes Menu in Overall Control Processes

This function included four activities:

- 1) Plans menus
- 2) Integrates menus
- 3) Evaluates menus
- 4) Directs changes in menus

Concerning this function's four activities, the variables age, years of experience in dietetics, and years of experience as DIBI had no significant effect. Highest degree obtained significantly affected, ($p=0.0088$) and ($p=0.0039$) respectively, activities one and four. In addition, job title significantly affected, ($p=0.0205$) activity one and place of employment significantly affected, ($p=0.0001$), ($p=0.0001$), ($p=0.0001$) and ($p=0.0001$) respectively, activities one, two, three, and four (Table V).

TABLE V
SIGNIFICANT ASSOCIATIONS BETWEEN FUNCTION FOUR AND
DEMOGRAPHIC VARIABLES

Variable	Activity	Integrates		Evaluates	Directs
		Plans	Menus	Menus	Changes
Highest degree					
obtained	χ^2	9.459		11.075	
	df	2		2	
	p=	0.0088	0.0825	0.0648	0.0039
Job title					
Job title	χ^2	18.102			
	df	8			
	p=	0.0205	0.2085	0.4545	0.1834
Place of					
employment	χ^2	23.841	30.799	32.007	30.699
	df	4	4	4	4
	p=	0.0001	0.0001	0.0001	0.0001

Concerning activity one and highest degree obtained, 59% (N=54) of the 91 respondents felt the activity was NA. Of these respondents, those with B.S. degrees totaled 44% (N=19), and those with other degrees, 73% (N=35).

In regards to activity one and job title, 59% (N=54) of the 91 respondents once again chose NA. The majority of four of the five

groups of job titles chose NA: presidents/vice-presidents, 55% (N=6), consultants/clinical dietitians, 64% (N=14), sales/manufacturing representatives, 81% (N=17), and other, 56% (N=10). The majority of the fifth group, directors/administrators/executives, chose Q, B-A, or Y with a 47% (N=9) response rate.

Concerning activity one and place of employment, 61% (N=53) of the 87 respondents chose NA. The majority of both groups hospital/healthcare, 64% (N=18), and business--food and nonfood, 83% (N=30), chose NA. The majority, 39% (N=9), of the third group, other, chose both D, W, M and Q, B-A, Y.

In regards to activity two and place of employment, 58% (N=51) of the 88 respondents chose NA. The same two groups held the majority for this activity, 64% (N=18) and 83% (N=30), respectively, as in activity one. The majority of the other group, 46% (N=11), chose D, W, or M.

Regarding place of employment and activity three, 53% (N=47) of the 88 respondents chose NA. Once again the same two groups as in activities one and two held the majority within the NA column with hospital/healthcare at 62% (N=18) and business at 78% (N=28). The group "other" clustered the majority of its respondents under D, W, or M with 61% (N=14).

Activity four and place of employment revealed the same pattern as the other three activities and this variable. Fifty-five percent (N=48) of the 88 respondents selected NA. The majority of the respondents in hospital/healthcare, 68% (N=19), and business, 75% (N=27), chose NA but the majority of the group other, 58% (N=14), selected D, W, or M.

Activity four and highest degree obtained resulted in 52% (N=48) of the 92 respondents selecting NA to describe this skill and the frequency

with which they perform it. Forty-eight percent (N=21) of the B.S. degree holders chose D, W, or M while the majority of the other degree holders, 67% (N=32), chose NA.

Utilizes Current Information

This function consisted of three activities:

- 1) Evaluates information
- 2) Applies information in area of responsibility
- 3) Conducts applied research

In regards to this function's three activities, the variables age, highest degree obtained, place of employment, job title, years of experience in dietetics, and years of experience as DIBI had no significant effect.

Manages Subsystems of Operation Whether Services or Products

This function included seven activities:

- 1) Develops objectives
- 2) Plans activities
- 3) Develops procedures
- 4) Specifies control mechanisms
- 5) Directs operations
- 6) Evaluates subsystems
- 7) Directs changes in services/products

Concerning this function's seven activities, the variables age, years experience in dietetics, and years experience as DIBI had no significant effect. On the other hand, place of employment significantly affected

all seven activities, ($p=0.0008$), ($p=0.0082$), ($p=0.0074$), ($p=0.0001$), ($p=0.0027$), ($p=0.0458$), and ($p=0.0024$) respectively, while job title affected four, ($p=0.0299$), five, ($p=0.0014$), six, ($p=0.0264$), and seven, ($p=0.0094$). In addition, highest degree obtained significantly affected activity seven ($p=0.0408$) (Table VI).

In relation to activity one and place of employment, 51% ($N=45$) of the 88 respondents stated that they perform this activity D, W, or M while 38% ($N=33$) chose Q, B-A, or Y. The majority of the groups hospital/healthcare, 50%, ($N=14$), and business--food and nonfood, 64% ($N=23$), chose D, W, or M while the majority of the group "other", 58% ($N=14$), chose Q, B-A, or Y.

Concerning activity two and place of employment, 78% ($N=68$) of the 87 respondents chose D, W, or M as the frequency with which they performed this activity. The majorities, 71% ($N=20$), 86% ($N=31$), and 74% ($N=17$), of all three groups, hospital/healthcare, business--food and nonfood, and other, selected D, W, or M.

In regards to activity three and place of employment, 57% ($N=50$) of the 88 respondents selected D, W, or M. The majority of each of the three groups once again fell into this category. The groups and their percentages were hospital/healthcare 57% ($N=16$), business--food and nonfood 64% ($N=23$), and other 46% ($N=11$).

Activity four and job title resulted in 47% ($N=43$) of the 91 respondents choosing D, W, or M. Of the five groups of job titles, presidents/vice-presidents, manufacturers'/sales representatives, directors/administrators/executives and other had a majority of respondents, 64% ($N=7$), 60% ($N=12$), 48% ($N=10$), and 56% ($N=10$), respectively,

TABLE VI

SIGNIFICANT ASSOCIATIONS BETWEEN FUNCTION SIX AND DEMOGRAPHIC VARIABLES

Function Variable	Develops Objectives	Plans Activities	Develops Procedures	Specifies Control Mechanisms	Directs Operations	Evaluates Subsystems	Directs Changes in Services/Products
Place of employment							
χ^2	22.878	17.316	17.565	31.235	20.106	12.830	20.355
df	6	6	6	6	6	6	6
p=	0.0008	0.0082	0.0074	0.0001	0.0027	0.0458	0.0024
Job title							
χ^2				22.756	31.980	23.155	26.415
df				12	12	12	12
p=	0.0593	0.1689	0.3767	0.0299	0.0014	0.0264	0.0094
Highest degree obtained							
χ^2							8.266
df							3
p=	0.2383	0.2221	0.1133	0.2721	0.0580	0.4739	0.0408

select D, W, or M. The majority of the group consultants/clinical dietitians selected Q, B-A, or Y.

Activity four and place of employment resulted in 48% (N=42) of the 87 respondents selecting D, W, or M as answers. The majority of the groups hospital/healthcare, 44% (N=12), and business--food and nonfood, 58% (N=21), selected D, W, or M, while the majority of the group other, 54% (N=13), selected Q, B-A, or Y.

Concerning activity five and job title, 72% (N=65) of the 90 respondents selected D, W, or M to describe this activity. Under job title, the categories of president/vice-president, sales/manufacture's representatives, directors/administrators/executives, and other selected D, W, or M with the following percentages 73% (N=8), 76% (N=16), 100% (N=20), and 78% (N=14), respectively. The majority of the group consultant/clinical dietitians selected NA for this activity.

The other significant variable for activity five was place of employment. Of the 86 respondents to this variable, 73% (N=63) selected D, W, or M. The majority of each of the three types of business or industry selected D, W, or M. The groups and figures were hospital/healthcare 68% (N=19), business--food and nonfood 68% (N=23), and other 88% (N=21).

For activity six there were two significant variables. In regards to job title, 55% (N=49) of the 89 respondents selected D, W, or M. Of the six groups within the variable job title, presidents/vice-presidents, sales/manufacturers representatives, directors/administrators/executives, and other had the majority of their respondents, 55% (N=6), 75% (N=15), 62% (N=13), and 59% (N=10) respectively, select D, W, or M. On the other hand, consultants/clinical dietitians selected NA in relation to this activity and the performance of such.

The second significant variable for activity six was place of employment. Fifty-six percent (N=48) of the 85 respondents selected D, W, or M. The majority of all three groups, hospital/healthcare 56% (N=15), business 57% (N=20) and other 57% (N=13), selected D, W, or M.

Three variables significantly affected activity seven: highest degree obtained, job title and place of employment. In relation to highest degree obtained, 65% (N=59) of the 91 respondents selected D, W, or M to describe the frequency of this activity. Within the groups, 79% (N=34) of the B.S. degree holders selected D, W, or M, while 52% (N=25) of the other degree holders selected D, W, or M.

The second variable, job title, resulted in 65% (N=59) of the 91 respondents selecting D, W, or M. Once again all groups had majorities in the D, W, or M column except consultants/clinical dietitians. The majority of this group, 38% (N=8) selected Q, B-A, or Y. Also, a large percentage of this group, 33% (N=7), selected D, W, or M and 29% (N=6) selected NA as a descriptor.

The third significant variable, place of employment, resulted in 68% (N=59) of the 87 respondents selecting D, W, or M. The majority of all groups (hospital/healthcare, business--food and nonfood, other) selected D, W, or M: 67% (N=18), 64% (N=23), and 75% (N=18), respectively.

Manages Resources

tion consisted of seven activities, five of which had activities within them:

- 1) Applies technology to management of resources
- 2) Conducts feasibility studies for application of technology

- 3) Manages human resources
- 4) Manages facility resources
- 5) Manages equipment resources
- 6) Manages information resources
- 7) Manages fiscal resources

Concerning this function's 30 activities and subactivities, the variable highest degree obtained had no significant effect. Please refer to Tables VII-XI.

TABLE VII
SIGNIFICANT ASSOCIATIONS BETWEEN FUNCTION SEVEN--
ACTIVITIES ONE AND TWO AND DEMOGRAPHIC
VARIABLES

Activity Variable	Applies Technology to Management of Resources	Conducts Feasibility Studies for Application of Technology
Job title		
χ^2	21.081	22.940
df	12	12
p=	0.0492	0.0282

Job title also significantly affected ($p=0.0492$) activity one. Seventy-two percent ($N=63$) of the 87 respondents selected D, W, or M

with majorities from all five groups (presidents/vice-presidents, consultants/clinical dietitians, sales/manufacturers' representatives, directors/administrators/executives, and other) choosing D, W, or M (80% (N=8), 48% (N=10), 63% (N=12), 95% (N=19), and 82% (N=14), respectively).

Job title also significantly affected ($p=0.0282$) activity two. This activity resulted in a different pattern with 37% (N=33) of the 90 respondents selecting NA as a descriptor, followed by 36% (N=32) respondents who chose Q, B-A, or Y. Only 27% (N=24) of the respondents selected D, W, or M. The majorities of each group varied. Forty percent (N=4) of the presidents/vice-presidents selected Q, B-A, or Y, while the majority, 52% (N=11), of consultants/clinical dietitians chose NA. The majority, 48% (N=10), of the sales/manufacturers' representatives also chose NA, while the majority, 67% (N=14), of directors/administrators/executives chose Q, B-A, or Y, and 47% (N=8) of others chose D, W, or M. As expected, this data reflected that a number of DIBIs do not conduct feasibility studies and for those who do it is done infrequently.

Manages Human Resources. Included in this overall activity were nine activities, see Table VIII. None of the variables previously listed significantly affected subactivity one. The same was true for subactivity nine. Job title significantly affected ($p=0.0379$) subactivity two and resulted in 43% (N=38) of the 88 respondents selecting D, W, or M. The majority of the groups presidents/vice-presidents 64% (N=7), sales/manufacturers' representatives 60% (N=12), and other 47% (N=8) selected D, W, or M. The majority, 48% (N=10), of consultants/clinical dietitians selected NA once again, while 47% (N=9) of the directors/administrators/executives selected Q, B-A, or Y.

In addition, place of employment significant affected ($p=0.0110$) subactivity two. This resulted in 44% ($N=37$) of the 84 respondents selecting D, W, or M. The three types of business/industry responded quite differently with the majority of hospital/healthcare respondents, 50% ($N=13$), selecting D, W, or M, while 44% ($N=16$) of the business--food and nonfood respondents selected NA. The group other selected Q, B-A, or Y with a 45% ($N=10$) response rate regarding the frequency of this activity.

Job title, place of employment, and years experience as DIBI significantly affected, ($p=0.0417$), ($p=0.0048$), and ($p=0.0242$), respectively, subactivity three (Table VIII). Concerning job title and activity three, 35% ($N=31$) of the 89 respondents selected Q, B-A, and Y while 32% ($N=28$) selected NA, and 30% ($N=27$) selected D, W, or M. Within job title, the groups varied. More specifically, the majority of the presidents/vice-presidents appeared divided among D, W, or M and Q, B-A, or Y with 36% ($N=4$) each. Forty-eight percent ($N=10$) of the consultants/clinical dietitians selected NA while 50% ($N=10$) of the directors/administrators/executives selected Q, B-A, or Y, and 35% ($N=6$) of the group other selected D, W, or M. For the group sales/manufacturers' representatives 35% ($N=7$) of the respondents answered D, W, or M and 35% ($N=7$) chose NA.

In regards to subactivity three and place of employment, 35% ($N=30$) of the 85 respondents chose Q, B-A, or Y, while 31% ($N=26$) chose D, W, or M, and 31% ($N=26$) chose NA. Among the types of business/industry there was no apparent pattern. The majority of the hospital/healthcare respondents selected both D, W, or M and Q, B-A, or Y with 35% ($N=9$) each. Fifty percent ($N=18$) of the business--food and nonfood group selected NA, while 48% ($N=11$) of the group other chose Q, B-A, or Y.

Years experience as DIBI and subactivity three resulted in 34% (N=31) of the 90 respondents selecting Q, B-A, or Y, while 31% (N=28) chose D, W, or M and 31% (N=28) chose NA. The groups with 11-19 years experience, 35% (N=7), and 20 or more years experience, 67% (N=4) selected D, W, or M, while those with six to 10 years, 55% (N=11), chose Q, B-A, or Y, and those with five or less, 36% (N=16), chose NA.

Place of employment significantly affected ($p=0.0273$) subactivity four. Forty-six percent (N=37) of the 80 respondents selected D, W, or M, while 34% (N=27) chose NA. Among the types of business/industry, the majority of both the hospital/healthcare and the business--food and nonfood groups selected NA with the following percentages: 44% (N=11) and 44% (N=15), respectively. In contrast to this, 76% (N=16) of the group other selected D, W, or M.

Job title and years experience in dietetics significant affected, ($p=0.0328$) and ($p=0.0232$), respectively, activity five. Concerning job title, 52% (N=46) of the 89 respondents selected D, W, or M. Among the groups of titles, a pattern emerged in regards to four of the five. The majority of presidents/vice-presidents 73% (N=6), consultants/clinical dietitians 45% (N=9), sales/manufacturers' representatives 45% (N=9), and directors/administrators/executives 75% (N=15) all selected D, W, or M. The group other deviated from this pattern with 33% (N=6) of its respondents selecting Q, B-A, or Y, followed by 28% (N=5) choosing D, W, or M, and 28% (N=5) choosing NA.

In regards to years of experience in dietetics, 52% (N=27) of the 90 respondents selected D, W, or M. The majority of the four divisions of years in the profession all selected D, W, or M. The groups and their percentages are as follows, five years or less 42% (N=10), 6 to 10 years 79% (N=19), 11-19 years 41% (N=9), and 20 or more years 45% (N=9).

Place of employment significantly affected, ($p=0.0049$), ($p=0.0111$), and ($p=0.0308$) activities six, seven, and eight, respectively (Table VIII). Concerning activity six, 44% ($N=37$) of the 84 respondents selected D, W, or M. The hospital/healthcare group and the group other had the majority of their responses focused under D, W, or M--46% ($N=12$) and 71% ($N=17$), respectively. The group business--food and nonfood tended toward NA with 44% ($N=15$). Activity seven revealed much the same pattern. Forty-eight percent ($N=40$) of the 84 respondents chose D, W, or M. Among the groups, 58% ($N=15$) of hospital/healthcare and 61% ($N=14$) of other selected D, W, or M, while 49% ($N=17$) of business--food and nonfood selected NA. Activity eight also followed this pattern with 50% ($N=29$) of the 58 respondents selecting D, W, or M. The groups revealed 63% ($N=12$) of the presidents/vice-presidents and 63% ($N=10$) of other selecting D, W, or M, while 52% ($N=12$) of business--food and nonfood selected NA.

Manages Facility Resources. Within this overall activity, there are seven subactivities (Table IX). The variables job title and/or place of employment significantly affected all seven activities.

Job title significantly affected ($p=0.0387$) subactivity one and resulted in 47% ($N=43$) of the 91 respondents selecting NA to describe this activity. In addition, 36% ($N=27$) selected Q, B-A, or Y, and 22% ($N=20$) selected D, W, or M. Among the five groups of position titles, three followed a pattern that resulted in the majority of each group selecting NA. Those groups included consultants/clinical dietitians 52% ($N=11$), sales/manufacturers' representatives 67% ($N=14$), and other 44% ($N=8$). Fifty-five percent ($N=6$) of the presidents/vice-presidents

TABLE VIII

SIGNIFICANT ASSOCIATIONS BETWEEN FUNCTION SEVEN--ACTIVITY THREE AND DEMOGRAPHIC VARIABLES

Variable \ Subactivity	No. 2 No. 2 Organizes Work Units	No. 3 No. 3 Develop Procedures and Control Mechanisms	No. 4 No. 4 Interviews, Selects, and Orients Personnel	No. 5 No. 5 Schedules and Supervises Subordinates	No. 6 No. 6 Documents, Evaluates, and Assesses Needs	No. 7 No. 7 Provides Educa- tional Programs to Meet Specific Needs	No. 8 No. 8 Evaluates Utilization of Human Resources
Job title							
χ^2	21.968	21.642		22.452			
df	12	12		12			
p=	0.0379	0.0417	0.1405	0.0328	0.3034	0.5052	0.2888
Place of employment							
χ^2	16.562	18.637	14.214		18.573	16.550	13.897
df	6	6	6		6	6	6
p=	0.0110	0.0048	0.0273	0.1537	0.0049	0.0111	0.0308
Years experience as DIBI							
χ^2		19.121					
df		9					
p=	0.1857	0.0242	0.3512	0.2201	0.4177	0.7876	0.1903
Years experience in dietetics							
χ^2				19.242			
df				9			
p=	0.5562	0.6786	0.4640	0.0232	0.1439	0.3342	0.3121

selected D, W, or M, while 50% (N=10) of the directors/administrators/executives selected Q, B-A, or Y.

Job title and place of employment significant affected, ($p=0.0051$) and ($p=0.0077$), subactivity two (Table IX). Concerning job title, 59% (N=54) of the 91 respondents selected NA, while 32% (N=29) selected D, W, or M. Four of the five groups of position titles selected NA, while the majority of the fifth group selected D, W, or M. The four groups that selected NA included presidents/vice-presidents 55% (N=6), consultants/clinical dietitians (N=13), sales/manufacturers' representatives 95% (N=20), and other 56% (N=10). The fifth group was directors/administrators/executives with 55% (N=11) of the respondents selecting D, W, or M as a descriptor of frequency.

In relation to place of employment, 60% (N=52) of the 87 respondents selected NA once again. Of the three types of business/industry, both hospital/healthcare and business--food and nonfood had the majority of their respondents, 59% (N=16) and 81% (N=29), respectively, selected NA. The third group, other, had a majority of respondents select D, W, or M, 54% (N=13).

Job title and place of employment also significantly affected ($p=0.0333$) and ($p=0.0005$) subactivity three (Table IX). In relation to job title, 63% (N=57) of the 91 respondents selected NA. The same pattern surfaced concerning the groups of position titles, as did in the second activity. The groups and percent response per column are as follows: presidents/vice-presidents 64% (N=7), consultants/clinical dietitians 62% (N=13), sales/manufacturers' representatives 95% (N=20), and other 56% (N=10). The fifth group, directors/administrators/

TABLE IX

SIGNIFICANT ASSOCIATIONS BETWEEN FUNCTION SEVEN--ACTIVITY FOUR AND DEMOGRAPHIC VARIABLES

Variable	Subactivity	No. 1 Develops Objectives, Procedures, and Controls	No. 2 Coordinates Maintenance	No. 3 Directs Sanitation	No. 4 Evaluates Maintenance	No. 5 Recommends Changes in Maintenance	No. 6 Assesses Facility for Effectiveness and Efficiency	No. 7 Proposes Changes in Facility
Job title	χ^2	21.899	28.219	22.398		21.408		21.490
	df	12	12	12		12		12
	p=	0.0387	0.0051	0.0333	0.0685	0.0447	0.1892	0.0437
Place of employment	χ^2		17.466	24.262	18.888	19.675	22.724	28.083
	df		6	6	6	6	6	6
	p=	0.0914	0.0077	0.0005	0.0044	0.0032	0.0009	0.0001

executives, followed the same pattern as in activity two as well, with 55% (N=11) selecting D, W, or M.

Concerning place of employment, 63% (N=55) of the 87 respondents selected NA. Sixty-three percent (N=17) of the hospital/healthcare respondents, and 86% (N=31) of the business--food and nonfood respondents selected NA, while 54% (N=13) of the respondents from the group other selected D, W, or M.

Place of employment was the only variable that significantly affected subactivity four. More specifically, 58% (N=50) of the 87 respondents selected NA. The pattern for this variable and activity three once again repeated itself. Fifty-nine percent (N=16) hospital/healthcare and 78% (N=28) of business--food and nonfood selected NA while 58% (N=11) of the group other selected D, W, or M.

