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Predicting Performance on the National Dietetic Registration Exam.

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PREDICTING PERFORMANCE ON THE NATIONAL DIETETIC REGISTRATION EXAM

A Dissertation

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by
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ABSTRACT

The purpose of this study was to determine if relationships exist between student demographic (personal data), academic achievement and student perceptions of factors relative to predicting performance on the Registration Dietetic (R.D.) Exam and the R.D. exam score of the student. Perceptions of factors relative to predicting performance on the R.D. exam was also determined from undergraduate dietetic program directors, to explore the extent of agreement between students and directors. This information was used to develop a predictive model explaining a significant proportion of the variance in R.D. exam scores.

A researcher designed questionnaire was administered to a nationwide random sample of first time eligible candidates for the R.D. exam. This questionnaire requested: demographic information, academic achievements, and personal/professional perceptions. A similar questionnaire was administered to all directors of didactic programs in dietetics requesting their perceptions of selected factors considered essential for students to succeed on the R.D. exam.

Students and directors reported their perceptions of certain statements on their influence on the ability to pass the R.D. exam. Factors identified were: good time management skills and organization, effective study skills, use of a study review course or workshop manual for the exam,

completion of an internship or an AP4, low test anxiety and paid work experience.

A model was developed which explained 23% of the variance in the R.D. score. Variables, in the order they entered the regression model, were: GPA, paid work experience in a non-dietetic field, perceptions dealing with professional experience, attendance at a workshop, seminar or review course for the exam, and perceptions dealing with general test taking information.

Further research is needed. Dietetic programs area considerations include: career selection and satisfaction, styles of learning, methods of remediation, and student preparedness.

CHAPTER 1

INTRODUCTION

Background of Problem

The importance of food and nutrition for a healthy life has been publicized by the media and health care fields. The role of the nutrition expert, the dietitian, in both preventive medicine and critical care disease states, has magnified the need for registered, competent practitioners.

To become a registered dietitian, an individual must complete a baccalaureate degree in dietetics and nutrition, complete a supervised experience which may include a Coordinated Program, an Approved Preprofessional Practice Program (referred to as AP4) or Dietetic Internship, and successfully complete the registration exam in dietetics (R.D. exam). Five domains, or defined content areas, are incorporated into the exam. These domains are nutrition services, foodservice systems, management, education and communications, and evaluation and standards.

The Council on Education (COE) of the American Dietetic Association (ADA) consists of both elected and appointed members of the Executive Committee as well as Program Directors from ADA accredited/approved programs. The primary goal of COE is to "develop and maintain quality dietetic education programs... Program directors are responsible for the assessment, planning, implementation, and evaluation critical to effective dietetic education programs"(COE, 1989,

p.1). Quality control is assured by ADA through a division of COE called the Standards of Education and accreditation/approval process. The Standards of Education are based on "the philosophy that all entry-level practitioners should be prepared with a common body of knowledge, skills, and values to provide the foundation for quality practice, and that all dietetic education programs should meet the same minimum criteria"(COE, 1989, p.1). Outcome assessment data is mandated for all education programs in an effort to ensure that programs are meeting these minimum criteria (JADA, 1991). Criterion 5.6 of the Standards of Education reads, in part, "Registration Examination scores, over a three-year period, shall provide evidence that at least 75% of the graduates who write the examination pass the examination" (ADA, 1992, p.8). If a program has a greater than 25% failure rate, a justification and an explanation, as well as a clarification of actions that will be done to correct the situation are required by ADA Standards of Education. Undergraduate dietetic programs may become at risk for continuous approval status if the success rate of a program's graduates is not at least 75% (Education Newsletter, 1992, p.8).

Results from the dietetic registration examination from the years 1990 to the present reflect an average passing rate of 78% for first time testers, a 44% passing rate for repeat testers and a total passing average of 64% (ACT, 1990, p.2;

ACT, 1991, p.2, 1992, p.2) (See Appendix A). A seemingly growing concern among nutrition educators to provide evaluation of their programs is present. Educators need to be aware of factors that may predict performance as early as possible and be able to identify areas of weakness whereby remediation could be available prior to the registration exam. Since one measure of the effectiveness of a dietetic program is the passage rate on the R.D. exam, continued failure rates greater than 25% presents a problem to educators, students and the general public. High failure rates are a problem to educators who attempt to provide quality education, who are accountable to their students and who run the risk of jeopardizing their program. It is a problem to students who may fail the exam, and with that failure increase the likelihood of repeat failure. Finally, it is a problem to communities and the general public as the availability and number of registered, competent practitioners is threatened.