Job title and place of employment significantly affected ($p=0.0477$) and ($p=0.0032$) subactivity five. Concerning job title, 49% (N=44) of the 89 respondents chose NA, while 34% (N=30) chose D, W, or M. Forty-six percent (N=5) of the presidents/vice-presidents as well as 45% (N=9) of the directors/administrators/executives selected D, W, or M as the frequency for this activity. On the other hand, 48% (N=10) of the consultants/clinical dietitians and 86% (N=18) of the sales/manufacturers' representatives selected NA. The majority of the fifth group, other, appeared evenly divided among D, W, or M and NA with 41% (N=7) each.

In reference to place of employment, 51% (N=43) of the 85 respondents selected NA, while 33% (N=28) selected D, W, or M. Within the groups, 56% (N=15) of the hospital/healthcare respondents and 69% (N=24) of the business--food and nonfood respondents selected NA, while 61% (N=14) of the group other chose D, W, or M.

Place of employment significantly affected ($p=0.0009$) subactivity six (Table IX) and resulted in 47% ($N=40$) of the 86 respondents selecting NA, while 33% ($N=28$) selected D, W, or M. Within the groups, 59% ($N=16$) of the hospital/healthcare respondents and 63% ($N=22$) of the business--food and nonfood respondents selected NA, while 63% ($N=15$) of the group other selected D, W, or M.

Once again, job title and place of employment significantly affected ($p=0.0437$) and ($p=0.0001$) subactivity seven (Table IX). Job title resulted in 43% ($N=37$) of the 87 respondents selecting NA, while 29% ($N=25$) selected Q, B-A, or Y, and 26% ($N=23$) selected D, W, or M. Among the groups no real pattern emerged, however 47% ($N=9$) of the consultants/clinical dietitians and 39% ($N=7$) of the directors/administrators/executives selected Q, B-A, or Y. The remaining groups varied and they are as follows: 46% ($N=5$) of the presidents/vice-presidents selected D, W, or M, 67% ($N=14$) of the sales/manufacturers' representatives selected NA, and 33% ($N=6$) of the group other selected both D, W, or M and NA.

Concerning place of employment, 43% ($N=36$) of the 84 respondents selected NA, while 27% ($N=23$) chose D, W, or M and 27% ($N=23$) chose Q, B-A, or Y. Among the groups, 46% ($N=12$) of the hospital/healthcare respondents chose NA as did 64% ($N=23$) of the business--food and nonfood respondents. Within the group other, 64% ($N=14$) chose D, W, or M.

Manages Equipment Resources. This was the fifth activity within function seven and consisted of three subactivities. The variables age, job title, and place of employment significantly affected one or more of the subactivities. Age, job title, and place of employment significantly affected, ($p=0.0143$), ($p=0.0154$), and ($p=0.0315$) subactivity one

(Table X). More specifically, 56% (N=51) of the 91 respondents selected NA. Among the four age groups, 76% (N=16) of those aged 31-35 selected NA as did 55% (N=12) of those aged 46 or more, 52% (N=12) of those aged 36-45, and 44% (N=11) of those aged 30 or younger.

Concerning job title, 56% (N=50) of the 40 respondents selected NA. Among the groups, 90% (N=19) of the sales/manufacturers' representatives selected NA, as did 55% (N=11) of the consultants/clinical dietitians, and 47% (N=8) of the group other. The remaining two groups, presidents/vice-presidents and directors/administrators/executives, divided their majorities between NA and Q, B-A, or Y. The percentages of response were 36% (N=4) and 38% (N=8), respectively.

Place of employment revealed that 55% (N=47) of the 86 respondents selected NA. Among the groups the breakdown resembled the following. Fifty percent (N=14) of the hospital/healthcare respondents chose NA as did 76% (N=26) of the business--food and nonfood respondents. The group other had a divided majority, where 33% (N=8) chose D, W, or M, and 33% (N=8) chose Q, B-A, or Y.

Place of employment significantly affected ($p=0.0068$) subactivity two (Table X) and resulted in 55% (N=42) of the 77 respondents selecting NA. Among the groups, 81% (N=26) of the business--food and nonfood group selected NA as did 42% (N=10) of the hospital/healthcare group. Thirty-eight percent (N=8) of the group other selected D, W, or M followed by 29% (N=6) of this group that selected Q, B-A, or Y and 29% (N=6) that selected NA.

Place of employment also significantly affected ($p=0.0076$) subactivity three (Table X). More specifically, 44% (N=26) of the 59 respondents selected NA. Among the groups, both hospital/healthcare and

TABLE X

SIGNIFICANT ASSOCIATIONS BETWEEN FUNCTION SEVEN--
ACTIVITY FIVE AND DEMOGRAPHIC VARIABLES

Subactivity Variable	Develops Objectives, Procedures, and and Controls	Coordinates, Directs, and Evaluates Maintenance	Recommends Changes in Maintenance
Age			
χ^2	20.646		
df	9		
p=	0.0143	0.2109	0.3106
Job title			
χ^2	24.887		
df	12		
p=	0.0154	0.1594	0.5680
Place of employment			
χ^2	13.837	17.774	17.507
df	6	6	6
p=	0.0315	0.0068	0.0076

business--food and nonfood selected NA with 47% (N=8) and 61% (N=17), respectively. The group other selected D, W, or M with a 65% (N=9) response rate.

Manages Information Resources. This was the sixth activity of function seven and included four additional activities. Concerning these four activities, the variables age, highest degree obtained, place of employment, job title, years experience in dietetics, and years experience as DIBI had no significant effect.

Manages Fiscal Resources. This activity was number seven within function seven. This activity also contained six subactivities. The variables age, highest degree obtained, job title, and years experience in dietetics had no significant effect on the six subactivities. Place of employment and years experience significantly affected ($p=0.0378$) and ($p=0.0140$) subactivities four and two, respectively (Table XI). The remaining subactivities, one, three, five, and six, appeared unaffected by any of the variables.

Concerning activity two and years experience as DIBI, 51% (N=45) of the 88 respondents selected Q, B-A, or Y, while 32% (N=29) selected NA. Among the four groups, 46% (N=19) of those employed five years or less selected NA. Seventy-five percent (N=15) of those employed six to 10 years selected Q, B-A, or Y, as did 57% (N=4) of those employed 20 or more years, and 55% (N=11) of those employed 11-19 years.

In regards to place of employment and activity four, 55% (N=46) of the 83 respondents selected D, W, or M. Among the three groups, 75% (N=18) of the group other selected D, W, or M, as did 56% (N=15) of the hospital/healthcare group, and 41% (N=13) of the business--food and

nonfood group. Within this last group (business--food and nonfood) 38% (N=12) of the respondents also selected NA.

TABLE XI

SIGNIFICANT ASSOCIATIONS BETWEEN FUNCTION SEVEN--
ACTIVITY SEVEN AND DEMOGRAPHIC VARIABLES

Variable Subactivity	No. 2 Prepares Budgets	No. 4 Monitors Established Procedures
Years experience as DIBI		
χ^2	15.960	
df	6	
p=	0.0140	0.4006
Place of employment		
χ^2		13.353
df		6
p=	0.2561	0.0378

Manages Quality Assurance (QA) Program

This function, number eight, included seven activities:

- 1) Develops objectives
- 2) Develops procedures
- 3) Directs programs
- 4) Evaluates program data
- 5) Evaluates effectiveness
- 6) Develops plan of action
- 7) Integrates results

Concerning this function's seven activities, the variables highest degree obtained, job title, years experience in dietetics, and years experience as DIBI had no significant effect.

Age and place of employment significantly affected, ($p=0.0097$) and ($p=0.0042$) respectively, activity one (Table XII). With regard to age, 44% ($N=40$) of the 91 respondents selected NA, while 37% ($N=34$) selected Q, B-A, or Y. Among the four age groups, the majority 30 years and younger, 56% ($N=14$), and those aged 36-45, 48% ($N=11$), selected Q, B-A, or Y, while 67% ($N=14$) of those 46 years and older selected NA.

Concerning place of employment, 45% ($N=39$) of the 89 respondents selected NA, while 36% ($N=31$) selected Q, B-A, or Y. Among the three groups, 52% ($N=14$) of the hospital/healthcare respondents selected Q, B-A, or Y as did 46% ($N=11$) of the group other. Within the group business--food and nonfood, 66% ($N=23$) selected NA.

Age and place of employment significantly affected, ($p=0.0151$) and ($p=0.0177$), respectively, activity two. In regards to age, 48% ($N=43$) of the 89 respondents selected NA. Among the groups, those aged 31-35 and those 46 years and older selected NA with majorities of 71% ($N=15$)

TABLE XII

SIGNIFICANT ASSOCIATIONS BETWEEN FUNCTION EIGHT AND DEMOGRAPHIC VARIABLES

Variable	Activity							
		Develops Objectives	Develops Procedures	Directs Programs	Evaluates Program Date	Evaluates Effectiveness	Develops Plan of Action	Integrates Results
Age	χ^2	21.741	20.502	23.916	20.935		20.314	20.689
	df	9	9	9	9		9	9
	p=	0.0097	0.0151	0.0044	0.0129	0.0577	0.0161	0.0141
Place of employment	χ^2	18.959	15.346	20.839	21.084	19.985	14.774	19.938
	df	6	6	6	6	6	6	6
	p=	0.0042	0.0177	0.0020	0.0018	0.0028	0.0221	0.0028

and 52% (N=11), respectively. Those 30 years and younger responded to Q, B-A, or Y with 50% (N=12), while those aged 36-45 had 30% (N=7) in all three areas, D, W, or M, Q, B-A, or Y, and NA.

Concerning place of employment, 50% (N=42) of the 84 respondents selected NA. Among the groups, 42% (N=11) of the hospital/healthcare respondents chose NA as did 74% (N=25) of those in business--food and nonfood. In contrast to this, those in the group other selected Q, B-A, or Y with a 42% (N=10) response rate.

Once again, age and place of employment significantly affected ($p=0.0044$) and ($p=0.0020$) activity three (Table XII) with 49% (N=44) of the 89 respondents selecting NA. Among the groups, 71% (N=15) of those aged 31-35 selected NA as did 57% (N=12) of those aged 46 and older, and 42% (N=10) of those aged 30 and younger. The remaining group, those aged 36-45, selected D, W, or M with a majority of 48% (N=11).

Regarding place of employment, 50% (N=42) of the 84 respondents selected NA. Among the groups, 42% (N=11) of the hospital/healthcare respondents chose NA, as did 76% (N=26) of the business--food and nonfood respondents. The group other had an inverse relationship to these other two with 58% (N=14) of the respondents selecting D, W, or M.

Age and place of employment significantly affected ($p=0.0129$) and ($p=0.0018$) activity four (Table XII). Concerning age, 45% (N=40) of the 89 respondents selected NA, followed by 34% (N=30) who chose D, W, or M. Among groups, 38% (N=9) of those 30 years of age or less selected NA, as did 67% (N=14) of those 46 years of age and older. For those 36-45 years of age, the majority, 39% (N=9), selected D, W, or M, and resulted in an inverse relationship to the other three age groups.

With regards to place of employment, 45% (N=38) of the 84 respondents selected NA. Among the groups, the responses varied. Thirty-five percent (N=9) of the hospital/healthcare group selected D, W, or M and 35% (N=9) chose NA. In addition, 71% (N=24) of the business--food and nonfood respondents chose NA, while 63% (N=15) of the group other selected D, W, or M.

Place of employment was the only variable to significantly affect ($p=0.0028$) activity five (Table XII). More specifically, 45% (N=38) of the 84 respondents selected NA. Among the groups, 71% (N=24) of the business--food and nonfood group selected NA, while 50% (N=12) of the group other selected D, W, or M; and 39% (N=10) of the group hospital/healthcare selected Q, B-A, or Y.

Age and place of employment significantly affected ($p=0.0161$) and ($p=0.0221$) activity six (Table XII). In relation to age, 45% (N=40) of the 89 respondents selected NA. Among the groups, those aged 31-35, 67% (N=14), and 46 or older, 52% (N=11) selected NA while 43% (N=10) of those aged 36-45 selected D, W, or M, and 42% (N=10) of those 30 years and younger selected Q, B-A, or Y.

Concerning place of employment, 45% (N=38) of the 84 respondents selected NA. Among the groups, both hospital/healthcare and business--food and nonfood selected NA with 35% (N=9) and 68% (N=23) respectively, while other selected D, W, or M with a 50% (N=12) response rate.

Both age and place of employment significantly affected ($p=0.0141$) and ($p=0.0028$) activity seven (Table XII). For age, 44% (N=39) of the 89 respondents selected NA. Among the groups, 67% (N=14) of those aged 31-35 selected NA, as did 57% (N=12) of those aged 46 and older, while 52% (N=12) of those aged 36-45 selected D, W, or M, and 38% (N=9) of those 30 years and younger chose Q, B-A, or Y.

Concerning place of employment, 44% (N=37) of the 84 respondents chose NA. More specifically, 36% (N=9) of the hospital/healthcare respondents chose NA and 35% (N=9) also chose Q, B-A, or Y. In addition, 68% (N=23) of the business--food and nonfood respondents selected NA, while 58% (N=14) of the group other chose D, W, or M.

Advocates Action Which Improves Nutrition Status
or Level of Service to Consumer

This function, number nine, consisted of six activities:

- 1) Analyzes conditions
- 2) Analyzes political/economic factors
- 3) Develops strategies for action
- 4) Formulates plan of action
- 5) Implements plan
- 6) Evaluates outcome

Concerning this function's six activities, the variables age, highest degree obtained, years experience in dietetics, and years experience as DIBI had no significant effect. The variables job title and place of employment significantly affected ($p=0.0359$), ($p=0.0358$), and ($p=0.0145$) activities two, five, and six, respectively (Table XIII). The results of activities one, three, and four were not significant.

In regards to title and activity two, 44% (N=39) of the 89 respondents selected D, W, or M. Among the five groups of position titles, four chose D, W, or M. They include presidents/vice-presidents 73% (n=8), sales/manufacturers' representatives 40% (N=8), directors/administrators/executives 40% (N=8), and other 53% (N=9). The group

consultants/clinical dietitians chose Q, B-A, or Y with a 48% (N=10) response rate.

TABLE XIII
SIGNIFICANT ASSOCIATIONS BETWEEN FUNCTION NINE
AND DEMOGRAPHIC VARIABLES

Activity Variable	Analyzes Political/ Economic Factors	Implements Plan	Evaluates Outcome
Job title			
χ^2	16.492		
df	8		
p=	0.0359	0.0899	0.1555
Place of employment			
χ^2		13.495	12.422
df		6	4
p=	0.1642	0.0358	0.0145

Place of employment and activity five revealed that 53% (N=45) of the 85 respondents chose D, W, or M. Among the groups, all of whom selected D, W, or M, hospital/healthcare responded with 42% (N=11),

while business--food and nonfood had 63% (N=22), and other had 50% (N=12). The group business--food and nonfood also had 34% (N=12) respond to NA, while hospital/healthcare had 31% (N=1) respond to Q, B-A, or Y.

Place of employment and activity six resulted in 53% (N=45) of the 85 respondents selecting D, W, or M. More specifically, 63% (N=22) of business--food and nonfood chose D, W, or M, as did 58% (N=14) of other, while only 35% (N=9) of hospital/healthcare selected D, W, or M. The majority of hospital/healthcare selected Q, B-A, or Y with a response rate of 38% (N=10).

Other

Three respondents stated other functions they performed. For the functions and performance frequency, please refer to Appendix D.

Discussion of Role Functions

The role functions were very complex in that the six demographic variables significantly affected several of the activities and sub-activities. As a result of these associations, the researcher will discuss only the significant effects. The researcher will discuss each function generally in light of the significant activities. For further explanations of the significant activities, please refer to Tables IV through XIII as well as the survey instrument (Appendix B) and The ADA's Role Delineation of Administrative Dietitians.

All three of function one's activities were significant at the $p \leq .05$ level. As expected, job title and place of employment had significant effects on the activities. Perhaps this is true because

this function is not significant to all positions, as positions in business and industry require certain activities and others may not. For example, the majority of directors/administrators/executives performed this activity D, W, or M while consultants/clinical dietitians felt it was a Q, B-A, or Y or NA activity. In relation to place of employment, the business-oriented organizations performed this activity more frequently than the hospital/healthcare group. This is not to say that hospitals do not need to perform this function, but actually the contrary as they possibly need to attend to this area of concern on a more frequent basis. This signifies that the respondents are conscious of the public's needs/wants and they are attending to them.

Within function two, activities three and four were significantly affected by some of the demographic variables. The results reflected the effect that years of experience in the profession and place of employment had on the activities. Years of experience in the profession affected both the implementation and evaluation of self-improvement programs. It appeared that a greater number of those with less than 10 years experience did not implement/evaluate self-improvement programs than those with greater than 10 years experience. This could be an indication of less emphasis on such programs in the last 10 years. In regards to place of employment and activity four, it appeared that hospital/healthcare and "other" respondents evaluated self-improvement programs more frequently than did those in business--food and nonfood positions. The same number of business--food and nonfood respondents selected NA, as did D, W, or M. This could possibly indicate that those employed in business positions are not responsible in evaluating their own programs, but rather, it could possibly be done by superiors within the organization.

Function four had four activities significantly affected by three demographic variables: highest degree obtained, job title, and place of employment. Highest degree obtained was significant for activities one and four because the majority of the respondents selected NA as their answer. This is understandable as using menus is not an integral part of all jobs in business and industry nor are they used exclusively by a particular group of degree holders. Job titles' effect was similar as the majority selected NA. Once again, the use of menus is not a respector of position. Place of employment also related a similar effect with the majority selecting NA, which leads the researcher to understand that the majority of DIBIs surveyed do not deal with menus. An overwhelming majority of those in business--food and nonfood selected NA, more than likely, as a result of their positions. This function is more related to dietitians holding administrative positions specifically in Hospitals, School Foodservices, College and University Foodservices, etc.

Function six, "Manages subsystems of operation whether services or products," had seven activities, all of which the demographic variables significantly affected. Place of employment, title, and highest degree obtained, were the variables affecting all activities. The respondents selected D, W, or M for all activities with an overwhelming majority. The most apparent reason for such significance is the orientation of the function. This function deals with the very general operation of subsystems, whether they be services or products. That function covers a great deal of area and takes into account just about every position imaginable.

Function seven contained 21 activities and sub-activities out of 30 significantly affected by title, place of employment, years experience

in the profession, years experience as DIBI, and age. This function dealt with the management of resources; more specifically, human, facility, equipment, information, and financial resources. The orientation of these activities led the researcher to expect a great number of significant associations. This expectation also resulted from the fact that these activities take into account every possible function performed in most positions. One interesting item surfaced and that was the fact that none of the variables significantly affected the activities of information resources management. One possible reason for this is that everyone dealt with this activity on different levels therefore, the responses fell evenly across all frequencies resulting in no significant effect. It appeared as though title and place of employment affected the majority of activities and the interesting pattern that surfaced in regards to these variables was that the respondents either performed it D, W, or M or not at all. Very few respondents selected Q, B-A, or Y. The researcher did not expect such clearcut responses in terms of the activities either being important and performed frequently or not performed as a result of its unimportance.

The demographic variables that significantly affected function eight's seven variables included age and place of employment. The significant effect caused by age resulted from the fact that the majority of respondents selected NA as an answer. It appeared to go in waves with the majority of those aged 31-35 as well as 46 and older selecting NA and accounting for the significance. This could be a result of the positions that these respondents hold not conducting Quality Assurance (QA) programs. These age groups of respondents may be employed in business--food and nonfood as this group of respondents

selected NA with an overwhelming majority. As a result, place of employment had a significant effect on the management of QA programs. This is understandable as the majority of business-type positions probably do not deal with the management of QA programs to the extent that hospital/healthcare employees would, although manufacturing industries certainly use QA or Quality Control programs.

Title and place of employment significantly affected three of function nine's six activities. As expected, place of employment affected this function as it deals with advocating action to improve nutrition status or level of service to consumer. This takes into account a broad range of organizations. Of the respondents, the majority chose D, W, or M as the frequency with which they perform the activities. The researcher noticed that a much larger percentage of respondents from business--food and nonfood, than from hospital/healthcare or "other", indicated performing this activity on a D, W, or M basis. This indicates that these activities are more important to business positions, therefore performed more frequently. Title significantly affected activity two which deals with the analysis of political/economic factors. As expected, the greatest number of responses were D, W, or M and an abundance of these were from the group presidents/vice-presidents. This indicates the responsibility for this activity lies with the upper management rather than middle management of the organization.

Education and Experience

This section contained 12 open-ended questions regarding academic training, recommendations for changes in preparation, and helps/

hinderances to advancement. This section was very subjective and answers varied considerably, therefore the researcher will include discussion of this section in general terms. A complete list of answers to each question is found in Appendix D.

Adequacy of Academic Training

This question (question one) dealt with academic training in relation to how it prepared the DIBI for his/her present job responsibilities. The majority of the response leaned towards adequate academic training. A minimal number indicated that their training was completely inadequate. Some respondents stated that their training lacked business courses as well as the know-how that comes only from experience.

Academic Strengths

Question two dealt with specific strengths in the DIBI's academic preparation. Some of those strengths included basic science and foodservice courses. Answers to this question varied a great deal as a result of the various program emphases in the universities with dietetic programs.

Additional Skills

This question requested the DIBI respondents to list or suggest certain courses/skills that would have been helpful to them. A number of respondents listed business skills in general; more specifically, finance, marketing, computers, and PR. Other prevalent suggestions included communication skills and time management.

Skill Enhancement

Respondents were also asked if they had plans for professional growth and development or skill enhancement. This question, number four, requested the DIBI to mention area(s) of skills he/she would choose if he/she returned to school. The majority selected a business orientation with a good number stating MBAs. This question reinforced the skills that have not been attained, as well as those needed, and revealed an awareness of the deficiency on the part of DIBIs. This also showed a willingness, on the part of the DIBI, to compensate for their less developed management skills.

Recommended Changes

Question five dealt with the changes the respondents would recommend in order to compensate for their academic preparation deficiencies. Some of the recommended changes included increasing basic business skills as well as incorporating experience into the curriculum through a variety of measures. This again reinforces the notion that dietitians need more business skills.

Comparison of Skills

This question requested the DIBI to compare his/her skills with those of a hotel/restaurant management or business graduate. A number of the respondents felt that their skills were as good or better, however, a number of DIBIs stated that they attained competence only because of experience. There also appeared to be quite a few responses to the contrary as they stated their own skills were much worse. The

researcher noted that the responses were a good mixture of both extremes.

Importance of Graduate Degree

This question requested the DIBI to relate how important an advanced degree was to advancement within his/her company. The answers definitely tended toward "not too important" which the researcher did not expect. In some ways, this can be interpreted to mean that experience enhances one's academic preparation, and effective performance on the job may or may not necessarily require an advanced degree.

Importance of R.D.

This question asked the DIBI to describe the importance of being an R.D. in relation to advancement in his/her company. The comments ranged from not important to extremely important and the majority seemed to feel it was valuable. The reader is reminded that except for one respondent, survey participants were R.D.s.

Importance of Experience

This question requested the DIBI to relate how important experience was to advancement in his/her company. The most prevalent answer appeared to be "very important" to advancement.

The results of these last three questions proved quite interesting. It appeared that most businesses and industries require an R.D. and experience rather than an advanced degree. It is encouraging to know that perhaps employers have now recognized the R.D. to mean quality performance or competence in dietetics.

Middle/Top Management

Question 10 asked the DIBI to relate how qualified/capable he/she was to assume middle/top management positions. The responses varied from "can't compete" to "very qualified" and covered all aspects in between. The majority of the responses appeared to cluster towards the more negative end of the scale. These results agreed with those that previously mentioned certain deficiencies (Dowling, 1981 and Hoover, 1983). It appeared in this study that dietitians need business skills in order to vie for top positions in business and industry.

Dietitian or Executive

This question requested the DIBI to state whether he/she considered himself/herself as a dietitian or as an executive member of management. The majority of respondents chose executive member of management. Perhaps, the title dietitian connotes entry-level, or area of practice, whereas executive or specialist may indeed mean a higher level of expertise to dietitians or the public. How dietitians perceive their title or role would be most interesting to discover in another study.

Most Important to Present Position

This question dealt with what the DIBI felt was most important to his/her achieving his/her present position. The responses to this question varied quite a bit, however experience and hard work seemed to be the most prevalent answers. These answers agreed with the answers received from the question about the importance of experience. Perhaps experiential learning should be a part of undergraduate curricula as well as a life long process for professionals. Certain skills are not

learned through classroom settings alone. Route to membership was not asked in this study, however it would be interesting to see how CUP graduates would respond to these questions. There are however limited CUP programs with management emphases so this may not be a pertinent concern.

Diary

The fourth section of the questionnaire involved the DIBI recording a typical day's activities. In addition, the question requested the DIBI to list the amount of time spent doing each activity. The researcher included this diary to serve as a check on the role function section and to glean some additional knowledge of the DIBI's activities. Unfortunately, due to the inconsistency of responses, the researcher sparsely analyzed this section. Appendix E features one of the more complete diaries that represented more of what the researcher desired of all respondents.

Testing of the Hypotheses

The hypotheses postulated in this study included

H_{0_1} : DIBIs will exhibit no significant differences in the frequency of their functions (activities, duties, or responsibilities) based on

- 1) age
- 2) highest degree obtained
- 3) place of employment
- 4) job title
- 5) years experience in dietetics
- 6) years experience as DIBI

Based on Tables IV through XIII and the discussion section of Role Functions, the researcher rejected H_{0_1} .

H_{0_2} : DIBIs will exhibit no significant differences in their managerial skills based on the same variables as in H_{0_1} . Based on Table III and the discussion within the managerial skills section the researcher rejected H_{0_2} . Had the managerial skills been hypothesized separately, the researcher would have failed to reject five of the eleven skills. As a result of all skills being hypothesized together and the majority being significantly affected, the researcher had to reject H_{0_2} .

H_{0_3} : DIBIs will exhibit no significant differences in how they perceive the adequacy of their education and experience in preparing them for their current positions based on the same variables as in H_{0_1} . Based on Table III, the discussion of additional educational experiences, and the discussion of open-ended questions, the researcher rejected H_{0_3} .

CHAPTER V

SUMMARY, RECOMMENDATIONS, AND IMPLICATIONS

The purpose of this study was to analyze the functions and assess the managerial skills attained and used by DIBIs. To achieve this purpose, the study postulated three hypotheses based on seven demographic variables. In order to test the hypotheses, the researcher collected data using a multi-page questionnaire. The researcher sent 500 questionnaires to a randomly selected sample drawn from The ADA Practice Group, Dietitians in Business and Industry. Of the 500 questionnaires distributed, the researcher received 100, 94 of which were usable. The researcher analyzed these responses using Chi square, frequencies, and percentages to answer the research hypotheses.

Summary

Characteristics of Respondents

Ninety-three of the respondents were female and one respondent was male. Fifty-three percent were married, while 27% were single, and the remaining 20% were either divorced, separated, or widowed. Twenty-eight percent of the respondents were 30 years or age or less, while 26% were 46 and older, 24% were 36-45, and 22% were 31-35. Ninety-nine percent of the respondents were R.D.s. The researcher therefore eliminated this variable, and only six demographic variables were used in the Chi square determinations.

Fifty-two percent of the respondents achieved an advanced degree, and 48% had B.S. degrees. The predominant major appeared to be dietetics, nutrition, or institution management (80%), followed by "other" (11%), and business (9%).

Twenty-six percent of the respondents indicated employment in the profession of five years or less and 26% stated six to 10 years, while 24% stated 11-19 years and 24% indicated 20 or more years. Those employed in business or industry five years or less totaled 48%, while 23% had 6 to 10 years, 23% had 11-19 years, and 6% had 20 or more years. Seventy-four percent have had their jobs five years or less, while 17% had 6 to 10 years, 6% had 11-19, and only 3% had 20 or more years in their present job. Thirty-six percent of these respondents earned \$21,000-\$31,000, while 32% earned \$31,000 to \$40,000, 12% earned \$41,000-\$50,000, 10% earned under \$20,000, 7% earned greater than \$60,000, and 3% earned between \$51,000 and \$60,000.

There were five groups of position titles with 24% of the respondents being consultants/clinical dietitians, which was the most common. Position titles, frequencies, and percentages were presented in Table I. The most prevalent type of business or industry was foodservices, which employed 27% of the respondents. A complete list of types of businesses/industries, as well as frequencies and percent response appeared in Table II, however, in the final analysis, foodservices became one with "other" and wellness programs to form a larger group known as other. After this occurred, business--food and nonfood became the largest group.

Managerial Skills

DIBIs were queried about the importance to their present jobs as well as AP in 11 managerial skills. The researcher analyzed the DIBIs' answers in relation to the six demographic variables and then compared academic preparation (AP) with importance to job (IJ) in each skill area. This analysis revealed that the variables significantly affected ($p < .05$) six of the eleven managerial skills (Table III). The comparison of AP with IJ resulted in only one significant ($p < .05$) relationship (Table III). For a more comprehensive visual summary, see Table XIV.

In regards to the individual skill areas, the majority of the DIBI respondents described written communication skills as "very important", while they described the remaining significant skills as "important". The respondents also described their academic preparation in general management skills and financial management as fair or poor, while the majority stated that they never had preparation in computer application skills. When comparing importance to job with academic preparation in the area of computer application skills, the majority believed that this skill area was "important," yet they never received preparation in this skill. Also, adequacy of preparation decreased as age increased.

Functions

Section two of the questionnaire contained the 64 role functions, activities, and sub-activities. The DIBIs stated the frequency with which he/she performed each activity and sub-activity. The researcher analyzed the DIBIs' responses in relation to the six demographic variables (Tables IV through XIII). This analysis revealed that 47

activities and sub-activities out of a total of 69 activities within the nine role functions were significantly affected by the six demographic variables (Table XV). The results of this section revealed that all the activities of functions one (Focuses professional services/new products on nutrition goals of target market), four (Utilizes menu in overall control processes), six (Manages subsystems of operation whether services or products), and eight (Manages Quality Assurance (QA) program), to be significant by the association with the demographic variables. Portions of functions two (Advances practitioner competence), seven (Manages resources) and nine (Advocates action which improves nutrition status or level of service to consumer) were also significantly affected by the demographic variables. The six demographic variables had no significant effect on functions three (Promotes positive working relationships with others who impact the services/products) and five (Utilizes current information).

Function one's activities were important overall with the majority of respondents performing the activities on a D, W, or M basis. Function two's activities varied as far as frequency of performance and indicated an area that was more personal than other functions and needed improvement.

Function four was perceived, by most respondents, as not applicable to their positions or responsibilities. Function six (Manages subsystems of operation whether services or products) was considered important as an overwhelming majority of DIBIs performed these activities on a daily, weekly, or monthly basis. Function seven was the most complex with 30 activities and sub-activities. Twenty-one of these were significant and that was indicative of the function's overall

importance (Table XV). Among the activities, it appeared that the DIBI either performed them on a daily, weekly, or monthly basis or else they were just not applicable to his/her position.

Function eight was another area where an overwhelming majority of respondents reflected the nonapplicability of the activities to their positions. Function nine on the other hand was important to the DIBIs' positions as the majority performed the significant activities on a daily, weekly, or monthly basis.

Education/Experiences

Respondents felt they did not receive academic preparation in business skills (i.e. marketing, finance, PR, mass media, accounting, etc.). Most of the respondents were aware of their areas of weakness and, given the opportunity, they were willing to enhance their skills through further education. Most respondents recommended enhancing/ changing the dietetic curriculum to incorporate the previously mentioned business skills.

In regards to what was important to advancement within their companies, most responded "being an R.D." and "experience", with only a few indicating "a graduate degree". Most respondents believed they had the qualifications and capability to hold middle/top management positions. In addition, most perceived themselves as being executive members of management. When asked what got them there, they responded overwhelmingly, hard work and experience.

Testing the Hypotheses

Based on the effects of the six demographic variables (age, highest degree obtained, job title, place of employment, years experience in

dietetics, and years experience as DIBI) had on the 69 role functions, activities, and sub-activities, as well as the 11 managerial skills, the researcher rejected H_{0_1} and H_{0_2} . In addition, based on the effects the demographic variables had on the DIBIs' academic preparation in the 11 managerial skills and additional educational experiences, as well as the general discussion of the open-ended questions, the researcher rejected H_{0_3} .

Recommendations

Suggestions concerning further studies include mailing the questionnaire first class, perhaps reducing the length of the questionnaire, and sending additional questionnaires with follow-up mailings. More specific suggestions include instituting a place within the questionnaire where those not currently practicing in business or industry may stop completing the questionnaire. Also, an explanation of what the researcher considers a DIBI to be should be included to insure that only bonafide DIBIs are surveyed. A question concerning route to membership should also be included, in light of the response on experience requirement.

The researcher believes that the role function section of the questionnaire was too lengthy, however the attention given to the individual activities was brief. If it was divided into sections and each one considered a separate study, more accurate and detailed information may be received, yet dietetic practitioners' roles may indeed be a myriad of activities and responsibilities, therefore a shorter questionnaire may not be a valid means to analyze functions and skills of DIBIs.

Implications

Overall, dietitians in business and industry demonstrated areas of concern in regards to essential managerial skills. DIBIs appeared to be aware of their limitations, yet steps need to be taken to prevent additional graduates of dietetics programs from remaining disadvantaged. The results of this study point to some key areas in need of improvement and the dietetic curricula need to undergo changes to incorporate such areas. This in turn would insure the profession of the continued competence of its practitioners. If the organization does not recognize this need and how vital it is to the survival of the profession and the continued advancement into new areas of responsibility, then perhaps it is up to individual dietitians to seek continued competence on their own. Only then will our profession remain viable and continue to produce highly qualified and effective dietetic professionals or administrators.

TABLE XIV
SUMMARY OF MANAGERIAL SKILLS

Importance to Job	Academic Preparation	Managerial Skill
		Interpersonal Skills
*		Written Communication Skills
		Verbal Communication Skills
*	*	General Management Skills
*		Cost Control Skills
*	*	Financial Management
		Marketing
*		Mass Media
		Public Relations
		Assertiveness
*	*	Computer Application Skills

*Significant at $p \leq .05$

TABLE XV
SUMMARY OF ROLE FUNCTIONS¹

Function (N=9)	Activity (N=69)	Significant at $p \leq .05$
1.	Focuses professional services/new products on nutrition goals of target market	
	Analyzes needs of target market (1-a)	*
	Proposes services/products to meet needs (1-b)	*
	Incorporates nutrition related preferences of target market into services (1-c)	*
2.	Advances practitioner competence	
	Assesses own performance in dietetic practice (2-a)	
	Plans self-improvement program (2-b)	
	Implements self-improvement program (2-c)	*
	Evaluates self-improvement program (2-d)	*
3.	Promotes positive working relationships with others who impact the services/products	
	Determines those individuals (3-a)	
	Establishes communication (3-b)	
	Establishes working relationships (3-c)	
	Communicates system-related information (3-d)	
4.	Utilizes menu in overall control processes	
	Plans menus (4-a)	*
	Integrates menus (4-b)	*
	Evaluates menus (4-c)	*
	Directs changes in menu (4-d)	*
5.	Utilizes current information	
	Evaluates information (5-a)	
	Applies information in area of responsibility (5-b)	
	Conducts applied research (5-c)	

¹Numbers and letters following each activity correspond to their location on the questionnaire (Appendix C).

TABLE XV (Continued)

Function (N=9)	Activity (N=69)	Significant at $p \leq .05$
6.	Manages subsystems of operation whether services or products	
	Develops objectives (6-a)	*
	Plans activities (6-b)	*
	Develops procedures (6-c)	*
	Specifies control mechanisms (6-d)	*
	Directs operations (6-e)	*
	Evaluates subsystems (6-f)	*
	Directs changes in services/products (6-g)	*
7.	Manages resources	
	Applies technology to management of resources (7-a)	*
	Conducts feasibility studies for application of technology (7-b)	*
	Manages human resources:	
	develops objectives (c-1)	
	organizes work units with specific tasks, times, job descriptions, and performance standards (c-2)	*
	develops procedures and control mechanisms (c-3)	*
	interviews, selects, and orients personnel (c-4)	*
	documents, evaluates, and assesses needs (c-6)	*
	provides educational programs to meet specific needs (c-7)	*
	evaluates utilization of human resources (c-8)	*
	directs changes in human resources (c-9)	*
	Manages facility resources:	
	develops objectives, procedures, and controls (d-1)	*
	coordinates maintenance (d-2)	*
	directs sanitation (d-3)	*
	evaluates maintenance (d-4)	*
	recommends changes in maintenance (d-5)	*
	assesses facility for effectiveness and efficiency (d-6)	*
	proposes changes in facility (d-7)	*

TABLE XV (Continued)

Function (N=9)	Activity (N=69)	Significant at $p \leq .05$
7. Manages resources (continued)		
	Manages equipment resources:	
	develops objectives, procedures, and controls for maintenance (e-1)	*
	coordinates, directs, and evaluates maintenance (e-2)	*
	recommends changes in maintenance (e-3)	*
	Manages information resources:	
	develops and directs procedures for all aspects of information management (f-1)	
	uses computers (f-2)	
	analyzes, utilizes, and evaluates data (f-3)	
	directs changes in information resources (f-4)	
	Manages fiscal resources:	
	develops objectives (g-1)	*
	prepares budgets (g-2)	
	prices items (g-3)	
	monitors established procedures (g-4)	*
	allocates fiscal resources (g-5)	
	assesses financial status (g-6)	
8. Manages Quality Assurance (QA) program		
	Develops objectives (8-a)	*
	Develops procedures (8-b)	*
	Directs programs (8-c)	*
	Evaluates program data (8-d)	*
	Evaluates effectiveness (8-e)	*
	Develops plan of action (8-f)	*
	Integrates results (8-g)	*
9. Advocates action which improves nutrition status or level of service to consumer		
	Analyzes condition (9-a)	
	Analyzes political/economic factors (9-b)	*
	Develops strategies for action (9-c)	
	Implements plan (9-d)	*
	Evaluates outcome (9-e)	*

TABLE XV (Continued)

Function (N=9)	Activity (N=69)	Significant at $p \leq .05$
10. Other	For a list of other activities see Appendix E.	

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Zallen, E. M. Linkages between administrative and clinical dietitians.
Journal of The American Dietetic Association, 1983, 83(4), 415-
416.

APPENDIX A

LIST OF TYPES OF BUSINESS AND INDUSTRY
AND POSITION TITLES

Position Titles

Dietitian/Nutritionists
Managers and Assistants
Directors
Foodservice Directors and Assistants
Presidents and Vice-Presidents
Sales Representatives
Marketing Related
District/Territory Managers
Consultants

"Other"

Foodservice Analyst
Health and Education Coordinator
Healthcare Communications Specialist
Product Communications Specialist
Project Leader
Healthcare Specialist
Food Coordinator
Scientist
Quality Control
Account Supervisor
Clinical Research Associate
Executive Recruiter
Research Coordinator
Associate Food Editor
Nutrition Editor
Production Supervisor
Account Executive

Taylor, M. Quality of worklife of dietitians in business and industry.
(Unpublished Masters Thesis, Oklahoma State University, 1984.) pp. 44
and 125.

Type of Business of Industry

Foodservice Management Company
Food Product Manufacturer
Pharmaceutical Company
Food Brokers and Distributors
Own Business
Marketing, Advertising, or PR
Independent Foodservice Operation
Equipment Design, Service, or Sales
Restaurant Management
Hospital Management Company
Publishing Company
Retail Food Chain
Foodservice Facility Design
Computer Services
Consumer Affairs
Weight Control Company

"Other"

Consulting
Independent Hospital Manager
Trade Association
Nursing Home Management
Utility
Home Health Care
Dairy Council
Air Force Foodservice Headquarters
County Hospital
Nutrition Education
Agri-Marketing
Group Purchasing
Company Owned Cafeteria
Correctional
Public Health
Food Packaging

Taylor, M. Quality of worklife of dietitians in business and industry,
(Unpublished Masters Thesis, Oklahoma State University, 1984.) pp. 48
and 126.

APPENDIX B

RESEARCH INSTRUMENT

OKLAHOMA STATE UNIVERSITY
DEPARTMENT OF FOOD, NUTRITION AND INSTITUTION ADMINISTRATION

I. General Information:

Directions: Please check or fill in the appropriate answers. It is important to answer all of the questions.

- 1) Are you currently employed in dietetic practice in Business or Industry? _____ (1) No _____ (2) Yes
- 2) If no, please indicate why:
_____ (1) Attend school _____ (6) Did not want to work for a while
_____ (2) Raise family _____ (7) Am employed in nondietetic position
_____ (3) Marriage _____ (8) Other _____
_____ (4) Health reasons (please specify)
_____ (5) No jobs available in area (please specify)
- 3) Sex: _____ (1) Male _____ (2) Female
- 4) Marital Status:
_____ (1) Single _____ (3) Divorced _____ (5) Widowed
_____ (2) Married _____ (4) Separated
- 5) Age:
_____ (1) Under 25 _____ (4) 36-40 _____ (7) 51-55
_____ (2) 25-30 _____ (5) 41-45 _____ (8) 56-60
_____ (3) 31-35 _____ (6) 46-50 _____ (9) Over 60
- 6) Highest level degree obtained and major:
_____ (1) B.S. _____
_____ (2) M.S. _____
_____ (3) Ph.D. _____
_____ (4) Other _____
(please specify)
- 7) _____ (1) R.D. OR _____ (2) Non-R.D.

Questions 8-10 refer to full-time employment. If employed part-time, please convert to percentage of time.

- 8) Number of years employed in dietetic profession: _____
- 9) Number of years employed in Business or Industry: _____
- 10) Number of years in present job: _____
- 11) Position Title: _____

12) Salary Level: (Per year)

- | | |
|-----------------------------|-----------------------------|
| _____ (1) Under \$20,000 | _____ (4) \$41,000-\$50,000 |
| _____ (2) \$21,000-\$30,000 | _____ (5) \$51,000-\$60,000 |
| _____ (3) \$31,000-\$40,000 | _____ (6) Over \$60,000 |

13) Type of Business or Industry (please state specifically the type of business or industry you work for, such as consumer affairs, foodservice facility design, or marketing, advertising, and public relations): _____

14) Directions: Below is a list of managerial skills. Check the term that best describes your beliefs as to the importance of each skill as a tool in conducting your job responsibilities:

	<u>Importance to Job</u>			
	Very Important	Important	Slightly Important	Unimportant
1) Interpersonal Skills	_____	_____	_____	_____
2) Written Communication Skills	_____	_____	_____	_____
3) Verbal Communication Skills	_____	_____	_____	_____
4) General Management Skills	_____	_____	_____	_____
5) Cost Control Skills	_____	_____	_____	_____
6) Financial Management	_____	_____	_____	_____
7) Marketing	_____	_____	_____	_____
8) Mass Media	_____	_____	_____	_____
9) Public Relations	_____	_____	_____	_____
10) Assertiveness	_____	_____	_____	_____

Importance to Job

	Very Important	Important	Slightly Important	Unimportant
11) Computer Application Skills	—	—	—	—
12) Other(s): (please specify)	—	—	—	—
_____	—	—	—	—
_____	—	—	—	—

II. Role Functions:

This section lists the functions and activities that may be performed by the DIBI. (For more detailed definitions of functions/activities refer to The American Dietetic Association's Role Delineation and Verification for Entry-level Positions in Foodservice Systems Management, 1983.) Answer each question by checking the frequency with which the activity is performed. If the function does not apply please indicate such on the questionnaire.