Purpose of the Study

The purpose of this study was to determine if relationships exist between student demographic (personal data), academic achievement and student perceptions of factors relative to predicting performance on the R.D. exam and the student's scores on the R.D. exam. This information was used in an attempt to develop a predictive model which would explain the variance in R.D. exam scores. Perceptions

of factors relative to predicting performance on the R.D. exam were also determined from undergraduate dietetic program directors, to explore extent of agreement between students and educators.

The personal characteristics examined in this study included student personal demographic information, student academic achievements, and student and director perceptions regarding the influence of selected factors relative to predicting performance of the R.D. exam. Items on the questionnaire relating to student perceptions of factors relative to predicting performance on the R.D. exam included description of academic achievement, work experience, professional experience, and general test-taking ability.

Specific characteristics and perceptions addressed in this study are depicted in Figure 1. Identification of these characteristics are addressed in the objectives which follow.

Objectives

Specific objectives of the study were formulated to address the research problem. These included:

1. Describe the dietetic graduates on selected Personal Information - gender, ethnicity, age at time of exam; Academic Achievements - ACT composite score, cumulative college grade point average (on a 4.0 scale), the highest academic degree awarded, and freshman course grades in algebra, general biology, chemistry, English

PERSONAL INFORMATION	ACADEMIC ACHIEVEMENT	PERCEPTIONS STUDENT & DIRECTOR
* Gender	* ACT or SAT	* Academics
* Ethnicity	* GPA	* Experiences
* Age	* Degree	Academics
	* Grades in Courses	Work
	* Qualifying Experience	Professional
	* R.D. Exam Scores	Test Information
	* Work Experience	
	* Exam Preparation	
	* Career Satisfaction	

Figure 1. Characteristics and perceptions in study.

composition, senior level courses in dietetics including clinical nutrition, therapeutic or disease, experimental foods, foodservice systems management, advanced nutrition, undergraduate internship, and community nutrition; the type of postgraduate qualifying experience; type of work experience; completed total scaled score and the number of questions answered correctly in each domain; test preparedness and career satisfaction.

2. Determine if relationships exist between the student's performance, including the total scaled score and the number of correct answers scored on each of the domains (or domain subscores), and selected personal (gender, ethnicity, age at time of exam) and academic

characteristics (ACT composite score, cumulative grade point average, highest academic degree awarded, grades in undergraduate courses and qualifying experience).

3. Determine the perceptions, as measured by a researcher designed questionnaire, of students who have completed the R.D. exam regarding the influence of selected factors (academics, work experience, professional experiences, and general test taking ability) on their ability to pass the R.D. exam.
4. Determine if relationships exist between student scores on the R.D. exam, including the total scale score and the number of correct answers in each of the domains (or domain subscores), and their perceptions of the influence of selected factors (academics, work experience, professional experiences, and general test taking ability), on their ability to pass the exam.
5. Determine the perceptions, as measured by a researcher designed questionnaire, of dietetic program directors regarding the influence of selected factors (academic, work experience, professional experiences and general test-taking ability), on student's ability to pass the R.D. exam.
6. Determine if differences exist between perceptions of students and dietetic program directors regarding the influence of selected factors (academic, work

experience, professional experiences and general test-taking ability) on their ability to pass the R.D. exam.

7. Determine if a model exists explaining a significant portion of the variance in R.D. exam scores from selected personal, academic, and perceptual characteristics.

Significance of the Study

The need for dietitians is projected to increase from 21% to 32% through the year 2000, according to the U.S. Department of Labor, Bureau of Labor Statistics (Outlook 2000, 1990). This demand is a result of the increased understanding and need for the role of the dietitian in disease and wellness. Yet, the number of graduates from dietetic education programs reflect a slow increase of 1.6% from 1989-90 to 1990-91 (Education Newsletter, 1991) and a 4.8% increase from 1990-91 to 1991-92 (Education Newsletter, 1992). A deep concern over the lack of more effective accountable measures for the success of graduates on the R.D. exam, by dietetic educators and institutions of higher education, may lead to serious shortages of registered, qualified professionals. If students can be assessed early in their academic career as to their weaknesses, possible remediation may be assessed or offered so that first time testers may have higher success on the registration exam, as well as for test repeaters who have an average 57% failure rate (ACT, 1991) (See Appendix A). Students must become

focused on their individual deficient areas so that test preparation may be effective. In this process, educators may also become aware of areas which need strengthening, program development and alteration of curriculum and instruction to improve the quality of education. This study begins a deeper inquiry into undergraduate curriculum development, post graduate qualifying experiences, and the identification of factors which may improve performance on the R.D. exam. With rising medical cost, the increased emphasis on wellness and preventive medicine and increased demands for dietitians, health care services will improve as the public benefits from the dietetic practitioners who are registered and competent.

Definition of Terms

American Dietetic Association (ADA) - The nation's largest professional organization of dietitians, dietetic technicians, and nutritionist (approximately 62,000) (ADA, 1990).

Approved Preprofessional Practice Program - A pathway which leads to eligibility requirements. This program provides for the achievement of performance requirements for entry-level dietitians through a minimum of 900 hours of supervised practice (CDR, 1993).

Commission of Dietetic Registration (CDR) - An autonomous certifying component of ADA, CDR is responsible for establishing and enforcing standards and qualifications for dietetic certification (CDR, 1990).

Coordinated Program - A pathway which leads to eligibility requirements. An academic program in a U.S. regionally accredited college or university culminating in a minimum of a baccalaureate degree. This program provides for the achievement of knowledge and performance requirements for entry-level dietitians through integration of didactic instruction with a minimum of 900 hours of supervised practice (CDR, 1993).

Combined Program - Any pathway which leads to registration eligibility that includes a masters degree with a qualifying experience.

Dietetic Internship Program - A pathway which leads to registration eligibility. This program provides for the achievement of performance requirements for entry-level dietitians through a minimum of 900 hours of supervised practice (CDR, 1993).

Domain -Defined content areas. The current content domains were established from the results of role delineation studies in the field of dietetics to include 5 areas of study encompassed on the R.D. exam (nutrition services, foodservice systems, management, education and communication, and evaluation and standards) (Webb, 1990).

Passing Score - A raw passing score of 170 correctly answered questions out of 240 items on the R.D. Exam, or

(71%) was established as the passage level. This converts to a scaled passing score of 25 (CDR, 1990).

Rational Systems Theory - A set of ideas that attempts to emphasize organizational goals, roles, and technology. Theorist attempt to explore structures that best meet the needs and demands of the organization and environment (Bolman & Deal, 1991).

Registered Dietitian (RD) - A dietitian who has met the standards established by the Commission Dietetic Registration, successfully completed the examination for professional registration, and who maintains continuing education requirements (ADA, 1990).

Three-Year Preplanned Experience Program - A former pathway to eligibility requirements discontinued October 1, 1989. This pathway provided for the achievement of performance requirements for entry-level dietitians through a combination of [illegible]

Limitations of the Study

The following limitation to the study is acknowledged: ADA/CDR would not give permission to the author to directly access any student information including scores on the R.D. Exam. The researcher depended on honest and accurate responses from the students in regard to demographics, academic achievement, and perceptions.

Summary

The need for registered dietetic practitioners is increasing. The desire for successful performance of dietetic students on the exam is essential. Research is limited regarding personal and programmatic components and perceptions by students and educators. Therefore, to meet these identified needs and based on the reported literature, the design and direction of this research is focused on predicting performance on the national dietetic registration exam.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

Educators often apply a theoretical framework which is strongly influenced by rational systems. This theory emphasis organizational goals, roles and technology while designing structures or programs which best meet the needs of the organization (Bolman & Deal, 1991). Dietetic programs are embedded in diverse structures and theory. Educators in nutrition and dietetics continue to assess dietetic programs and students in terms of student success on the Dietetic Registration Exam (R.D. exam). Educators have had to date, few methods developed to predict the outcome on the R.D. exam and less to deficient areas of student knowledge prior to the completion of their education for the entry into the field of Dietetics. It is the goal of this researcher to identify characteristics which would increase the educators ability to assess potential passage or failure of a student on the R.D. exam. The fields which have addressed some of the concerns and the limited literature found which related specifically to dietetics is reported in this chapter.

Predicting Student Success

Student success can be measured in many ways. Typically, outcome measures are the visible means of evaluating students. In many professions, this is portrayed by a registration or licensed title which is accomplished

through passage of an exam. Grades in school, work experiences and scores on exams are variables which may bring light to predicting student success. Limited literature was found that specifically dealt with the field of nutrition and the correlation between characteristics of students and their scores on the R.D. exam. There are, however, other disciplines that have conducted studies pertaining to state and national board examinations. These disciplines include nursing, teacher education, medicine, and chiropractic. This review of literature will describe models and predictive equations used in each of these fields.