	Daily	Weekly	Monthly	Quarterly	Yearly	Not Applicable
1) Focuses professional services/new products on nutrition goals of target market:						
a. Analyzes needs of target market	—	—	—	—	—	—
b. Proposes services/products to meet needs	—	—	—	—	—	—
c. Incorporates nutrition related preferences of target market into services/products	—	—	—	—	—	—

Role Functions Continued:

	Daily	Weekly	Monthly	Quarterly	Yearly	Not Applicable
2) Advances practitioner competence:						
a. Assesses own performance in dietetic practice (knows standards, reviews evaluation of superior, identifies strengths and weaknesses)	---	---	---	---	---	---
b. Plans self-improvement program	---	---	---	---	---	---
c. Implements self-improvement program	---	---	---	---	---	---
d. Evaluates self-improvement program	---	---	---	---	---	---
3) Promotes positive working relationships with others who impact the services/products:						
a. Determines those individuals	---	---	---	---	---	---
b. Establishes communications	---	---	---	---	---	---
c. Establishes working relationships	---	---	---	---	---	---
d. Communicates system-related information	---	---	---	---	---	---
4) Utilizes menu in overall control processes:						
a. Plans menus	---	---	---	---	---	---
b. Integrates menus	---	---	---	---	---	---
c. Evaluates menus	---	---	---	---	---	---
d. Directs changes in menus	---	---	---	---	---	---
5) Utilizes current information (foodservice, nutrition, technological, etc.):						
a. Evaluates information	---	---	---	---	---	---
b. Applies information in area of responsibility	---	---	---	---	---	---
c. Conducts applied research	---	---	---	---	---	---
6) Manages subsystems of operation whether services or products:						
a. Develops objectives	---	---	---	---	---	---
b. Plans activities	---	---	---	---	---	---
c. Develops procedures	---	---	---	---	---	---
d. Specifies control mechanisms	---	---	---	---	---	---
e. Directs operations	---	---	---	---	---	---
f. Evaluates subsystems	---	---	---	---	---	---
g. Directs changes in services/products	---	---	---	---	---	---

Role Functions Continued:

	Daily	Weekly	Monthly	Quarterly	Yearly	Not Applicable
7) Manages resources (human, facility, equipment, information, and financial):						
a. Applies technology to management of resources	---	---	---	---	---	---
b. Conducts feasibility studies for application of technology	---	---	---	---	---	---
c. Manages human resources:						
develops objectives	---	---	---	---	---	---
organizes work units with specific tasks, times, job descriptions, and performance standards	---	---	---	---	---	---
develops procedures and control mechanisms	---	---	---	---	---	---
interviews, selects, and orients personnel	---	---	---	---	---	---
schedules and supervises subordinates	---	---	---	---	---	---
documents, evaluates, and assesses needs	---	---	---	---	---	---
provides educational programs to meet specific needs	---	---	---	---	---	---
evaluates utilization of human resources	---	---	---	---	---	---
directs changes in human resources	---	---	---	---	---	---
d. Manages facility resources:						
develops objectives, procedures, and controls	---	---	---	---	---	---
coordinates maintenance	---	---	---	---	---	---
directs sanitation	---	---	---	---	---	---
evaluates maintenance	---	---	---	---	---	---
recommends changes in maintenance	---	---	---	---	---	---
assesses facility for effectiveness and efficiency	---	---	---	---	---	---
proposes changes in facility	---	---	---	---	---	---
e. Manages equipment resources:						
develops objectives, procedures and controls for maintenance	---	---	---	---	---	---
coordinates, directs, and evaluates maintenance	---	---	---	---	---	---
recommends changes in maintenance	---	---	---	---	---	---
f. Manages information resources:						
develops and directs procedures for all aspects of information management	---	---	---	---	---	---

Role Functions Continued:

	Daily	Weekly	Monthly	Quarterly	Yearly	Not Applicable
uses computers						
analyzes, utilizes and evaluates data						
directs changes in information resources						
g. Manages fiscal resources:						
develops objectives						
prepares budgets						
prices items						
monitors established procedures						
allocates fiscal resources						
assesses financial status						
8) Manages Quality Assurance (QA) program:						
a. Develops objectives						
b. Develops procedures						
c. Directs programs						
d. Evaluates program data						
e. Evaluates effectiveness						
f. Develops plan of action						
g. Integrates results						
9) Advocates action which improves nutrition status or level of service to consumer:						
a. Analyzes conditions						
b. Analyzes political/economic factors						
c. Develops strategies for action						
d. Formulates plan of action						
e. Implements plan						
f. Evaluates outcome						
10) Other (please specify):						

III. Education And Experience:

Directions: Answer each question by filling in the blank. Please be accurate as possible.

- 1) How adequate was your academic training in preparing you for your present job responsibilities? _____
- 2) Please name some specific strengths in your academic preparation: _____

- 3) What are some additional skills that would have been helpful:

- 4) If you were to decide to enhance your skills through further education, what area would you choose: _____
- 5) What changes in curriculum or education process would you recommend to compensate for deficiencies: _____
- 6) How would you compare your managerial skills with those of a graduate of Hotel and Restaurant Management or Business: _____
- 7) How important is a graduate degree for advancement in your company: _____
- 8) How important is being an R.D. in your company: _____
- 9) How important is experience for advancement in your company: _____
- 10) How qualified/capable are dietitians for middle or top management positions in your company: _____
- 11) Do you think of yourself as a dietitian or as an executive member of management: _____
- 12) What has been most important to you in achieving your present position: _____
- 13) Directions: Below is a list of managerial skills. Check the term that best describes your academic preparation (degree programs) in that skill area.

Academic Preparation

	Excellent	Adequate	Fair	Poor	Never Had
(1) Mass Media	_____	_____	_____	_____	_____
(2) Financial Management	_____	_____	_____	_____	_____
(3) Public Relations	_____	_____	_____	_____	_____
(4) Written Communication Skills	_____	_____	_____	_____	_____
(5) Verbal Communication Skills	_____	_____	_____	_____	_____
(6) Cost Control Skills	_____	_____	_____	_____	_____
(7) General Management Skills	_____	_____	_____	_____	_____
(8) Marketing	_____	_____	_____	_____	_____

Academic Preparation

	Excellent	Adequate	Fair	Poor	Never Had
(9) Interpersonal Skills	---	---	---	---	---
(10) Assertiveness	---	---	---	---	---
(11) Computer Application Skills	---	---	---	---	---
(12) Other(s): (please specify)	---	---	---	---	---
_____	---	---	---	---	---
_____	---	---	---	---	---
14) Have you had additional educational experiences: (please specify)					

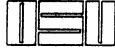
IV. Diary:

Directions: Please record, on this page, the activities of a "typical work day" in your position giving time of day and specific tasks performed, if applicable. You may also indicate percentage of time spent on each specific task.

Please look over questionnaire again to be sure all questions have been answered. Thank you for taking the time to complete this questionnaire thoroughly and accurately.

APPENDIX C

CORRESPONDENCE



Oklahoma State University

Department of Food, Nutrition and Institution Administration

425 HOME ECONOMICS WEST
STILLWATER, OKLAHOMA 74078
(405) 624-5039

January 23, 1985

Dear Colleague:

We are conducting a "Functional Analysis and Managerial Skills Assessment of Dietitians in Business and Industry" and request your valuable assistance in this endeavor. Research literature do not have what comprises a typical day of a DIBI in terms of operational activities. Some research indicate that dietitians functioning in a managerial position are lacking in specific skills required in management positions. Our purpose therefore is to survey a random sample of DIBI members to discover information which could be useful for educators and administrators to have to enhance their dietetic curricula or job descriptions.

You have been chosen as one of six DIBI members to assist us in examining this questionnaire for content validity, clarity, format and time necessary to complete the survey. Any additional comments you can provide us will also be welcomed.

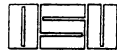
The information you provide us will then be discussed and incorporated in an effort to improve the questionnaire and the study itself. We appreciate your professional interest and participation.

Sincerely,

Judith T. Boog, R.D.
Graduate Teaching Assistant

Lea L. Ebro, Ph.D., R.D.
Professor, DIBI Member





Oklahoma State University

Department of Food, Nutrition and Institution Administration

425 HOME ECONOMICS WEST
STILLWATER, OKLAHOMA 74078
(405) 624-5039

February 18, 1985

Dear Colleague:

We would like to ask your assistance in conducting a "Functional Analysis and Managerial Skills Assessment of Dietitians in Business and Industry." Your participation in this endeavor will help us answer some key questions which have not been answered in past research, such as 1) What functions are performed by DIBIs in their jobs? and 2) What managerial skills are important and are needed by DIBIs?. You have been chosen as one of 500 DIBI members invited to participate in this study.

The information you convey to us will be held in strict confidence. At no time will you or the facilities you serve be identified in the research report. The code number on your questionnaire is merely to assist us in tabulating data and to follow-up responses.

Please take time from your busy schedule to complete this questionnaire. It will take approximately 30 minutes. Your time and effort are greatly appreciated. Please return the questionnaire by Friday, March 22nd at the latest. Kindly refold, staple, and return completed questionnaire. Postage is furnished for your convenience. Thank you for your time and professional assistance.

Sincerely,

Judith T. Boog, R.D.
Graduate Teaching Assistant

Lea L. Ebro, Ph.D., R.D.
Professor, FNIA Department
(DIBI Member)



APPENDIX D

LIST OF OTHERS

Part I - Question 6 - Highest Level Degree and Major:

<u>B.S.</u>	<u>M.S.</u>	<u>Ph.D.</u>	<u>Other</u>
	Dietetics		
Dietetics			
Home Economics			
Food and Nutrition			
F & N & Dietetics			
FNIA			
Dietetics & Institution Management			
	Nutrition		
Dietetics			
F & N			
	Inst. Mgmt		
	Nutrition		
F & N			
			Two M.A.s:
			Personnel &
			Business Mgmt
	Inst. Mgmt		
	F & N		
Home Ec -			
Inst. Mgmt			
	Nutr. Science		
Dietetics			
Inst. Admin. -			
Dietetics			
Dietetics			
Nutrition - Mgmt			
	Nutrition		
			MBA - Marketing
	Education		
	Nutri. Education		
	F & N		
Dietetics			
Home Ec -			
Inst. Mgmt			
	F & N		
	Food Systems		
	Admin.		
	Human Nutr./Physiol.		
Dietetics/			
Food Admin.			
F & N - Dietetics			
	Human Nutr. & Bioch.		
Fd, Nutr, Inst Mgmt			
F & N			
F & N			
Dietetics			

Part I - Question 6 Continued

<u>B.S.</u>	<u>M.S.</u>	<u>Ph.D.</u>	<u>Other</u>
	Exercise Physiology		MPA
Foods/Dietetics/ Nutrition			
Inst. Mgmt & Dietetics	Food Sci. & Nutr.		MBA
F & N	F & N Inst. Mgmt		
Home Economics Dietetics	Foodservice Mgmt		
Dietetics	Nutr. Science		
Home Ec - Nutr. Dietetics Nutr./Dietetics	Nutrition		
Inst. Admin. & Rest. Mgmt/Nutrition	Home Ec Admin.		MPH
F & N	Food Science		MPA MPH
	Nutr. Communications Clinical Nutrition		
Dietetics			MBA - Mgmt
Human Nutr. & Dietetics Inst. Admin.			Masters in Ed MPH
	Nutr. & Biochem. Industrial/Organiz. Psychology		
Clin. Dietetics & F&N/Business	Nutrition		
Inst. Mgmt - Dietetics	Nutrition		

Part I - Question 11 - Position Title:

Buyer - Health Food & Bulk
Food Scientist
Executive Dietitian
Manager, Bevier Cafeteria
Associate Food Technologist
Department Chairperson -- Professor
Manager Sensory Evaluation
Test Kitchen Director
Group Manager
Director Program Design
Regional General Manager
District Manager Ohio Area
Account Executive/Health Care
Cafeteria Manager
Home Economist
Area Manager
Nutritionist/Home Economist/Accountant
Assistant Professor

Part I - Question 13 - Type of Business or Industry:

Assistant Professor in Food, Nutrition, and Dietetics
Science and Regulatory Affairs
Community College (Two year Foodservice Administration AAs degree)
Professional Membership Association
Publishing -- Magazine
Job Listing Service for Nutrition/Dietetics Profession
Facility Design and Management Consultant
Foodservice Facility Design
Foodservice Facility Design and Marketing
Automated Foodservice Systems

Part I - Question 14) Managerial Skills and Importance to Job - Part
 12) Other(s):

Perseverance	Very Important
Networking	Very Important
Salesmanship	Very Important
Program Development	Very Important
Display	Very Important
Scientific Food	Very Important
Statistical	Very Important
Educational Abilities	Very Important
Flexibility	Very Important
Personnel Management	Very Important
Training	Very Important
Calculated Risk	Very Important
Food Photography	Very Important
Time and Motion	Very Important
Creative Thinking	Very Important
Problem Solving	Very Important
Personnel Management	Very Important
Creative Thinking	Very Important
Organizational Skills	Very Important
Self-Motivation	Very Important
Attend Professional Meetings	Very Important
Referrals (Self-publicity)	Very Important
Recipe Development	Very Important
Technical Skills/Knowledge	Very Important
Time Management	
Attention to Detail	
Merchandising	Very Important
Systems Management	Very Important
Organizational Skills	Very Important
Time Management	Very Important
Time Management	Very Important

Part II - Role Functions - Question 10) Other:

Interview Sales People	Weekly
Inventory Control-Purchase Orders	Daily
Strategic Planning	Quarterly

Part III - Question 13) Managerial Skills and Academic Preparation -
Part 12) Other(s):

Research	Very Important
Community Education	Very Important
Technical Knowledge in Nutrition	Very Important
Strategic Planning	Very Important
Practicing/Implementing Scientific Methods	Very Important
Decision Making/Problem Solving	Very Important
Research	Very Important

Part III - Question 1) How adequate was your academic training in preparing you for your present job responsibilities:

Not adequate in management area.

My professors all had job experiences and taught the "real world" techniques. Excellent undergraduate and graduate training.

Fair.

A good base, but much learned on my own, or on the job.

Very good.

It was adequate.

Adequate in life sciences, not in business applications.

As a graduate of 1946 & MS 1969, I have had to keep current myself; my chemistry background was excellent.

No relevance.

Excellent training in "basics" in college. Excellent training in nutrition-related subjects on internship. Lacking training in merchandising, marketing, time management.

Inadequate. I use approximately 25% of academic training in my job.

My degree (BS) in nutrition was somewhat adequate. My MS in Business is very adequate.

Good in theory, poor in practice.

Good.

So-so--I'm really not in a strict nutrition field.

Not adequate; not in-depth.

Excellent - it has been essential to keep current and transfer skills learned.

Fair - no home ec. background; not enough information for nutrition consultant.

For each segment good.

Gave ground work.

Excellent.

Not adequate at all for present responsibilities.

Part III - Question 1 (cont.)

Very satisfactory.

Lacked computer training, accounting, marketing, and management.

Good in giving me knowledge of health care market but no marketing skills.

Excellent.

Extremely.

Moderately adequate due to fact that I work greatly in more business aspects than specifically w/nutrition solely.

70% adequate.

Moderately adequate.

Fair; needed more management courses.

Provided basis and references, but experience the best training.

Poor.

Excellent.

Basic management good; financial poor.

Good.

Moderately.

Fair.

Yes.

Very poor.

Lacking in management experiences/knowledge.

Was not adequate, skills I have were on the job training.

Not at all.

Adequate - but should have more marketing/business background.

Adequate.

Basics were taught; not adequate for my management position.

Adequate.

Part III - Question 1 (cont.)

No answer.

Lacked marketing/business aspects.

Good.

Very adequate.

Excellent.

Above average.

Amazingly useful.

Not very.

Fair; could have utilized more business skills, i.e. accounting, personnel management.

Academic training secondary to work experience.

Semi-adequate.

Basic equipment and layout training invaluable.

Gave me nutrition background needed - management and community were developed.

Minimal.

MBA applied more now than BS nutrition.

Marginal.

It covered all areas except for the marketing.

Minimal - learned by job experience.

Adequate.

Very.

Excellent overall training, but not deep enough into either clinical or administrative areas.

On a scale from 1-10--it was a "5".

Pretty adequate - just low in business and career planning.

50%

Not very.

Part III - Question 1 (cont.)

Adequate.

Excellent.

Inadequate - needed more business oriented classes.

Totally inadequate.

Average.

Very weak.

Fairly strong.

Clinical aspect excellent; survival not covered.

Minimal.

Very.

A beginning.

More than adequate.

Most limited.

Lacking in management.

No formal training in marketing.

Adequate in basic skills; need political awareness, marketing, and budget planning.

Inadequate.

Excellent.

Could use computer skills.

Didn't get enough exposure to non-hospital dietetics--more hands-on cooking skills.

Good.

Adequate but could have had more computers, statistics, quantitative analysis, and business type courses.

Part III - Question 2) Strengths in academic preparation

FSM, Technical Research, & Community Ed.

Increased flexibility, increased awareness of market place, and increased communication skills.

Journalism.

Well rounded.

Basic foods courses - excellent; basic science courses - good.

General nutrition-clinical.

Only in the area of professional contacts and understanding dietitians as a group.

Basic nutrition; all foods courses.

Nutrition.

Dietetic Internship.

Accounting, psychology.

Stressed self-reliance thru independent study and use of standards; excellent coverage of therapeutics of whole life cycle. Graduate work broadened scientific basis.

Food preparation, meal management, and quantity food production.

Quantity cooking and accounting.

Mgmt, accounting and budgeting.

Design and layout; use of equipment.

Foods and nutrition.

Acctng, management and nutrition.

Good basic concepts; ability to work.

Diet therapy.

Economics, basic Accounting., Institutional Management.

Tech., scientific preparation.

Personnel Management and Child Psychology.

Administrative Dietetics.

Part III - Question 2 (cont.)

Chemistry, biochemistry, accounting, and advertising.

Recipe development, food science, experimental foods, ethnic foods.

Management, food preparation, and menu (food) presentation.

Food preparation, education, science.

Management theory.

Assessment, communication skills.

Interpersonal relationships.

Nutrition science application.

Equipment, Layout and Design, Drawing.

Problem solving and logical thinking.

Hands-on work experience (CUP).

Journalism, economics.

General education; broad spectrum of course work.

Relating to real work studies.

Business law, general business, human nutrition, metabolism, diet and disease, physiology, research methods and procedures, biochemistry, medical terminology.

Development of management skills.

Technical Information.

Clinical Nutrition.

Excellent Clinical and Food Science.

Biochemistry and Clinical Nutrition.

Food theory and food preparation.

Food Science management, communication skills.

Scientific coursework.

Teachers who taught where to look for info.

Part III - Question 2 (cont.)

None.

Science courses.

Food preparation - sciences.

Basic science courses.

Food chemistry.

Management skills.

Learn to analyze situation needs and procedures.

Human resource courses; nutrition, research methods.

Methods, personnel.

General Food Science knowledge.

Nutrition education and management (during internship).

Food Science, Nutrition.

Basic foods and nutrition.

Research report analysis.

Broad, general courses in nutrition and Food Science.

Communication and PR skills.

Science and Mathematics.

Technical skills.

Quantity food preparation.

Administration, food science, facilities planning and design, personnel management.

Accounting, statistics, speech.

Practical applications.

Variety of courses/experience; some of Plan IV was a waste.

Business management administration.

Therapeutic background.

Part III - Question 2 (cont.)

Sciences, management training, problem solving, learning to work with uncertainty and accept change, learning to develop and maintain an inquiring mind.

Comprehensive; liberal arts.

Writing for mass media.

Sciences.

Didactics such as therapeutics, statistics.

Progressive program stressing current trends. Topics included - interviews and assessments.

Oral and written skill development; how to research what isn't known and a love for learning.

"Self-directed program".

Chemistry, research in education, marketing.

Life sciences.

How to research a problem on my own.

Food production, management training.

Assertiveness, nutrition, follow-up, teaching and interpersonal skills.

Public speaking; proposal preparation, research.

Experimental Cookery, Quantity, Catering, Business Administration and Accounting.

Food preparation, equipment.

Applying for internships - very thorough.

Nutrition and writing skills.

Food Science and Chemistry.

Part III - Question 3) What are some additional skills that would have been helpful.

Personnel management; financial.

Computer language or programming.

Financial, marketing, general business.

Business skills, application, entrepreneurship, sales and marketing.

Food Science financial controls.

Journalism skills, education.

Marketing.

Statistics, computers, food photography.

Selling skills, market conditions, purchasing.

Merchandising, marketing, time management.

Marketing, accounting, finance, economics, assertiveness, communications, speech presentation.

Hands-on skills, not didactics.

Maintenance of equipment; financial.

Communications classes.

Accounting/oral comm.

Management and mathematics.

Financial and business skills.

Record keeping; computers.

Financial; economics.

PR, sales, advertising.

Finance, marketing, market research.

Communication techniques - verbal and written.

Actual hospital experience.

Verbal/written communications.

Part III - Question 3 (cont.)

More computers.

One stop shopping concept.

General business skills - management, finance, interpersonal and general communication skills, computer skills, assertiveness training, and negotiation skills.

Managerial skills.

Quantity food preparation and standards; management skills.

Business, statistics, management.

PR, marketing, computers, improved culinary experience.

Instructors who know what went on in real world.

Accounting, computers, mathematics.

Financial management skills.

More accounting.

Sensory evaluation courses, statistics.

Journalism and accounting.

Finance - law.

Personnel skills, business management/evaluation skills.

Business, financial management, communication skills, media.

Computers, financial analysis.

Sales, marketing, financial mgmt.

Identifying resources available before R.D.

Accounting, business management, personnel management.

Actual management techniques.

Marketing, finance knowledge and applications.

Fiscal planning.

Part III - Question 3 (cont.)

Negotiation/assertiveness skills.

Technical writing, computer programming, advanced clinical nutrition diagnostics, marketing.

Flower arranging, cake decorating, calligraphy.

Accounting, statistics, computer science.

Sales, marketing, finance.

Business skills.

Finance.

Marketing, communication, personal management

Assertiveness training, job descriptions, temperature control systems, politics of the market place.

More hands-on experience.

Business.

Publication writing; marketing.

Purchasing; recipe conversion; profit and loss.

Food photography and copywriting.

Computers, employee benefits, grants writing.

Accounting and finance.

Selling, business/marketing, business world and women.

Advanced accounting and marketing.

Business courses, time management, food photography.

Accounting.

Technology skills in automated data.

Public speaking, finance, business law.

Part III - Question 3 (cont.)

Accounting, business management.

Interpersonal communication.

Systems flow - purchasing and contracts.

Management, finance.

Marketing, business operation, computers.

On the job training.

MBA, television and radio production.

Marketing, P.R., business; more English and physics, less biological sciences.

Basic management - accounting - analysis.

Business courses/sales marketing/communication.

Marketing and computers.

Financial, business, management.

Increase students' awareness of alternative dietetic careers.

Business law, behavioral psychology, computers.

More cooking.

Evaluation.

Computers, statistics, quantitative analysis, and business courses.

Part III - Question 4) If you were to decide to enhance your skills through further education, what area would you choose:

Business, communication.

Business administration or psychology.

Business.

Television and Radio Journalism or Exercise Physiology.

Computers.

Journalism.

MBA

Marketing; update food technology.

MBA - marketing.

Marketing, statistics, computer programming.

MBA

Business

"

Management/Business.

Exercise Physiology.

MBA

Economics, finance, management, organizational development and organizational behavior.

Communications, writing.

Computer science.

Marketing.

Food Science.

Business.

Administration, quality circles, computers in business.

Marketing, computers and accounting, public speaking.

Communications.

Part III - Question 4 (cont.)

Management/business.

MBA & selling seminars.

Business combined with communications.

Management, marketing of nutrition, nutrition and the media.

Sanitation in food handling.

Computer programming.

Marketing, culinary skills.

Business.

MBA.

Finance/accounting.

Accounting and food technology.

Statistics, presentation skills.

Communication, nutrition education.

MBA.

Business administration.

MBA.

MBA.

Computers, financial analysis.

MBA - Marketing.

Management or Education.

MBA.

Biochemistry.

MBA.

Administration, computers.

Marketing, business orientation, computers.

Part III - Question 4 (cont.)

Mathematics, computers, biochemistry, public administration, business law.

Computers.

Accounting, statistics, computer science, food manufacturing.

Business administration.

MBA.

Computers.

MBA - Marketing.

Preventive health.

Computers.

Already have.

Business.

Publication writing marketing.

Computer.

Business - marketing.

Public Health or MBA (with computer applications).

MBA.

Business administration.

MBA.

Business administration - marketing.

Business, art-type setting, design.

Finance.

Procurement and materiel management.

MBA.

Business administration.

Management and business skills.

Part III - Question 4 (cont.)

Accounting, contracts, business law, organizational behavior.

Business administration.

MBA.

Computer information, MBA.

Personnel relationships.

Business.

Marketing, Engineering.

Business - systems - analysis.

Management.

Business administration.

Business administration.

Marketing.

Computer language and use of software and media workshops.

Journalism or marketing.

Mass media, communications.

Business, computers, food science.

Part III - Question 5) What changes in curriculum or education process would you recommend to compensate for deficiencies.

PR, basic computer science, use of media.

Increase oral skills, increase written skills, add sales training.

Management courses mandatory in clinical curriculum.

Art courses; How to use advertising; Computers.

Additional year continuing business and/or communication courses.

?

More business courses, Human resources and human relations.

Marketing.

Marketing, business operations, computers.

Have some theory/examples of clinical management in school didactic work.

More business and personnel courses.

Put it into the fifth year along with the internship.

Communication, interpersonal, budgeting and cost control.

Replace food and nutrition "useless" courses with business and financial management courses.

Prepare the undergraduate in dietetics for the real world of competition, business, bottom line.

More structural curriculum that incorporates data processing.

More accounting and business courses.

Less literature, more business, photography, food science.

Eliminate the clothing requirements of the B.Sc.

Exposure to other nontechnical/scientific areas/people. More interaction with business.

More management, communication (both oral and written).

Split the curriculum into clinical and administrative areas.

Part III - Question 5 (cont.)

Computer use, media communication, more management skills.

Incorporate business in curriculum or internship.

Commercial profit; more practical experience in food production-purchasing.

Change educational psychology to human relations/management.

More field study vs. requirements in B.S.

Courses - assertiveness training - job descriptions, temperature control systems, politics of the market place.

Projects for nutrition education - responding to typical consumer questions.

More business oriented classes.

Less emphasis on The ADA - more on real world; business courses.

Eliminate Home Economics core curriculum.

Accounting, statistics and computer science replace history/social studies requirements.

None.

More or greater emphasis on clinical application, practical operations management, financial planning and creative resources.

Emphasize having coursework in marketing, business and computers.

No comment.

More management/business classes required.

More business/economics-type classes; purchasing.

More marketing/business.

Part III - Question 5 (cont.)

More computers, public speaking, finance.

Computer science, business/management.

More business emphasis; "hands-on" experience.

More business and finance.

More time for additional courses.

Abnormal nutrition; journalism.

More business/management courses.

More accounting.

Accounting, computers, mathematics.

Increase classroom experience in computers, marketing, supervision.

Add business management and marketing courses.

Addition of courses/experiences to assist in understanding group dynamics and democratic management.

Computer courses.

Business and communication courses, computer courses, thought provoking courses.

Dietitians need to be aware of personal appearance.

Less emphasis on clinical dietitics, more on general management and communication and financial skills.

Actual on the job training experience; have more professionals speak to students.

Stronger business curriculum in addition to food science.

Should have been mandatory to -----?

More opportunity to write & speak.

Require computer classes and/or use.

Business.

Part III - Question 5 (cont.)

--excellent for clinician.

No CUP program, not enough time for general courses.

Undergraduate should be strong in science and management and encourage students to keep open minds, be more flexible, become listeners.

Follow current ADA guidelines and task force on education findings.

[] of oral and written communication of normal nutrition.

More management/business - MBA.

Externship built into schooling; include on the job experience.

"Hands-on"

More business courses directly related to issues for DIBIs.

Marketing, statistics, computer programming.

More exposure to alternative careers in dietetics.

All types of communication skills.

More business courses.

More creative writing classes.

Food science financial controls.

Business, finance, accounting, marketing, PR, sales.

More emphasis on dietitians specialized in business and nutrition.

Less diet therapy and more psychology or social science.

Business and finance, decision making, PR.

Part III - Question 6) How would you compare your managerial skills with those of a graduate of Hotel and Restaurant or Business:

Don't know.

As women, our managerial skills are much better.

Not as astute.

More limited.

Excellent.

Better.

Probably very poor.

Not as good.

Don't know.

Similar, with a stronger science background.

Inadequate.

My BS didn't prepare me for management, therefore I couldn't have competed with a graduate of Hotel and Restaurant management.

Much less.

Poor.

Comparable - due to experience in hospital dietetics.

Much more liberal arts and nutrition.

Very comparable, sometimes superior.

Poor.

Better.

Same.

Good.

Present skills are excellent due to on the job training primarily with some additional course work.

Fair to comparable.

Poor right after graduation.

Can't compare.

Part III - Question 6 (cont.)

As good - comparable.

Less skillful in actual business areas.

NA.

Better.

As good as.

Better knowledge in nutrition counselling, medical information; less knowledge in culinary arts, publications, finance.

Very similar.

Similar.

Good.

Equal.

Fair.

Better.

Equal to.

Poorer - especially in personnel management and business methods.

After university graduation - poor; now - fair.

Better than through personal development.

More technical knowledge in nutrition but no one to compare to.

Hotel and Restaurant more business, equipment and food purchases.

Equal because I have learned these since getting my B.S.

Good.

I have less cost control.

No comment.

Good.

Comparable with the exception of weaker fiscal knowledge on my part.

Part III - Question 6 (cont.)

Competitive, but lacking in certain areas of employee management, development and supervision.

Better.

Unknown.

Individualized.

As good or better now however, not as good right out of school.

Can't compare due to lack of knowledge of Hotel and Restaurant.

Mine weren't learned through dietetics.

As good as or better.

Less.

Presently comparable.

Now comparable.

Poor.

Better than.

Par.

Same classes in college.

OK now via experience route.

Experience has been an equalizer.

After 14 years experience, about the same.

More scientific, more narrow.

My skills were self-taught and over 20 years, therefore no comparison.

Wouldn't, they would win.

Trade off, as clinical expertise is valuable in management of nutrition science.

About the same.

Very comparable.

My skills are good due to work and course selection. Overall, I feel they have managerial skill advantages in their schoolings.

Part III - Question 6 (cont.)

Less extensive.

I learned from them - I was weak.

Very good.

Probably lower as we never taught management perspective.

Self-taught.

Better.

Good.

Less equipped; less experience of a practical nature.

Less.

Have not worked with them enough to compare.

Deficient in budget and planning aspect.

Equal in skill.

Deficient in PR and personnel management.

More narrow in scope than an MBA graduate.

NA.

Need more management.

Part III - Question 7) How important is a graduate degree for advancement in your company.

Very, gives credibility to "free-lancing."

Not important.

0

0

My performance of greater importance.

Not important.

None.

Not at all.

Helpful - if MBA.

Not very.

Not at all - I am president; taking time out would hurt career although I would love to get MBA.

Essential to get hired.

Not important at this present job.

Helpful but not necessary.

Necessary.

Not important - we are too small at this time.

N/A

It depends on field of endeavors.

Most important, job calls for it.

Very.

Becoming very important.

It isn't.

Not important.

Not too important - they're more interested in who can get the job done, with or without a degree.

Not important; common sense needed.

Part III - Question 7 (cont.)

Not very.

None.

Not that important.

Not at all.

Important.

Minimal.

N/A.

Not at all.

Very.

Not at all important.

Not important.

None.

In science, very important.

Not a factor.

Extremely important.

Opens up more opportunity for upward mobility in the organization.

Not.

Not important.

Moderately.

Not important.

N/A.

Not important.

Not at all.

Does have some benefit if in Business.

Not very - I would have to take over different departments or assignments outside of department.

Part III - Question 7 (cont.)

It isn't - internship more important generally.

Important.

Unimportant.

Extremely.

Not very.

0

Very.

None.

Not essential, but helpful i.e. MBA.

Very - that's why I seem to get promoted faster.

I'm an "academic professional" in a large university, and so advanced degrees are demanded. However, in my niche there is no advancement opportunity.

NA

Minimal.

Not necessary.

Very important.

It's not.

Not very important.

Very much so.

Not necessary for owning your own business but very important for corporate life.

Very.

Not important.

Very.

NA

Not very - education is not valued in my organization.

Experience more important.

Part III - Question 7 (cont.)

Key factor in getting the job in Consumer Affairs and then in transferring to Purchasing as Health Food/Bulk Buyer.

Not important.

Not at all.

Very important since it was in business, an MS in nutrition wouldn't be important.

Very helpful but not crucial.

Not very important.

My advancement will be most assisted by R.D.

Important.

Very important.

Not important.

Not very.

Not.

It was a ticket to my position.

In my area, experience, good judgement and "people" skills are more important than a graduate degree.

Helpful but not essential.

Not as important as being an R.D. but it expanded my degree in food and nutrition to get me my present job.

NA.

Very.

Part III - Question 8) How important is being an R.D. in your company.

Helpful but not essential.

Essential; not hired if non-R.D.

Important.

Very.

Somewhat - is viewed as an asset.

Not important.

Zero.

Very important.

Very.

Very important.

Very important! They hired me for that reason.

Very important since there are very few within company.

Not at all.

Very important.

Was necessary for my initial job as Food and Health Specialist in Consumer Affairs and then in giving credibility to my position as Health Food Buyer.

Depends upon client and project at hand.

Not important, the current thinking is in favor of non-medical generalists.

My business job - none.

Varies, but helpful.

Somewhat important.

Hardly.

Not important at all.

Necessary.

Very important, but not necessary.

Important.

Part III - Question 8 (cont.)

Not important.

Very - I'm the only one.

Great for my position; other areas within company no significance.

NA.

Required.

Not important at this time.

Fairly important - we have 1 R.D. per unit.

Semi.

Not necessary.

0 except for good PR among members.

Some.

Vital in some positions - not mine.

Fairly important.

None.

Very for some positions - do not have many others.

Very important.

Very - that's one reason why hired.

Very important.

Required for my job.

Vital.

Moderately important. . .potentially very important.

It's an advantage - but not necessary.

Not important.

Yes, very.

Very important.

Part III - Question 8 (cont.)

Extremely important.

Was not a requirement.

Useful, not critical.

One background to getting there.

Very - I served a dual role because of it, and it lends credibility to my performance with my clients.

It's helpful only if it comes with a financial background and ability to manage.

Very.

Important for contacts with peers.

Very.

Usually in health related fields only where regulations dictate.

Very helpful.

Somewhat.

Very.

None.

Required - since I am the only one.

For me, for my sub-contracting - very important.

Important in some positions, but not the top level ones.

Very important.

Very.

It placed me on a "step" above all other manufacturer's representatives.

Very.

Most important.

Not necessary.

N/A

Important, as we capitalize on it.

Part III - Question 8 (cont.)

Necessary.

Required.

Very important.

Worth nothing.

Very as we work in nursing homes and small hospitals which are mandated to have dietitian by state and federal regulations.

Add prestige.

Minimal.

Semi - (getting better).

Valuable.

Very, gives me credibility in market place.

Very.

Very important.

0.

The company specified a Registered Dietitian for the position, therefore essential.

Required.

Minimal importance now; once was important.

Very.

It is.

Part III - Question 9) How important is experience for advancement in your company.

Will help write my own ticket.

Very important.

Very.

Very important.

Very.

Very.

Very important - but not in the field of dietetics.

Longevity in everything.

Very.

Very.

Very - but eagerness, enthusiasm, and marketing expertise are also important.

Essential.

No further advancement here if one continues in food science.

Very much so.

Necessary.

Important - again we are too small to adequately address this.

NA

Very important.

Most important.

Very.

Extremely important.

Somewhat important.

Very important - essential.

Important.

Part III - Question 9 (cont.)

Not very.

Very important.

Very.

Minimal.

Very important.

Important but demonstrated ability more important.

NA

Company too small.

Very.

Somewhat.

Important.

Performance is more.

Useful, not critical - much less critical than the companies.

Very.

Very important.

Important.

Current performance is key criterion.

Important.

Very important.

NA

Some importance.

Very important.

Very important.

NA.

Part III - Question 9 (cont.)

Very.

Very.

Fairly.

Extremely.

Lots.

I'm at top position in company.

Very.

Very.

How one performs on the job is more important.

Not very - if you demonstrate competence that is what's important.

Required for employment.

NA

A definite advantage.

Sometimes it's an advantage to not have experience - to learn everything fresh and new.

Very important.

Somewhat.

Very important.

Necessary.

Can't start own business without experience; can't stay in business without experience.

Not much.

Be aggressive and show initiative.

Very.

Very.

Not important.

Very.

Part III - Question 9 (cont.)

Very.

Required before hiring.

Everything.

Not totally important. Willingness to work and manage seems to be most important.

Very important. Maybe more so than the R.D. or B.S. degree.

Vital.

Very.

Fair.

Very important.

Very important.

V.I.P.

Extremely.

Very important.

In my area, it's more important than an MBA.

Important.

Very.

Very.

Very.

Part III - Question 10) How qualified/capable are dietitians for middle or top management positions in your company:

Decision making skills and innovative ideas are more important than a title.

The younger they are, the less chance they have of qualifying; not enough "hands on" experience.

Not qualified.

Some are.

Very.

Not Applicable.

Being a dietitian is not applicable for promotion.

Fair.

Somewhat.

As a group we all lack the financial skills.

Not qualified just based on R.D. degree or dietetic training.

Not qualified - can't even compete unless they're willing to manage.

Definitely not, education prepares you to be too home ec-y.

Extremely.

Can compete.

Very.

Most are not good all around managers, because they think only of dietetics, not entire health care situation.

NA.

Varies with individual and experience.

Depends on their background, and willingness to be flexible.

Not appropriate.

Not.

Very capable - several R.D.s to hold top management job.

Part III - Question 10 (cont.)

Need to develop and acquire marketing and/or educational skills.

Yes, I could advance.

Not very unless they have heavy background in computers and/or business management.

NA.

Not applicable.

Somewhat qualified.

With a business degree, fairly good.

I am the only one.

I'm the only one.

Very qualified.

Some are capable.

Very.

Unqualified.

None in company but me and one other.

Very qualified down to adequate.

Capable - department managers.

Very poorly equipped.

Getting better than 20 years ago.

Most are not qualified/capable; those who are would probably be overlooked.

NA

Quite qualified.

Good.

Dietitian status doesn't equal capability - if they are managers, they are qualified, plus being a dietitian is irrelevant.

Part III - Question 10 (cont.)

None.

Well qualified/capable; especially if RD has good fiscal knowledge.

Less than desirable.

Average.

The #1, 3 and 4 ranking managers with nutrition training are not RDs; 2 are PhDs and 1 MS.

OK for middle.

Very qualified if they possess good management skills.

On a scale of 1-10 (10 highest), most dietitians rate 2-3.

Only if they have business experience.

NA.

NA.

Minimal number - administrative ability vital.

Need business too; qualified for middle.

Very - dietitians are much more qualified than current management.

Not, without experience or business management.

Not qualified.

Not very.

Not really applicable at this time.

Middle levels - OK, but not top levels.

Not applicable.

Very few.

Not necessary credentials for advancement.

Not capable or disinterested.

Not applicable.

Part III - Question 10 (cont.)

If I were to hire today - the choice of good top managers with R.D. would be limited.

Most of them couldn't handle it.

Need more self confidence.

Average.

None of the others are qualified.

None are in such slots.

Very; we train them quite carefully and hire accordingly as well.

Very.

I am only dietitian.

Not conceivable.

They are valued only for their rapport with other dietitians.

Not.

Unable to answer at this time; my company is small and new.

Most that subcontract with us are R.D.s but some have strong education background and are very good.

NA without marketing experience.

Could easily set up own service operation if inclined to work full time.

Not the best candidates or role models.

Not very.

They are.

Part III - Question 11) Do you think of yourself as a dietitian or as an executive member of management:

Neither. As a nutritionist and dietitian.

As a marketing sales manager with background of R.D.

Executive manager of management.

Business woman.

Executive member who is an R.D.

Member of management.

Executive member of management.

Dietitian.

Executive.

Executive.

Executive.

Supervising Consultant Nutritionist.

Both yet more as an executive.

Executive.

Executive.

Executive.

A business woman who happens to be a dietitian.

Executive.

Executive.

Neither.

Executive and dietitian.

Executive.

Executive.

Executive.

Both.

As a test kitchen home economist.

Part III - Question 11 (cont.)

Yes indeed.

Both.

Both.

Executive.

Executive who is an R.D.

Neither; nutrition education and marketing.

Both.

Executive.

Dietitian.

Executive management.

Executive.

Executive.

Executive.

Nutrition specialist with strong business awareness.

Dietitian/middle management.

Dietitian.

Executive.

Both.

Executive.

NA

Both.

Executive but use R.D.

Executive (sales representative).

Executive.

Executive who is an R.D.

Part III - Question 11 (cont.)

Executive.

Dietitian.

Executive.

Executive.

Executive.

Executive.

Executive.

Both.

As an associate food technician.

Both.

NA

Both.

Sales representative.

Dietitian.

Executive.

Both.

Both.

Executive.

Executive.

A dietitian in management.

Executive.

Executive.

Executive.

Both.

Executive.

Dietitian.

Part III - Question 11 (cont.)

Executive.

Executive.

A specialist in the management capacity.

A member of senior management.

Executive.

Both.

A business woman.

Dietitian.

Both.

Both.

Executive.

Executive.

Executive.

Executive.

Neither.

Executive.

Part III - Question 12) What has been most important to you in achieving your present position.

Experience, personality, communication skills.

My personal "drive", loyalty and dedication has always been my strongest traits. I ask questions, get knowledge and apply this to daily operations.

People that believed in me when I started and taught me the ropes.

Perseverance, drive, originality, interpersonal skills, enthusiasm.

Varied experience and educational preparation.

Attitude.

Work.

Marketing and credibility.

My experience and my personality/Being in the right place at the right time.

The superior creative outlet it provides.

Personal qualities of drive, perseverance, aggressiveness and experience in sales.

My management background and the willingness to use it and take risks.

Long hours, hard work - capable bosses interested in developing me.

Best out of all job applicants.

Flexibility and teachability of new skills and applying basic knowledge of nutrition to product selection.

Hard work.

The ability to sell myself and my interpersonal and managerial skills.

Good in front of crowds - public speaking.

Strong drive and hard work.

Sales training and experience.

Enthusiasm.

Dietitics got me into marketing which led me to my own business.

A means of opening my experience towards any position in the future.

Part III - Question 12 (cont.)

Doing a very good job and being respected by peers and subordinates and supervisors.

Flexibility and guts.

Working hard and for the right person.

Knowing the right people.

Assertiveness and self-motivation/self-direction.

Conveying to staff that a R.D. is a professional resource for nutrition information.

Have not moved up, just had desired requirements at time of hiring.

My communication skills, positive attitude, ability to get along; ability to make rational decisions and ability to cope under stress.

Experience in various settings.

My sense of responsibility and fairness.

My ability to communicate to all levels of people; organizational skills and computer skills.

Hard work.

First rate performance and persistence.

Right place at the right time.

Foods background, skills, right choice.

Being flexible and never refusing a challenge.

Interest and self-study in business areas; informing boss of interest.

Being assertive and well rounded in business field.

Management and interpersonal skills as well as finance.

Management experience.

Management skills.

Experience and personal training.

Knowing the company representative before applying.

Part III - Question 12 (cont.)

Variety of work experience and personal drive.

Opportunity to do some consulting work.

50% education, 50% experience, and interests.

Getting away from hospitals.

Being a competent performer.

Planning to be in business; dedication.

A good mentor.

Hard work.

Intuition, logical thinking, prior business experience.

Past experience in equipment purchasing.

My energy level and creative ideas.

Challenge - job satisfaction.

My summer job when completing MBA.

My own personal drive and ambition.

The opportunity to work in a great many positions which required use of all of my education and then added to it.

Experience in all phases of management.

Past experience plus being willing to look ahead, spot trends, learn new things.

Outstanding performance in previous jobs.

Money and more money.

My energy level.

An understanding of the needs of all facets of food science and being a part of supplying those needs.

Skill - dependability - hard work.

Part III - Question 12 (cont.)

On the job experience.

Experience.

I'm a risk taker; an entrepreneur; I love doing anything different, being my own boss, flexible hours.

Unable to answer.

Continuing education, experience, self-confidence.