Nursing Education

Research dealing with student assessment, identification, remediation, and prediction of student success was found in the field of Nursing Education. Three studies reported a correlation between nursing student GPA's and scores on state board examinations (Muhlenkamp, 1971; Outtz, 1979; Melcolm, 1981). These researchers concluded that success of students in academic programs were indicators of success on national and state board exams. The following research studies highlight those predictors of success in more detail.

Research within the last 10 years (Jenks et al, 1989; Egan and Ferre, 1989; Lengacher and Keller, 1990) has shown an even greater emphasis on student screening, regression equations, and predicting student success with selected

admission variables. The success of black baccalaureate graduates of nursing on the State Board Test Pool Examination (SBTPE) was reviewed to explore probable success or failure prior to the exam. The predictors for the SBTPE were significant correlations between high school cumulative GPA and college cumulative GPA, a positive relationship between GPA in high school science courses and GPA in college science courses, a positive relationship between SAT scores and SBTPE scores. College cumulative GPA seemed to be the best predictor and SAT-Verbal exam the second best predictor of success on the SBTPE. These findings were similar when race was not a variable (Outtz, 1979).

Among other predictive characteristics explored through other research (Seither, 1980) are high school rank, high school class size, and Strong Vocational Interest Test Scores. Seither (1980) concluded that grade point average in the biological sciences is a valid predictor of achievement in baccalaureate nursing education and grade point average of the behavioral sciences added predictive power. The best predictor of grade point average was high school rank in class. Adding little predictive value was the Strong Vocational Interest Test on class size (Seither, 1980).

Melcolm, et al (1981) discussed the prediction of State Board Test Pool Examinations (SBTPE) scores within an integrated curriculum. The use of the National League of Nursing (NLN) Achievement Test Scores and the Mosby

Assesstest were used in predicting the SBTPE. A student's SBTPE scores "can be predicted with a reasonable degree of accuracy if the NLN test scores are known" (Melcolm et al, 1981 p. 128). The NLN test scores may be a useful diagnostic tool for predicting and advising students and for evaluating curriculum and academic practice (Melcolm et al, 1981).

A National Council Licensing Exam (NCLEX-RN) was developed in 1982 as the nationally-approved licensing examination for registered nurses. A study by Jenks was undertaken to identify predictors of success in the NCLEX-RN and to determine what would be the most appropriate academic time to identify students at risk. "Nursing theory courses at the junior and senior years and the Mosby Assesstest strongly correlated with NCLEX performance" (Jenks et al, 1989,p. 112). High risk students were successfully identified by discriminant analysis, "successful classification of 62% of the sample at prematriculation, 81% at the end of the junior year and 86% at the end of the senior year" (Jenks et al, 1989,p. 112). The researcher proposed that if the high risk students were identified at the end of their junior year, early intervention might assist the student to succeed and pass the NCLEX at the end of the senior year (Jenks et al, 1989).

Nursing educators (Lengacher and Keller, 1990) also examined academic selected admission variables, selected courses in the curriculum, and performance on the NCLEX-RN

examination. The best predictors for performance of selected admission variables were exit GPA (R=.71) and ACT Composite Scores (R=.75). The best predictors for performance of selected courses were two nursing theory courses in the second year of the program (R=.77, R=>79). This finding indicates that nurse educators could identify students who might be at risk for failure as early as their sophomore year in nursing (Lengacher and Keller, 1990).

Teacher Education

Research on factors needed to predict student success in teacher education programs have been related to scores on the National Teacher Common Examination (NTE). Within the last 10 years, the NTE Common was replaced with NTE Core Battery. The NTE Core Battery continued to measure basic academic knowledge (as did the NTE Common) but, included concepts of "problem solving and decision making." Educators freely stated that the "use of the NTE Core Battery test scores... is not the most desirable criteria for certification, nor is the performance on the exam correlated with effective teaching" (Egan & Ferre, 1989, p. 227).