Systems to control costs and turnover.

A production and business phases of food science.

Assertiveness and timing plus the background experience to give quick answers and to plan strategies/answers before questions are asked of me. Often I bring the issues up in meetings to keep an upper hand.

Drive, enthusiasm, love of profession and career, appreciation of opportunities that come our way and Hard Work.

Good PR.

Persistence.

Education and experience in business world.

My personal contacts with the world of business, not dietetics.

Planning and taking the risk to achieve.

Past job and the way I presented myself to my current employer; he wanted someone with enthusiasm and able to sell themselves.

Belief in oneself, patience, commitment.

Personal determination/financial compensation.

Knowing myself; defining career area best for me - and thus pursuing that direction.

Assertion techniques and previous teaching experience in Adult Education and Community Programs plus volunteer work in Mental Health Programs.

Hard work, staying current on regulatory information, computer management experience.

Goal setting.

Hard work--lots of it--being focused.

APPENDIX E

SAMPLE DIARY

IV. Diary:

Directions: Please record, on this page, the activities of a "typical work day" in your position giving time of day and specific tasks performed, if applicable. You may also indicate percentage of time spent on each specific task.

- 5% - Supervisory role, scheduling, counseling, etc.
- 25% - Reviewing information (scientific articles) so as to be familiar with current nutrition advances, and can plan future direction
- 25% - Attending interdepartmental meetings to plan future action related to changing or improved services, or gathering general policy information
- 25% - Develops projects, tasks to be computed by others. Time spent in development and education of others on need and specific direction desired
- 20% - Projects requiring completion by myself - as data analysis, papers, etc.

Please look over questionnaire again to be sure all questions have been answered. Thank you for taking the time to complete this questionnaire thoroughly and accurately.

IV. Diary:

Directions: Please record, on this page, the activities of a "typical work day" in your position giving time of day and specific tasks performed, if applicable. You may also indicate percentage of time spent on each specific task.

- 1 hour - consulting with clients
- 2 hours - preparation for meetings or planning strategy
- 3 hours - carrying out projects for clients
- 3 hours - managing business

Please look over questionnaire again to be sure all questions have been answered. Thank you for taking the time to complete this questionnaire thoroughly and accurately.

APPENDIX F

SUMMARY OF CHI SQUARE TABLES

Key for Summary of Chi Square Tables

Yrs_BI = Years in Business and Industry

MS = Managerial Skills

Title = Position Title

HD = Highest Degree Obtained

AP = Academic Preparation

Type_BI = Place of Employment

Yrs_Prof = Years Experience in Dietetics

R = Role Function

Age = Age of Respondent

TABLE OF YRS_BI BY MS2

YRS_BI		MS2			TOTAL
FREQUENCY	ROW PCT	1	2	4	
1	27 58.70	19 41.30	0 0.00		46
2	9 45.00	11 55.00	0 0.00		20
3	14 66.67	7 33.33	0 0.00		21
4	4 57.14	2 28.57	1 14.29		7
TOTAL		54	39	1	94

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 14.790 DF= 6 PROB=0.0220
 PHI 0.387
 CONTINGENCY COEFFICIENT 0.369
 CRAMER'S V 0.280
 LIKELIHOOD RATIO CHISQUARE 7.561 DF= 6 PROB=0.2720

TABLE OF TITLE BY MS4

TITLE		MS4		TOTAL
FREQUENCY	ROW PCT	1	2	
.		1 .	0 .	.
1	7 63.64	4 36.36		11
2	5 22.73	17 77.27		22
3	13 61.90	8 38.10		21
4	8 38.10	13 61.90		21
5	13 72.22	5 27.78		18
TOTAL		46	47	93

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 13.291 DF= 4 PROB=0.0099
 PHI 0.378
 CONTINGENCY COEFFICIENT 0.354
 CRAMER'S V 0.378
 LIKELIHOOD RATIO CHISQUARE 13.821 DF= 4 PROB=0.0079

TABLE OF HD BY AP7

HD		AP7			TOTAL
FREQUENCY	ROW PCT	1	3	5	
.		1 .	0 .	0 .	.
1	21 46.67	24 53.33	0 0.00		45
2	21 43.75	20 41.67	7 14.58		48
TOTAL		42	44	7	93

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 7.274 DF= 2 PROB=0.0263
 PHI 0.280
 CONTINGENCY COEFFICIENT 0.269
 CRAMER'S V 0.280
 LIKELIHOOD RATIO CHISQUARE 9.971 DF= 2 PROB=0.0068

TABLE OF TYPE_BI BY MS5

TYPE_BI		MS5			TOTAL
FREQUENCY	ROW PCT	1	2	4	
.	.	2	3	0	.
1	17.24	5	23	1	29
2	30.56	11	22	3	36
4	75.00	18	6	0	24
TOTAL		34	51	4	89

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 21.635 DF= 4 PROB=0.0002
 PHI 0.493
 CONTINGENCY COEFFICIENT 0.442
 CRAMER'S V 0.349
 LIKELIHOOD RATIO CHISQUARE 22.418 DF= 4 PROB=0.0002

TABLE OF TYPE_BI BY MS6

TYPE_BI		MS6			TOTAL
FREQUENCY	ROW PCT	1	2	4	
.	.	2	3	0	.
1	27.59	8	20	1	29
2	22.22	8	23	5	36
4	75.00	18	6	0	24
TOTAL		34	49	6	89

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 22.048 DF= 4 PROB=0.0002
 PHI 0.498
 CONTINGENCY COEFFICIENT 0.446
 CRAMER'S V 0.352
 LIKELIHOOD RATIO CHISQUARE 22.675 DF= 4 PROB=0.0001

TABLE OF AGE BY AP2

AGE		AP2			TOTAL
FREQUENCY	ROW PCT	1	3	5	
2	11.54	3	20	3	26
3	4.76	1	16	4	21
4	39.13	9	10	4	23
6	20.83	5	18	1	24
TOTAL		18	64	12	94

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 13.058 DF= 6 PROB=0.0421
 PHI 0.373
 CONTINGENCY COEFFICIENT 0.349
 CRAMER'S V 0.264
 LIKELIHOOD RATIO CHISQUARE 13.707 DF= 6 PROB=0.0331

TABLE OF YRS_PROF BY AP2

YRS_PROF		AP2			TOTAL
FREQUENCY	1	3	5		
1	2	21	1	24	
	8.33	87.50	4.17		
2	2	16	6	24	
	8.33	66.67	25.00		
3	7	14	3	24	
	29.17	58.33	12.50		
4	7	13	2	22	
	31.82	59.09	9.09		
TOTAL	18	64	12	94	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 12.405 DF= 6 PROB=0.0535
 PHI 0.363
 CONTINGENCY COEFFICIENT 0.341
 CRAMER'S V 0.257
 LIKELIHOOD RATIO CHISQUARE 12.537 DF= 6 PROB=0.0510

TABLE OF TYPE_BI BY MSB

TYPE_BI		MSB			TOTAL
FREQUENCY	1	2	4		
.	1	4	0	.	
	13.79	86.21	0.00		
1	4	25	0	29	
	13.79	86.21	0.00		
2	4	24	8	36	
	11.11	66.67	22.22		
4	2	14	8	24	
	8.33	58.33	33.33		
TOTAL	10	63	16	89	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 10.658 DF= 4 PROB=0.0307
 PHI 0.346
 CONTINGENCY COEFFICIENT 0.327
 CRAMER'S V 0.245
 LIKELIHOOD RATIO CHISQUARE 15.184 DF= 4 PROB=0.0043

TABLE OF AGE BY AP11

AGE		AP11			TOTAL
FREQUENCY	1	3	5		
2	2	6	8	24	
	25.00	41.67	33.33		
3	1	1	11	20	
	5.00	40.00	55.00		
4	0	1	15	23	
	4.35	30.43	65.22		
6	0	3	21	24	
	0.00	12.50	87.50		
TOTAL	8	28	55	91	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 20.220 DF= 6 PROB=0.0025
 PHI 0.471
 CONTINGENCY COEFFICIENT 0.426
 CRAMER'S V 0.333
 LIKELIHOOD RATIO CHISQUARE 20.935 DF= 6 PROB=0.0019

TABLE OF MS11 BY AP11

MS11		AP11			TOTAL
FREQUENCY	1	3	5		
1	0	3	11	6	20
ROW PCT	.	15.00	55.00	30.00	
2	3	5	14	39	58
ROW PCT	.	8.62	24.14	67.24	
4	0	0	3	10	13
ROW PCT	.	0.00	23.08	76.92	
TOTAL	.	8	28	55	91

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 11.012 DF= 4 PROB=0.0264
 PHI 0.348
 CONTINGENCY COEFFICIENT 0.329
 CRAMER'S V 0.246
 LIKELIHOOD RATIO CHISQUARE 12.002 DF= 4 PROB=0.0173

TABLE OF HD BY AEE2

HD		AEE2			TOTAL
FREQUENCY	1	2	3		
.	0	0	0	1	20
ROW PCT	
1	25	1	14	5	20
ROW PCT	.	5.00	70.00	25.00	
2	38	3	2	5	10
ROW PCT	.	30.00	20.00	50.00	
TOTAL	.	4	16	10	30

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 7.500 DF= 2 PROB=0.0235
 PHI 0.500
 CONTINGENCY COEFFICIENT 0.447
 CRAMER'S V 0.500
 LIKELIHOOD RATIO CHISQUARE 7.773 DF= 2 PROB=0.0205

TABLE OF YRS_BI BY AEE2

YRS_BI		AEE2			TOTAL
FREQUENCY	1	2	3		
1	32	1	7	6	14
ROW PCT	.	7.14	50.00	42.86	
2	12	3	5	0	8
ROW PCT	.	37.50	62.50	0.00	
3	14	0	2	5	7
ROW PCT	.	0.00	28.57	71.43	
4	5	0	2	0	2
ROW PCT	.	0.00	100.00	0.00	
TOTAL	.	4	16	11	31

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 13.402 DF= 6 PROB=0.0371
 PHI 0.658
 CONTINGENCY COEFFICIENT 0.549
 CRAMER'S V 0.465
 LIKELIHOOD RATIO CHISQUARE 16.230 DF= 6 PROB=0.0126

TABLE OF HD BY R1_1

HD	R1_1			TOTAL
FREQUENCY ROW PCT	1	4	6	
.	0	1	0	0
1	2 67.44	29 25.58	11 6.98	43
2	1 44.68	21 27.66	13 27.66	47
TOTAL	50	24	16	90

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 7.534 DF= 2 PROB=0.0231
 PHI 0.289
 CONTINGENCY COEFFICIENT 0.278
 CRAMER'S V 0.289
 LIKELIHOOD RATIO CHISQUARE 8.013 DF= 2 PROB=0.0182

TABLE OF YRS_PROF BY R1_1

YRS_PROF	R1_1			TOTAL
FREQUENCY ROW PCT	1	4	6	
1	2 68.18	15 4.55	1 27.27	22
2	0 37.50	9 50.00	12 12.50	24
3	1 47.83	11 30.43	7 21.74	23
4	0 72.73	16 18.18	4 9.09	22
TOTAL	51	24	16	91

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 15.834 DF= 6 PROB=0.0147
 PHI 0.417
 CONTINGENCY COEFFICIENT 0.385
 CRAMER'S V 0.295
 LIKELIHOOD RATIO CHISQUARE 17.068 DF= 6 PROB=0.0090

TABLE OF HD BY R1_2

HD	R1_2			TOTAL
FREQUENCY ROW PCT	1	4	6	
.	0	0	1	0
1	3 69.05	29 21.43	9 9.52	42
2	1 48.94	23 21.28	10 29.79	47
TOTAL	52	19	18	89

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 6.039 DF= 2, PROB=0.0488
 PHI 0.260
 CONTINGENCY COEFFICIENT 0.252
 CRAMER'S V 0.260
 LIKELIHOOD RATIO CHISQUARE 6.349 DF= 2 PROB=0.0418

TABLE OF TITLE BY R1_2

TITLE	R1_2			TOTAL
FREQUENCY ROW PCT	1	4	6	
.	0	1	0	.
1	9 81.82	0 0.00	2 18.18	11
2	6 30.00	7 35.00	7 35.00	20
3	12 63.16	2 10.53	5 26.32	19
4	12 57.14	8 38.10	1 4.76	21
5	13 72.22	2 11.11	3 16.67	18
TOTAL	52	19	18	89

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 18.366 DF= 8 PROB=0.0186
 PHI 0.454
 CONTINGENCY COEFFICIENT 0.414
 CRAMER'S V 0.321
 LIKELIHOOD RATIO CHISQUARE 21.487 DF= 8 PROB=0.0067

TABLE OF TYPE_BI BY R1_2

TYPE_BI	R1_2			TOTAL
FREQUENCY ROW PCT	1	4	6	
.	1	2	2	.
1	10 35.71	12 42.86	6 21.43	28
2	23 69.70	2 6.06	8 24.24	33
4	18 75.00	4 16.67	2 8.33	24
TOTAL	51	18	16	85

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 16.195 DF= 4 PROB=0.0028
 PHI 0.436
 CONTINGENCY COEFFICIENT 0.400
 CRAMER'S V 0.309
 LIKELIHOOD RATIO CHISQUARE 16.892 DF= 4 PROB=0.0020

TABLE OF TYPE_BI BY R1_3

TYPE_BI	R1_3			TOTAL
FREQUENCY ROW PCT	1	4	6	
.	2	1	2	.
1	8 30.77	9 34.62	9 34.62	26
2	23 69.70	1 3.03	9 27.27	33
4	14 58.33	5 20.83	5 20.83	24
TOTAL	45	15	23	83

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 13.199 DF= 4 PROB=0.0103
 PHI 0.399
 CONTINGENCY COEFFICIENT 0.370
 CRAMER'S V 0.282
 LIKELIHOOD RATIO CHISQUARE 14.953 DF= 4 PROB=0.0048

TABLE OF YRS_PROF BY R2_3

YRS_PROF		R2_3			TOTAL
FREQUENCY	ROW PCT	1	4	6	
1	1	9	7	7	23
		39.13	30.43	30.43	
2	1	8	10	5	23
		34.78	43.48	21.74	
3	2	16	5	1	22
		72.73	22.73	4.55	
4	1	8	11	2	21
		38.10	52.38	9.52	
TOTAL		41	33	15	89

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 13.126 DF= 6 PROB=0.0411
 PHI 0.384
 CONTINGENCY COEFFICIENT 0.359
 CRAMER'S V 0.272
 LIKELIHOOD RATIO CHISQUARE 13.179 DF= 6 PROB=0.0403

TABLE OF YRS_PROF BY R2_4

YRS_PROF		R2_4			TOTAL
FREQUENCY	ROW PCT	1	4	6	
1	1	7	8	8	23
		30.43	34.78	34.78	
2	1	5	13	5	23
		21.74	56.52	21.74	
3	2	14	6	2	22
		63.64	27.27	9.09	
4	2	9	9	2	20
		45.00	45.00	10.00	
TOTAL		35	36	17	88

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 13.343 DF= 6 PROB=0.0379
 PHI 0.389
 CONTINGENCY COEFFICIENT 0.363
 CRAMER'S V 0.275
 LIKELIHOOD RATIO CHISQUARE 13.196 DF= 6 PROB=0.0400

TABLE OF TYPE_BI BY R2_4

TYPE_BI		R2_4			TOTAL
FREQUENCY	ROW PCT	1	4	6	
	0	3	1	1	6
		50.00	16.67	16.67	
1	3	11	13	2	26
		42.31	50.00	7.69	
2	2	12	10	12	34
		35.29	29.41	35.29	
4	1	9	12	2	23
		39.13	52.17	8.70	
TOTAL		32	35	16	83

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 10.098 DF= 4 PROB=0.0388
 PHI 0.349
 CONTINGENCY COEFFICIENT 0.329
 CRAMER'S V 0.247
 LIKELIHOOD RATIO CHISQUARE 10.180 DF= 4 PROB=0.0375

TABLE OF HD BY R4_1

HD	R4_1				
FREQUENCY ROW PCT		1	4	6	TOTAL
.	0	0	0	1	.
1	2	13	11	19	43
		30.23	25.58	44.19	
2	0	4	9	35	48
		8.33	18.75	72.92	
TOTAL		17	20	54	91

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 9.459 DF= 2 PROB=0.0088
 PHI 0.322
 CONTINGENCY COEFFICIENT 0.307
 CRAMER'S V 0.322
 LIKELIHOOD RATIO CHISQUARE 9.755 DF= 2 PROB=0.0076

TABLE OF TITLE BY R4_1

TITLE	R4_1				
FREQUENCY ROW PCT		1	4	6	TOTAL
.	0	0	0	1	.
1	0	2	3	6	11
		18.18	27.27	54.55	
2	0	3	5	14	22
		13.64	22.73	63.64	
3	0	2	2	17	21
		9.52	9.52	80.95	
4	2	3	9	7	19
		15.79	47.37	36.84	
5	0	7	1	10	18
		38.89	5.56	55.56	
TOTAL		17	20	54	91

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 18.102 DF= 8 PROB=0.0205
 PHI 0.446
 CONTINGENCY COEFFICIENT 0.407
 CRAMER'S V 0.315
 LIKELIHOOD RATIO CHISQUARE 17.434 DF= 8 PROB=0.0259

TABLE OF TYPE_BI BY R4_1

TYPE_BI	R4_1				
FREQUENCY ROW PCT		1	4	6	TOTAL
.	0	2	1	2	.
1	1	3	7	18	28
		10.71	25.00	64.29	
2	0	3	3	30	36
		8.33	8.33	83.33	
4	1	9	9	5	23
		39.13	39.13	21.74	
TOTAL		15	19	53	87

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 23.841 DF= 4 PROB=0.0001
 PHI 0.523
 CONTINGENCY COEFFICIENT 0.464
 CRAMER'S V 0.370
 LIKELIHOOD RATIO CHISQUARE 24.575 DF= 4 PROB=0.0001

TABLE OF TYPE_BI BY R4_2

TYPE_BI	R4_2			TOTAL
FREQUENCY ROW PCT	1	4	6	
.	0	3	0	2
1	1	5	5	18
	17.86	17.86	64.29	
2	0	2	4	30
	5.56	11.11	83.33	
4	0	11	10	24
	45.83	41.67	12.50	
TOTAL	18	19	51	88

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 30.799 DF= 4 PROB=0.0001
 PHI 0.592
 CONTINGENCY COEFFICIENT 0.509
 CRAMER'S V 0.418
 LIKELIHOOD RATIO CHISQUARE 33.434 DF= 4 PROB=0.0001

TABLE OF TYPE_BI BY R4_3

TYPE_BI	R4_3			TOTAL
FREQUENCY ROW PCT	1	4	6	
.	0	3	1	1
1	0	6	5	18
	20.69	17.24	62.07	
2	0	5	3	28
	13.89	8.33	77.78	
4	1	14	8	23
	60.87	34.78	4.35	
TOTAL	25	16	47	88

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 32.007 DF= 4 PROB=0.0001
 PHI 0.603
 CONTINGENCY COEFFICIENT 0.516
 CRAMER'S V 0.426
 LIKELIHOOD RATIO CHISQUARE 36.985 DF= 4 PROB=0.0001

TABLE OF HD BY R4_4

HD	R4_4			TOTAL
FREQUENCY ROW PCT	1	4	6	
.	0	0	0	1
1	1	21	7	16
	47.73	15.91	36.36	
2	0	8	8	32
	16.67	16.67	66.67	
TOTAL	29	15	48	92

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 11.075 DF= 2 PROB=0.0039
 PHI 0.347
 CONTINGENCY COEFFICIENT 0.328
 CRAMER'S V 0.347
 LIKELIHOOD RATIO CHISQUARE 11.370 DF= 2 PROB=0.0034

TABLE OF TYPE_BI BY R6_1

TYPE_BI		R6_1				
FREQUENCY	ROW PCT	1	4	6	7	TOTAL
.	0	1	1	3	0	.
1	1	14 50.00	13 46.43	1 3.57	0 0.00	28
2	0	23 63.89	6 16.67	7 19.44	0 0.00	36
4	0	8 33.33	14 58.33	0 0.00	2 8.33	24
TOTAL	.	45	33	8	2	88

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 22.878 DF= 6 PROB=0.0008
 PHI 0.510
 CONTINGENCY COEFFICIENT 0.454
 CRAMER'S V 0.361
 LIKELIHOOD RATIO CHISQUARE 24.931 DF= 6 PROB=0.0004

TABLE OF TYPE_BI BY R4_4

TYPE_BI		R4_4			
FREQUENCY	ROW PCT	1	4	6	TOTAL
.	0	2	2	1	.
1	1	8 28.57	1 3.57	19 67.86	28
2	0	5 13.89	4 11.11	27 75.00	36
4	0	14 58.33	8 33.33	2 8.33	24
TOTAL	.	27	13	48	88

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 30.699 DF= 4 PROB=0.0001
 PHI 0.591
 CONTINGENCY COEFFICIENT 0.509
 CRAMER'S V 0.418
 LIKELIHOOD RATIO CHISQUARE 34.806 DF= 4 PROB=0.0001

TABLE OF TYPE_BI BY R6_2

TYPE_BI		R6_2				
FREQUENCY	ROW PCT	1	4	6	7	TOTAL
.	0	1	1	3	0	.
1	1	20 71.43	7 25.00	1 3.57	0 0.00	28
2	0	31 86.11	0 0.00	5 13.89	0 0.00	36
4	1	17 73.91	3 13.04	1 4.35	2 8.70	23
TOTAL	.	68	10	7	2	87

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 17.316 DF= 6 PROB=0.0082
 PHI 0.446
 CONTINGENCY COEFFICIENT 0.407
 CRAMER'S V 0.315
 LIKELIHOOD RATIO CHISQUARE 20.066 DF= 6 PROB=0.0027

TABLE OF TYPE_BI BY R6_3

TYPE_BI	R6_3					TOTAL
FREQUENCY ROW PCT		1	4	6	7	
.	0	1	1	3	0	.
1	1	16 57.14	11 39.29	1 3.57	0 0.00	28
2	0	23 63.89	5 13.89	8 22.22	0 0.00	36
4	0	11 45.83	10 41.67	1 4.17	2 8.33	24
TOTAL	.	50	26	10	2	88

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 17.565 DF= 6 PROB=0.0074
 PHI 0.447
 CONTINGENCY COEFFICIENT 0.408
 CRAMER'S V 0.316
 LIKELIHOOD RATIO CHISQUARE 18.053 DF= 6 PROB=0.0061

TABLE OF TYPE_BI BY R6_4

TYPE_BI	R6_4					TOTAL
FREQUENCY ROW PCT		1	4	6	7	
.	0	1	1	3	0	.
1	2	12 44.44	12 44.44	3 11.11	0 0.00	27
2	0	21 58.33	2 5.56	13 36.11	0 0.00	36
4	0	9 37.50	13 54.17	0 0.00	2 8.33	24
TOTAL	.	42	27	16	2	87

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 31.235 DF= 6 PROB=0.0001
 PHI 0.599
 CONTINGENCY COEFFICIENT 0.514
 CRAMER'S V 0.424
 LIKELIHOOD RATIO CHISQUARE 37.308 DF= 6 PROB=0.0001

TABLE OF TITLE BY R6_4

TITLE	R6_4					TOTAL
FREQUENCY ROW PCT		1	4	6	7	
.	0	0	1	0	0	.
1	0	7 63.64	2 18.18	1 9.09	1 9.09	11
2	1	4 19.05	9 42.86	8 38.10	0 0.00	21
3	1	12 60.00	3 15.00	5 25.00	0 0.00	20
4	0	10 47.62	10 47.62	1 4.76	0 0.00	21
5	0	10 55.56	3 16.67	4 22.22	1 5.56	18
TOTAL	.	43	27	19	2	91

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 22.756 DF= 12 PROB=0.0299
 PHI 0.500
 CONTINGENCY COEFFICIENT 0.447
 CRAMER'S V 0.289
 LIKELIHOOD RATIO CHISQUARE 24.588 DF= 12 PROB=0.0169

TABLE OF TYPE_BI BY R6_5

TYPE_BI		R6_5					
FREQUENCY	ROW PCT	1	4	6	7	TOTAL	
.	0	2	0	3	0	.	
1	1	19 67.86	4 14.29	5 17.86	0 0.00	28	
2	2	23 67.65	0 0.00	11 32.35	0 0.00	34	
4	0	21 87.50	0 0.00	1 4.17	2 8.33	24	
TOTAL	.	63	4	17	2	86	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 20.106 DF= 6 PROB=0.0027
 PHI 0.484
 CONTINGENCY COEFFICIENT 0.435
 CRAMER'S V 0.342
 LIKELIHOOD RATIO CHISQUARE 21.680 DF= 6 PROB=0.0014

TABLE OF TITLE BY R6_5

TITLE		R6_5					
FREQUENCY	ROW PCT	1	4	6	7	TOTAL	
.	0	0	0	1	0	.	
1	0	8 72.73	1 9.09	1 9.09	1 9.09	11	
2	2	7 35.00	3 15.00	10 50.00	0 0.00	20	
3	0	16 76.19	0 0.00	5 23.81	0 0.00	21	
4	1	20 100.00	0 0.00	0 0.00	0 0.00	20	
5	0	14 77.78	0 0.00	3 16.67	1 5.56	18	
TOTAL	.	65	4	19	2	90	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 31.980 DF= 12 PROB=0.0014
 PHI 0.596
 CONTINGENCY COEFFICIENT 0.512
 CRAMER'S V 0.344
 LIKELIHOOD RATIO CHISQUARE 35.497 DF= 12 PROB=0.0004

TABLE OF TYPE_BI BY R6_6

TYPE_BI		R6_6					
FREQUENCY	ROW PCT	1	4	6	7	TOTAL	
.	0	1	1	3	0	.	
1	2	15 55.56	6 22.22	6 22.22	0 0.00	27	
2	1	20 57.14	4 11.43	11 31.43	0 0.00	35	
4	1	13 56.52	7 30.43	1 4.35	2 8.70	23	
TOTAL	.	48	17	18	2	85	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 12.830 DF= 6 PROB=0.0458
 PHI 0.389
 CONTINGENCY COEFFICIENT 0.362
 CRAMER'S V 0.275
 LIKELIHOOD RATIO CHISQUARE 13.999 DF= 6 PROB=0.0296

TABLE OF TITLE BY R6_6

TITLE	R6_6					TOTAL
FREQUENCY ROW PCT		1	4	6	7	
.	0	0	0	1	0	.
1	0	6 54.55	1 9.09	3 27.27	1 9.09	11
2	2	5 25.00	6 30.00	9 45.00	0 0.00	20
3	1	15 75.00	1 5.00	4 20.00	0 0.00	20
4	0	13 61.90	7 33.33	1 4.76	0 0.00	21
5	1	10 58.82	3 17.65	3 17.65	1 5.88	17
TOTAL	.	49	18	20	2	89

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 23.155 DF= 12 PROB=0.0264
 PHI 0.510
 CONTINGENCY COEFFICIENT 0.454
 CRAMER'S V 0.294
 LIKELIHOOD RATIO CHISQUARE 25.049 DF= 12 PROB=0.0146

TABLE OF TYPE_BI BY R6_7

TYPE_BI	R6_7					TOTAL
FREQUENCY ROW PCT		1	4	6	7	
.	0	0	2	3	0	.
1	2	18 66.67	7 25.93	2 7.41	0 0.00	27
2	0	23 63.89	2 5.56	11 30.56	0 0.00	36
4	0	18 75.00	4 16.67	0 0.00	2 8.33	24
TOTAL	.	59	13	13	2	87

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 20.355 DF= 6 PROB=0.0024
 PHI 0.484
 CONTINGENCY COEFFICIENT 0.435
 CRAMER'S V 0.342
 LIKELIHOOD RATIO CHISQUARE 22.978 DF= 6 PROB=0.0008

TABLE OF TITLE BY R6_7

TITLE	R6_7					TOTAL
FREQUENCY ROW PCT		1	4	6	7	
.	0	0	0	1	0	.
1	0	7 63.64	2 18.18	1 9.09	1 9.09	11
2	1	7 33.33	8 38.10	6 28.57	0 0.00	21
3	1	15 75.00	0 0.00	5 25.00	0 0.00	20
4	0	17 80.95	4 19.05	0 0.00	0 0.00	21
5	0	13 72.22	1 5.56	3 16.67	1 5.56	18
TOTAL	.	59	15	15	2	91

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 26.415 DF= 12 PROB=0.0094
 PHI 0.539
 CONTINGENCY COEFFICIENT 0.474
 CRAMER'S V 0.311
 LIKELIHOOD RATIO CHISQUARE 32.261 DF= 12 PROB=0.0013

TABLE OF HD BY R6_7

HD		R6_7					
FREQUENCY	ROW PCT	1	4	6	7	TOTAL	
.	0	0	1	0	0	.	
1	2	34	5	4	0	43	
		79.07	11.63	9.30	0.00		
2	0	25	9	12	2	48	
		52.08	18.75	25.00	4.17		
TOTAL		59	14	16	2	91	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 8.266 DF= 3 PROB=0.0408
 PHI 0.301
 CONTINGENCY COEFFICIENT 0.289
 CRAMER'S V 0.301
 LIKELIHOOD RATIO CHISQUARE 9.221 DF= 3 PROB=0.0265

TABLE OF TITLE BY R7_1

TITLE		R7_1					
FREQUENCY	ROW PCT	1	4	6	7	TOTAL	
.	0	1	0	0	0	.	
1	1	8	0	2	0	10	
		80.00	0.00	20.00	0.00		
2	1	10	3	8	0	21	
		47.62	14.29	38.10	0.00		
3	2	12	1	6	0	19	
		63.16	5.26	31.58	0.00		
4	1	19	0	1	0	20	
		95.00	0.00	5.00	0.00		
5	1	14	0	2	1	17	
		82.35	0.00	11.76	5.88		
TOTAL		63	4	19	1	87	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 21.081 DF= 12 PROB=0.0492
 PHI 0.492
 CONTINGENCY COEFFICIENT 0.442
 CRAMER'S V 0.284
 LIKELIHOOD RATIO CHISQUARE 21.737 DF= 12 PROB=0.0406

TABLE OF TITLE BY R7_2

TITLE		R7_2					
FREQUENCY	ROW PCT	1	4	6	7	TOTAL	
.	0	0	0	1	0	.	
1	1	3	4	3	0	10	
		30.00	40.00	30.00	0.00		
2	1	3	7	11	0	21	
		14.29	33.33	52.38	0.00		
3	0	7	4	10	0	21	
		33.33	19.05	47.62	0.00		
4	0	3	14	4	0	21	
		14.29	66.67	19.05	0.00		
5	1	8	3	5	1	17	
		47.06	17.65	29.41	5.88		
TOTAL		24	32	33	1	90	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 22.940 DF= 12 PROB=0.0282
 PHI 0.505
 CONTINGENCY COEFFICIENT 0.451
 CRAMER'S V 0.291
 LIKELIHOOD RATIO CHISQUARE 21.631 DF= 12 PROB=0.0419

TABLE OF TITLE BY R7_32

TITLE	R7_32					TOTAL
FREQUENCY ROW PCT	.	1	4	6	7	
.	0	1	0	0	0	.
1	0	7 63.64	1 9.09	3 27.27	0 0.00	11
2	1	3 14.29	8 38.10	10 47.62	0 0.00	21
3	1	12 60.00	4 20.00	4 20.00	0 0.00	20
4	2	8 42.11	9 47.37	2 10.53	0 0.00	19
5	1	8 47.06	3 17.65	5 29.41	1 5.88	17
TOTAL	.	38	25	24	1	88

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 21.968 DF= 12 PROB=0.0379
 PHI 0.500
 CONTINGENCY COEFFICIENT 0.447
 CRAMER'S V 0.288
 LIKELIHOOD RATIO CHISQUARE 22.512 DF= 12 PROB=0.0322

TABLE OF TYPE_BI BY R7_32

TYPE_BI	R7_32					TOTAL
FREQUENCY ROW PCT	.	1	4	6	7	
.	0	2	1	2	0	.
1	3	13 50.00	9 34.62	4 15.38	0 0.00	26
2	0	15 41.67	5 13.89	16 44.44	0 0.00	36
4	2	9 40.91	10 45.45	2 9.09	1 4.55	22
TOTAL	.	37	24	22	1	84

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 16.562 DF= 6 PROB=0.0110
 PHI 0.444
 CONTINGENCY COEFFICIENT 0.406
 CRAMER'S V 0.314
 LIKELIHOOD RATIO CHISQUARE 16.939 DF= 6 PROB=0.0095

TABLE OF TITLE BY R7_33

TITLE	R7_33					TOTAL
FREQUENCY ROW PCT	.	1	4	6	7	
.	0	1	0	0	0	.
1	0	4 36.36	4 36.36	3 27.27	0 0.00	11
2	1	3 14.29	8 38.10	10 47.62	0 0.00	21
3	1	7 35.00	6 30.00	7 35.00	0 0.00	20
4	1	7 35.00	10 50.00	3 15.00	0 0.00	20
5	1	6 35.29	3 17.65	5 29.41	3 17.65	17
TOTAL	.	27	31	28	3	89

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 21.642 DF= 12 PROB=0.0417
 PHI 0.493
 CONTINGENCY COEFFICIENT 0.442
 CRAMER'S V 0.285
 LIKELIHOOD RATIO CHISQUARE 19.627 DF= 12 PROB=0.0745

TABLE OF TYPE_BI BY R7_33

TYPE_BI		R7_33				TOTAL
FREQUENCY	ROW PCT	1	4	6	7	
.	0	2	1	2	0	.
1	3	9 34.62	9 34.62	8 30.77	0 0.00	26
2	0	7 19.44	10 27.78	18 50.00	1 2.78	36
4	1	10 43.48	11 47.83	0 0.00	2 8.70	23
TOTAL	.	26	30	26	3	85

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 18.637 DF= 6 PROB=0.0048
 PHI 0.468
 CONTINGENCY COEFFICIENT 0.424
 CRAMER'S V 0.331
 LIKELIHOOD RATIO CHISQUARE 25.375 DF= 6 PROB=0.0003

TABLE OF YRS_BI BY R7_33

YRS_BI		R7_33				TOTAL
FREQUENCY	ROW PCT	1	4	6	7	
1	2	13 29.55	15 34.09	16 36.36	0 0.00	44
2	0	4 20.00	11 55.00	5 25.00	0 0.00	20
3	1	7 35.00	4 20.00	6 30.00	3 15.00	20
4	1	4 66.67	1 16.67	1 16.67	0 0.00	6
TOTAL	.	28	31	28	3	90

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 19.121 DF= 9 PROB=0.0242
 PHI 0.461
 CONTINGENCY COEFFICIENT 0.419
 CRAMER'S V 0.266
 LIKELIHOOD RATIO CHISQUARE 17.199 DF= 9 PROB=0.0457

TABLE OF TYPE_BI BY R7_34

TYPE_BI		R7_34				TOTAL
FREQUENCY	ROW PCT	1	4	6	7	
.	0	2	0	3	0	.
1	4	10 40.00	4 16.00	11 44.00	0 0.00	25
2	2	11 32.35	7 20.59	15 44.12	1 2.94	34
4	3	16 76.19	3 14.29	1 4.76	1 4.76	21
TOTAL	.	37	14	27	2	80

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 14.214 DF= 6 PROB=0.0273
 PHI 0.422
 CONTINGENCY COEFFICIENT 0.388
 CRAMER'S V 0.298
 LIKELIHOOD RATIO CHISQUARE 17.117 DF= 6 PROB=0.0089

TABLE OF TITLE BY R7_35

TITLE	R7_35					TOTAL
FREQUENCY ROW PCT	.	1	4	6	7	
.	0	1	0	0	0	.
1	0	8 72.73	1 9.09	2 18.18	0 0.00	11
2	2	9 45.00	4 20.00	7 35.00	0 0.00	20
3	1	9 45.00	4 20.00	7 35.00	0 0.00	20
4	1	15 75.00	5 25.00	0 0.00	0 0.00	20
5	0	5 27.78	6 33.33	5 27.78	2 11.11	18
TOTAL	.	46	20	21	2	89

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 22.452 DF= 12 PROB=0.0328
 PHI 0.502
 CONTINGENCY COEFFICIENT 0.449
 CRAMER'S V 0.290
 LIKELIHOOD RATIO CHISQUARE 25.584 DF= 12 PROB=0.0123

TABLE OF YRS_PROF BY R7_35

YRS_PROF	R7_35					TOTAL
FREQUENCY ROW PCT	.	1	4	6	7	
1	0	10 41.67	8 33.33	6 25.00	0 0.00	24
2	0	19 79.17	0 0.00	5 20.83	0 0.00	24
3	2	9 40.91	5 22.73	6 27.27	2 9.09	22
4	2	9 45.00	7 35.00	4 20.00	0 0.00	20
TOTAL	.	47	20	21	2	90

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 19.242 DF= 9 PROB=0.0232
 PHI 0.462
 CONTINGENCY COEFFICIENT 0.420
 CRAMER'S V 0.267
 LIKELIHOOD RATIO CHISQUARE 23.260 DF= 9 PROB=0.0056

TABLE OF TYPE_BI BY R7_36

TYPE_BI	R7_36					TOTAL
FREQUENCY ROW PCT	.	1	4	6	7	
.	0	3	1	1	0	.
1	3	12 46.15	6 23.08	8 30.77	0 0.00	26
2	2	8 23.53	10 29.41	15 44.12	1 2.94	34
4	0	17 70.83	6 25.00	0 0.00	1 4.17	24
TOTAL	.	37	22	23	2	84

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 18.573 DF= 6 PROB=0.0049
 PHI 0.470
 CONTINGENCY COEFFICIENT 0.426
 CRAMER'S V 0.332
 LIKELIHOOD RATIO CHISQUARE 25.203 DF= 6 PROB=0.0003

TABLE OF TYPE_BI BY R7_37

TYPE_BI	R7_37				TOTAL
FREQUENCY ROW PCT	1	4	6	7	
.	0	1	2	2	0
1	3 57.69	15 15.38	4 15.38	7 26.92	0 0.00
2	1 31.43	11 20.00	7 20.00	17 48.57	0 0.00
4	1 60.87	14 30.43	7 30.43	1 4.35	1 4.35
TOTAL	40	18	25	1	84

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 16.550 DF= 6 PROB=0.0111
 PHI 0.444
 CONTINGENCY COEFFICIENT 0.406
 CRAMER'S V 0.314
 LIKELIHOOD RATIO CHISQUARE 18.778 DF= 6 PROB=0.0046

TABLE OF TYPE_BI BY R7_38

TYPE_BI	R7_38				TOTAL
FREQUENCY ROW PCT	1	4	6	7	
.	2	0	2	1	0
1	10 63.16	12 5.26	1 31.58	6 0.00	0 0.00
2	13 30.43	7 17.39	4 52.17	12 0.00	0 0.00
4	8 62.50	10 25.00	4 6.25	1 6.25	1 6.25
TOTAL	29	9	19	1	58

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 13.897 DF= 6 PROB=0.0308
 PHI 0.489
 CONTINGENCY COEFFICIENT 0.440
 CRAMER'S V 0.346
 LIKELIHOOD RATIO CHISQUARE 15.677 DF= 6 PROB=0.0156

TABLE OF TITLE BY R7_41

TITLE	R7_41				TOTAL
FREQUENCY ROW PCT	1	4	6	7	
.	0	0	0	1	0
1	0 54.55	6 18.18	2 27.27	3 0.00	0 0.00
2	1 9.52	2 38.10	8 52.38	11 0.00	0 0.00
3	0 14.29	3 19.05	4 66.67	14 0.00	0 0.00
4	1 15.00	3 50.00	10 35.00	7 0.00	0 0.00
5	0 33.33	6 16.67	3 44.44	8 5.56	1 5.56
TOTAL	20	27	43	1	91

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 21.899 DF= 12 PROB=0.0387
 PHI 0.491
 CONTINGENCY COEFFICIENT 0.440
 CRAMER'S V 0.283
 LIKELIHOOD RATIO CHISQUARE 19.821 DF= 12 PROB=0.0706

TABLE OF TITLE BY R7_42

TITLE	R7_42					TOTAL
FREQUENCY ROW PCT		1	4	6	7	
.	0	0	0	1	0	.
1	0	5 45.45	0	6 54.55	0	11
2	1	6 28.57	2 9.52	13 61.90	0	21
3	0	1 4.76	0	20 95.24	0	21
4	1	11 55.00	4 20.00	5 25.00	0	20
5	0	6 33.33	1 5.56	10 55.56	1 5.56	18
TOTAL	.	29	7	54	1	91

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 28.219 DF= 12 PROB=0.0051
 PHI 0.557
 CONTINGENCY COEFFICIENT 0.487
 CRAMER'S V 0.322
 LIKELIHOOD RATIO CHISQUARE 31.122 DF= 12 PROB=0.0019

TABLE OF TYPE_B1 BY R7_42

TYPE_B1	R7_42					TOTAL
FREQUENCY ROW PCT		1	4	6	7	
.	0	2	0	3	0	.
1	2	9 33.33	2 7.41	16 59.26	0	27
2	0	5 13.89	2 5.56	29 80.56	0	36
4	0	13 54.17	3 12.50	7 29.17	1 4.17	24
TOTAL	.	27	7	52	1	87

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 17.466 DF= 6 PROB=0.0077
 PHI 0.448
 CONTINGENCY COEFFICIENT 0.409
 CRAMER'S V 0.317
 LIKELIHOOD RATIO CHISQUARE 18.124 DF= 6 PROB=0.0059

TABLE OF TITLE BY R7_43

TITLE	R7_43					TOTAL
FREQUENCY ROW PCT		1	4	6	7	
.	0	0	0	1	0	.
1	0	4 36.36	0	7 63.64	0	11
2	1	7 33.33	1 4.76	13 61.90	0	21
3	0	1 4.76	0	20 95.24	0	21
4	1	11 55.00	2 10.00	7 35.00	0	20
5	0	5 27.78	2 11.11	10 55.56	1 5.56	18
TOTAL	.	28	5	57	1	91

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 22.398 DF= 12 PROB=0.0333
 PHI 0.496
 CONTINGENCY COEFFICIENT 0.444
 CRAMER'S V 0.286
 LIKELIHOOD RATIO CHISQUARE 24.776 DF= 12 PROB=0.0159

TABLE OF TYPE_BI BY R7_43

TYPE_BI	R7_43					TOTAL
FREQUENCY ROW PCT	.	1	4	6	7	
.	0	2	0	3	0	.
1	2	10	0	17	0	27
		37.04	0.00	62.96	0.00	
2	0	3	2	31	0	36
		8.33	5.56	86.11	0.00	
4	0	13	3	7	1	24
		54.17	12.50	29.17	4.17	
TOTAL	.	26	5	55	1	87

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 24.262 DF= 6 PROB=0.0005
 PHI 0.528
 CONTINGENCY COEFFICIENT 0.467
 CRAMER'S V 0.373
 LIKELIHOOD RATIO CHISQUARE 27.386 DF= 6 PROB=0.0001

TABLE OF TYPE_BI BY R7_44

TYPE_BI	R7_44					TOTAL
FREQUENCY ROW PCT	.	1	4	6	7	
.	0	2	0	3	0	.
1	2	9	2	16	0	27
		33.33	7.41	59.26	0.00	
2	0	5	3	28	0	36
		13.89	8.33	77.78	0.00	
4	0	14	3	6	1	24
		58.33	12.50	25.00	4.17	
TOTAL	.	28	8	50	1	87

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 18.888 DF= 6 PROB=0.0044
 PHI 0.466
 CONTINGENCY COEFFICIENT 0.422
 CRAMER'S V 0.329
 LIKELIHOOD RATIO CHISQUARE 19.777 DF= 6 PROB=0.0030

TABLE OF TITLE BY R7_45

TITLE	R7_45					TOTAL
FREQUENCY ROW PCT	.	1	4	6	7	
.	0	0	0	1	0	.
1	0	5	3	3	0	11
		45.45	27.27	27.27	0.00	
2	1	7	3	10	1	21
		33.33	14.29	47.62	4.76	
3	0	2	1	18	0	21
		9.52	4.76	85.71	0.00	
4	1	9	5	6	0	20
		45.00	25.00	30.00	0.00	
5	2	7	1	7	1	16
		43.75	6.25	43.75	6.25	
TOTAL	.	30	13	44	2	89

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 21.408 DF= 12 PROB=0.0447
 PHI 0.490
 CONTINGENCY COEFFICIENT 0.440
 CRAMER'S V 0.283
 LIKELIHOOD RATIO CHISQUARE 23.011 DF= 12 PROB=0.0276

TABLE OF TYPE_BI BY R7_45

TYPE_BI		R7_45					
FREQUENCY	ROW PCT		1	4	6	7	TOTAL
.	.	0	2	0	2	1	.
1	.	2	9 33.33	3 11.11	15 55.56	0 0.00	27
2	.	1	5 14.29	6 17.14	24 68.57	0 0.00	35
4	.	1	14 60.87	4 17.39	4 17.39	1 4.35	23
TOTAL			28	13	43	1	85

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 19.674 DF= 6 PROB=0.0032
 PHI 0.481
 CONTINGENCY COEFFICIENT 0.434
 CRAMER'S V 0.340
 LIKELIHOOD RATIO CHISQUARE 21.013 DF= 6 PROB=0.0018

TABLE OF TYPE_BI BY R7_46

TYPE_BI		R7_46					
FREQUENCY	ROW PCT		1	4	6	7	TOTAL
.	.	0	2	1	2	0	.
1	.	2	6 22.22	5 18.52	16 59.26	0 0.00	27
2	.	1	7 20.00	6 17.14	22 62.86	0 0.00	35
4	.	0	15 62.50	6 25.00	2 8.33	1 4.17	24
TOTAL			28	17	40	1	86

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 22.724 DF= 6 PROB=0.0009
 PHI 0.514
 CONTINGENCY COEFFICIENT 0.457
 CRAMER'S V 0.363
 LIKELIHOOD RATIO CHISQUARE 25.292 DF= 6 PROB=0.0003

TABLE OF TITLE BY R7_47

TITLE		R7_47					
FREQUENCY	ROW PCT		1	4	6	7	TOTAL
.	.	0	1	0	0	0	.
1	.	0	5 45.45	3 27.27	3 27.27	0 0.00	11
2	.	3	2 10.53	9 47.37	8 42.11	0 0.00	19
3	.	0	5 23.81	2 9.52	14 66.67	0 0.00	21
4	.	3	5 27.78	7 38.89	6 33.33	0 0.00	18
5	.	0	6 33.33	4 22.22	6 33.33	2 11.11	18
TOTAL			23	25	37	2	87

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 21.490 DF= 12 PROB=0.0437
 PHI 0.487
 CONTINGENCY COEFFICIENT 0.445
 CRAMER'S V 0.287
 LIKELIHOOD RATIO CHISQUARE 20.627 DF= 12 PROB=0.0561

TABLE OF TYPE_BI BY R7_47

TYPE_BI	R7_47					TOTAL
FREQUENCY ROW PCT	1	4	6	7		
.	1	1	2	1	0	.
1	3	6	8	12	0	26
	23.08	30.77	46.15	0.00		
2	0	3	9	23	1	36
	8.33	25.00	63.89	2.78		
4	2	14	6	1	1	22
	63.64	27.27	4.55	4.55		
TOTAL	23	23	36	2		84

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 28.083 DF= 6 PROB=0.0001
 PHI 0.578
 CONTINGENCY COEFFICIENT 0.501
 CRAMER'S V 0.409
 LIKELIHOOD RATIO CHISQUARE 31.865 DF= 6 PROB=0.0001

TABLE OF AGE BY R7_51

AGE	R7_51					TOTAL
FREQUENCY ROW PCT	1	4	6	7		
2	1	5	9	11	0	25
	20.00	36.00	44.00	0.00		
3	0	2	3	16	0	21
	9.52	14.29	76.19	0.00		
4	0	3	6	12	2	23
	13.04	26.09	52.17	8.70		
6	2	9	1	12	0	22
	40.91	4.55	54.55	0.00		
TOTAL	19	19	51	2		91

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 20.646 DF= 9 PROB=0.0143
 PHI 0.476
 CONTINGENCY COEFFICIENT 0.430
 CRAMER'S V 0.275
 LIKELIHOOD RATIO CHISQUARE 20.504 DF= 9 PROB=0.0150

TABLE OF TITLE BY R7_51

TITLE	R7_51					TOTAL
FREQUENCY ROW PCT	1	4	6	7		
.	0	0	0	1	0	.
1	0	3	4	4	0	11
	27.27	36.36	36.36	0.00		
2	2	3	5	11	1	20
	15.00	25.00	55.00	5.00		
3	0	1	1	19	0	21
	4.76	4.76	90.48	0.00		
4	0	5	8	8	0	21
	23.81	38.10	38.10	0.00		
5	1	7	1	8	1	17
	41.18	5.88	47.06	5.88		
TOTAL	19	19	50	2		90

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 24.887 DF= 12 PROB=0.0154
 PHI 0.526
 CONTINGENCY COEFFICIENT 0.465
 CRAMER'S V 0.304
 LIKELIHOOD RATIO CHISQUARE 26.812 DF= 12 PROB=0.0082

TABLE OF TYPE_BI BY R7_51

TYPE_BI		R7_51				
FREQUENCY	ROW PCT	1	4	6	7	TOTAL
.	0	0	1	4	0	.
1	1	6	7	14	1	28
		21.43	25.00	50.00	3.57	
2	2	5	3	26	0	34
		14.71	8.82	76.47	0.00	
4	0	8	8	7	1	24
		33.33	33.33	29.17	4.17	
TOTAL		19	18	47	2	86

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 13.837 DF= 6 PROB=0.0315
 PHI 0.401
 CONTINGENCY COEFFICIENT 0.372
 CRAMER'S V 0.284
 LIKELIHOOD RATIO CHISQUARE 15.106 DF= 6 PROB=0.0194

TABLE OF TYPE_BI BY R7_52

TYPE_BI		R7_52				
FREQUENCY	ROW PCT	1	4	6	7	TOTAL
.	0	0	1	4	0	.
1	5	7	6	10	1	24
		29.17	25.00	41.67	4.17	
2	4	5	1	26	0	32
		15.63	3.13	81.25	0.00	
4	3	8	6	6	1	21
		38.10	28.57	28.57	4.76	
TOTAL		20	13	42	2	77

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 17.774 DF= 6 PROB=0.0068
 PHI 0.480
 CONTINGENCY COEFFICIENT 0.433
 CRAMER'S V 0.340
 LIKELIHOOD RATIO CHISQUARE 20.052 DF= 6 PROB=0.0027

TABLE OF TYPE_BI BY R7_53

TYPE_BI		R7_53				
FREQUENCY	ROW PCT	1	4	6	7	TOTAL
.	0	1	0	4	0	.
1	12	3	6	8	0	17
		17.65	35.29	47.06	0.00	
2	8	7	4	17	0	28
		25.00	14.29	60.71	0.00	
4	10	9	3	1	1	14
		64.29	21.43	7.14	7.14	
TOTAL		19	13	26	1	59

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 17.507 DF= 6 PROB=0.0076
 PHI 0.545
 CONTINGENCY COEFFICIENT 0.478
 CRAMER'S V 0.385
 LIKELIHOOD RATIO CHISQUARE 18.493 DF= 6 PROB=0.0051

TABLE OF YRS_BI BY R7_72

YRS_BI	R7_72				TOTAL
FREQUENCY ROW PCT	.	1	4	6	
1	5 17.07	7 20.00	15 42.86	19 55.00	41
2	0 0.00	0 0.00	15 42.86	5 14.29	20
3	1 2.50	4 10.00	11 27.50	5 12.50	20
4	0 0.00	3 7.50	4 10.00	0 0.00	7
TOTAL		14	45	29	88

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 15.960 DF= 6 PROB=0.0140
 PHI 0.426
 CONTINGENCY COEFFICIENT 0.392
 CRAMER'S V 0.301
 LIKELIHOOD RATIO CHISQUARE 20.130 DF= 6 PROB=0.0026

TABLE OF TYPE_BI BY R7_74

TYPE_BI	R7_74					TOTAL
FREQUENCY ROW PCT	.	1	4	6	7	
.	0 0.00	4 11.76	0 0.00	1 2.78	0 0.00	5
1	2 5.56	15 40.63	8 21.05	4 10.53	0 0.00	27
2	4 11.11	13 33.33	7 18.18	12 30.30	0 0.00	32
4	0 0.00	18 46.15	3 7.69	2 5.10	1 2.56	24
TOTAL		46	18	18	1	83

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 13.353 DF= 6 PROB=0.0378
 PHI 0.401
 CONTINGENCY COEFFICIENT 0.372
 CRAMER'S V 0.284
 LIKELIHOOD RATIO CHISQUARE 13.447 DF= 6 PROB=0.0365

TABLE OF AGE BY R8_1

AGE	R8_1				TOTAL	
FREQUENCY ROW PCT	.	1	4	6	7	
2	1 4.00	1 4.00	14 56.00	10 40.00	0 0.00	25
3	0 0.00	3 14.29	4 19.05	14 66.67	0 0.00	21
4	0 0.00	5 21.74	11 47.83	5 21.74	2 8.70	23
6	2 27.27	6 72.73	5 61.11	11 133.33	0 0.00	22
TOTAL		15	34	40	2	91

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 21.741 DF= 9 PROB=0.0097
 PHI 0.489
 CONTINGENCY COEFFICIENT 0.439
 CRAMER'S V 0.282
 LIKELIHOOD RATIO CHISQUARE 22.592 DF= 9 PROB=0.0072

TABLE OF TYPE_BI BY RB_1

TYPE_BI	RB_1					TOTAL
FREQUENCY ROW PCT	0	1	4	6	7	
.	0	1	3	1	0	.
1	2	1	14	11	1	27
		3.70	51.85	40.74	3.70	
2	1	6	6	23	0	35
		17.14	17.14	65.71	0.00	
4	0	7	11	5	1	24
		29.17	45.83	20.83	4.17	
TOTAL		14	31	39	2	86

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 18.959 DF= 6 PROB=0.0042
 PHI 0.470
 CONTINGENCY COEFFICIENT 0.425
 CRAMER'S V 0.332
 LIKELIHOOD RATIO CHISQUARE 21.393 DF= 6 PROB=0.0016

TABLE OF AGE BY RB_2

AGE	RB_2					TOTAL
FREQUENCY ROW PCT	1	4	6	7		
2	2	12	10	0	24	
	8.33	50.00	41.67	0.00		
3	0	5	15	0	21	
	4.76	23.81	71.43	0.00		
4	0	7	7	2	23	
	30.43	30.43	30.43	8.70		
6	3	4	11	0	21	
	28.57	19.05	52.38	0.00		
TOTAL	16	28	43	2	89	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 20.502 DF= 9 PROB=0.0151
 PHI 0.480
 CONTINGENCY COEFFICIENT 0.433
 CRAMER'S V 0.277
 LIKELIHOOD RATIO CHISQUARE 20.540 DF= 9 PROB=0.0149

TABLE OF TYPE_BI BY RB_2

TYPE_BI	RB_2					TOTAL
FREQUENCY ROW PCT	1	4	6	7		
.	0	3	1	0	.	
1	3	10	11	1	26	
	15.38	38.46	42.31	3.85		
2	2	5	25	0	34	
	11.76	14.71	73.53	0.00		
4	0	10	6	1	24	
	29.17	41.67	25.00	4.17		
TOTAL	15	25	42	2	84	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 15.346 DF= 6 PROB=0.0177
 PHI 0.427
 CONTINGENCY COEFFICIENT 0.393
 CRAMER'S V 0.302
 LIKELIHOOD RATIO CHISQUARE 16.515 DF= 6 PROB=0.0112

TABLE OF AGE BY R8_3

AGE		R8_3					
FREQUENCY	ROW PCT	1	4	6	7	TOTAL	
2	2	5	9	10	0	24	
		20.83	37.50	41.67	0.00		
3	0	5	1	15	0	21	
		23.81	4.76	71.43	0.00		
4	0	11	3	7	2	23	
		47.83	13.04	30.43	8.70		
6	3	8	1	12	0	21	
		38.10	4.76	57.14	0.00		
TOTAL		29	14	44	2	89	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 23.916 DF= 9 PROB=0.0044
 PHI 0.518
 CONTINGENCY COEFFICIENT 0.460
 CRAMER'S V 0.299
 LIKELIHOOD RATIO CHISQUARE 22.782 DF= 9 PROB=0.0067

TABLE OF TYPE_BI BY R8_3

TYPE_BI		R8_3					
FREQUENCY	ROW PCT	1	4	6	7	TOTAL	
.	0	2	1	2	0	.	
			
1	3	8	6	11	1	26	
		30.77	23.08	42.31	3.85		
2	2	5	3	26	0	34	
		14.71	8.82	76.47	0.00		
4	0	14	4	5	1	24	
		58.33	16.67	20.83	4.17		
TOTAL		27	13	42	2	84	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 20.839 DF= 6 PROB=0.0020
 PHI 0.498
 CONTINGENCY COEFFICIENT 0.446
 CRAMER'S V 0.352
 LIKELIHOOD RATIO CHISQUARE 21.928 DF= 6 PROB=0.0012

TABLE OF AGE BY R8_4

AGE		R8_4					
FREQUENCY	ROW PCT	1	4	6	7	TOTAL	
2	2	7	8	9	0	24	
		29.17	33.33	37.50	0.00		
3	0	6	1	14	0	21	
		28.57	4.76	66.67	0.00		
4	0	9	7	5	2	23	
		39.13	30.43	21.74	8.70		
6	3	8	1	12	0	21	
		38.10	4.76	57.14	0.00		
TOTAL		30	17	40	2	89	

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 20.935 DF= 9 PROB=0.0129
 PHI 0.485
 CONTINGENCY COEFFICIENT 0.436
 CRAMER'S V 0.280
 LIKELIHOOD RATIO CHISQUARE 22.201 DF= 9 PROB=0.0083

TABLE OF TYPE_BI BY R8_4

TYPE_BI		R8_4				TOTAL
FREQUENCY	ROW PCT	1	4	6	7	
.	0	1	2	2	0	.
1	3	9	7	9	1	26
		34.62	26.92	34.62	3.85	
2	2	5	5	24	0	34
		14.71	14.71	70.59	0.00	
4	0	15	3	5	1	24
		62.50	12.50	20.83	4.17	
TOTAL	.	29	15	38	2	84

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 21.084 DF= 6 PROB=0.0018
 PHI 0.501
 CONTINGENCY COEFFICIENT 0.448
 CRAMER'S V 0.354
 LIKELIHOOD RATIO CHISQUARE 21.849 DF= 6 PROB=0.0013

TABLE OF TYPE_BI BY R8_5

TYPE_BI		R8_5				TOTAL
FREQUENCY	ROW PCT	1	4	6	7	
.	0	2	2	1	0	.
1	3	6	10	9	1	26
		23.08	38.46	34.62	3.85	
2	2	5	5	24	0	34
		14.71	14.71	70.59	0.00	
4	0	12	6	5	1	24
		50.00	25.00	20.83	4.17	
TOTAL	.	23	21	38	2	84

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 19.985 DF= 6 PROB=0.0028
 PHI 0.488
 CONTINGENCY COEFFICIENT 0.438
 CRAMER'S V 0.345
 LIKELIHOOD RATIO CHISQUARE 20.357 DF= 6 PROB=0.0024

TABLE OF AGE BY R8_6

AGE		R8_6				TOTAL
FREQUENCY	ROW PCT	1	4	6	7	
2	2	5	10	9	0	24
		20.83	41.67	37.50	0.00	
3	0	5	2	14	0	21
		23.81	9.52	66.67	0.00	
4	0	10	5	6	2	23
		43.48	21.74	26.09	8.70	
6	3	8	2	11	0	21
		38.10	9.52	52.38	0.00	
TOTAL	.	28	19	40	2	89

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 20.314 DF= 9 PROB=0.0161
 PHI 0.478
 CONTINGENCY COEFFICIENT 0.431
 CRAMER'S V 0.276
 LIKELIHOOD RATIO CHISQUARE 19.757 DF= 9 PROB=0.0195

TABLE OF TYPE_BI BY R8_6

TYPE_BI	R8_6					TOTAL
FREQUENCY ROW PCT	.	1	4	6	7	
.	0	0	3	2	0	.
1	3	8 30.77	8 30.77	9 34.62	1 3.85	26
2	2	8 23.53	3 8.82	23 67.65	0 0.00	34
4	0	12 50.00	5 20.83	6 25.00	1 4.17	24
TOTAL	.	28	16	38	2	84

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 14.774 DF= 6 PROB=0.0221
 PHI 0.419
 CONTINGENCY COEFFICIENT 0.387
 CRAMER'S V 0.297
 LIKELIHOOD RATIO CHISQUARE 15.483 DF= 6 PROB=0.0168

TABLE OF AGE BY R8_7

AGE	R8_7					TOTAL
FREQUENCY ROW PCT	.	1	4	6	7	
2	2	7 29.17	9 37.50	8 33.33	0 0.00	24
3	0	5 23.81	2 9.52	14 66.67	0 0.00	21
4	0	12 52.17	4 17.39	5 21.74	2 8.70	23
6	3	6 28.57	3 14.29	12 57.14	0 0.00	21
TOTAL	.	30	18	39	2	89

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 20.689 DF= 9 PROB=0.0141
 PHI 0.482
 CONTINGENCY COEFFICIENT 0.434
 CRAMER'S V 0.278
 LIKELIHOOD RATIO CHISQUARE 19.952 DF= 9 PROB=0.0182

TABLE OF TYPE_BI BY R8_7

TYPE_BI	R8_7					TOTAL
FREQUENCY ROW PCT	.	1	4	6	7	
.	0	1	2	2	0	.
1	3	7 26.92	9 34.62	9 34.62	1 3.85	26
2	2	8 23.53	3 8.82	23 67.65	0 0.00	34
4	0	14 58.33	4 16.67	5 20.83	1 4.17	24
TOTAL	.	29	16	37	2	84

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 19.938 DF= 6 PROB=0.0028
 PHI 0.487
 CONTINGENCY COEFFICIENT 0.438
 CRAMER'S V 0.344
 LIKELIHOOD RATIO CHISQUARE 20.127 DF= 6 PROB=0.0026

TABLE OF TITLE BY R9_2

TITLE	R9_2				TOTAL
FREQUENCY ROW PCT		1	4	6	
.	0	0	0	1	.
1	0	8 72.73	1 9.09	2 18.18	11
2	1	6 28.57	10 47.62	5 23.81	21
3	1	8 40.00	5 25.00	7 35.00	20
4	1	8 40.00	7 35.00	5 25.00	20
5	1	9 52.94	0 0.00	8 47.06	17
TOTAL	.	39	23	27	89

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 16.492 DF= 8 PROB=0.0359
 PHI 0.430
 CONTINGENCY COEFFICIENT 0.395
 CRAMER'S V 0.304
 LIKELIHOOD RATIO CHISQUARE 20.128 DF= 8 PROB=0.0099

TABLE OF TYPE_BI BY R9_5

TYPE_BI	R9_5					TOTAL
FREQUENCY ROW PCT		1	4	6	7	
.	0	3	1	1	0	.
1	3	11 42.31	8 30.77	7 26.92	0 0.00	26
2	1	22 62.86	1 2.86	12 34.29	0 0.00	35
4	0	12 50.00	7 29.17	4 16.67	1 4.17	24
TOTAL	.	45	16	23	1	85

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 13.495 DF= 6 PROB=0.0358
 PHI 0.398
 CONTINGENCY COEFFICIENT 0.370
 CRAMER'S V 0.282
 LIKELIHOOD RATIO CHISQUARE 15.736 DF= 6 PROB=0.0152

TABLE OF TYPE_BI BY R9_6

TYPE_BI	R9_6				TOTAL
FREQUENCY ROW PCT		1	4	6	
.	0	3	1	1	.
1	3	9 34.62	10 38.46	7 26.92	26
2	1	22 62.86	2 5.71	11 31.43	35
4	0	14 58.33	7 29.17	3 12.50	24
TOTAL	.	45	19	21	85

STATISTICS FOR 2-WAY TABLES

CHI-SQUARE 12.422 DF= 4 PROB=0.0145
 PHI 0.382
 CONTINGENCY COEFFICIENT 0.357
 CRAMER'S V 0.270
 LIKELIHOOD RATIO CHISQUARE 14.155 DF= 4 PROB=0.0068

VITA

Judith T. Boog

Candidate for the Degree of

Master of Science

Thesis: ANALYSIS OF FUNCTIONS AND MANAGERIAL SKILLS OF DIETITIANS IN
BUSINESS AND INDUSTRY

Major Field: Food, Nutrition and Institution Administration

Biographical:

Personal Data: Born in St. Johns, Michigan, May 25, 1961, the
daughter of Harold and Gretchen Boog.

Education: Attended Michigan State University, received Bachelor
of Science Degree in Dietetics in June, 1983; completed an
Administrative Dietetic Internship at Oklahoma State
University in May, 1984; attained Registered Dietitian status
in October, 1984; completed requirements for the Master of
Science degree at Oklahoma State University in December, 1985.

Professional Experience: Crew Person, Burger King, St. Johns,
Michigan, July, 1979, to September, 1981; General Kitchen
Worker and Student Cook, Michigan State University Residence
Halls Foodservices, E. Lansing, Michigan, September, 1979, to
June, 1980; Student Supervisor, Michigan State University
Residence Halls Foodservices, E. Lansing, Michigan, September,
1980, to June, 1983; Graduate Teaching Assistant, Department
of Food, Nutrition and Institution Administration, Oklahoma
State University, August, 1984, to May, 1985; Recipe
Standardization for Oklahoma City Public School Systems,
Oklahoma State University, June, 1985, to August, 1985.

Professional Organizations: The American Dietetic Association,
American Home Economics Association, Omicron Nu.