In the above mentioned research study by Egan and Ferre from Peru State College (1989), predictors of success on the NTE Core Battery were identified, an equation based on this relationship was developed, and the equation was used to predict NTE test scores. Findings stated that undergraduate GPA and ACT scores correlated well with the NTE Core Battery

as well as the NTE Common Exam. Regression analyses indicated that ACT English and ACT composite scores were the best predictors on NTE communication skills scores, the ACT composite score was the best predictor for NTE general knowledge scores and the ACT English scores and the GPA were the best predictors of NTE professional knowledge scores. A cross-validation group was used to test the equation for predictability. The correlation was found to be very strong: communication skills, r=.86; general knowledge, r=.92; and professional knowledge, R-.73 (Ayers, 1979, p.228). In addition to ACT scores, undergraduate GPA appears to be a moderately good predictor on the NTE. In the research report by Ayers (1979), significant relationships were also found between NTE scores and the level of open- and closed-mindedness of the student. Students having higher NTE scores appeared to be more open-minded teachers (Ayers and Qualls, 1979).

Students' background factors and ACT scores were used to predict performance on the Florida Teacher Certification Examination (FTCE) (Villeme, 1982). In this research, ACT scores, lower level GPA, upper level GPA, gender, education major, and lower level college background were information gathered about the student's background. A Pearson correlation and a stepwise regression analysis (SAS) ANOVA, were used to determine the relationship of the background measures to the FTCE score. Based on the regression

analysis, the ACT composite score appeared to be the best predictor of success on math, reading and professional practices on the FTCE. The ACT English score was the best predictor of success on the writing test of the FTCE, and the ACT math score was an important contributor to predicting FTCE math performance. In summary, it appeared that the student's background factors were far less promising than the entry factors (ACT scores) for predicting FTCE performance (Villeme, 1982).

Medical School

Since 1970, medical colleges have used linear regression to predict performance of second year medical students on a standardized examination. This assessment has been made at the end of their sophomore year. A retrospective research study (Veloski, 1979) was done using data on five classes of medical school sophomores. Discriminant analysis was used to generate prediction of failures for the first three classes in the population approximately seven months prior to the exam. Cross-validation was done on the remaining two classes. Success in predicting pass/fail was met in the first validation, but not in the second group. The author stated that the model could not be generalized for the population and that additional research was needed in this area. The model, not available in the literature, was from a paper presentation given at the Annual Meeting of the American Educational Research Association in 1979 (Veloski,

1979). Spellacy and Dockery (1980) found medical student performance on the obstetrics and gynecology national board exam to be significantly correlated with a comparable examination given during the clerkship in obstetrics and gynecology. This emphasized that student GPA's in specific areas may be an indicator to success on certain areas of the national examination.

Chiropractic Education

The only research found in the literature in the area of chiropractic education (Kaltholl, 1985) was stated as the first attempt to investigate and correlate student GPA's and student National Board scores. The National Board of Chiropractic Examiners test is divided into six sections: general anatomy, spinal anatomy, physiology, chemistry, pathology, and microbiology and public health. The curriculum, as well, was divided into various areas to include the six sections of the exam. A significant correlation between the students GPA's in each section and the student's National Board Scores at .05 level was measured. It was thus determined that the chiropractic curriculum was properly preparing students. Indicators predicted that the students, to score average on the National Board, must perform at an above average level in the curriculum (Kaltholl, 1985).

Dietetics

Student success in the field of dietetics can be marked by two events. First, student acceptance into the fifth year of education or qualifying experience, a route that must be completed to meet registration requirements. Second, passage of the national registration examination is required for registration.

As a result of the 1984 Study Commission on Dietetics, (ADA, 1984), recommendations made by the Task Force on Education of the American Dietetic Association changed the routes that students once had available to meet registration eligibility. Some routes were discontinued, others phased out, and new standards of education implemented. Competition for placement in programs and more students than placement sites had become a concern to educators in selecting and placing successful candidates; a concern to students regarding career options; and public concern for sufficient numbers of registered dietitians enter the field to meet the demanding needs of health care (Smitherman, 1987).

Carruth and Sneed (1990) conducted a survey of dietetic internship directors to determine the selection admission criteria used by directors to select students into dietetic internship programs. Results indicated that grade point average, outcome in professional and physiological/biological science courses, and former employment were the most

important selection criteria factors to a majority of dietetic internship directors (Carruth and Sneed, 1990).

A similar study by the same authors, Sneed and Carruth (1991), conducted a year later, surveyed the directors of approved preprofessional practice programs (AP4) to determine the importance of admission criteria used to select students. The AP4 directors rated Graduate Record Examination (GRE) score as the most important criteria for selection. Grade point average and grades in professional courses were also important selection criteria, similar to the internship directors rating in their 1990 research. The authors concluded that similar studies on characteristics were needed from Internship and AP4 Directors (Sneed and Carruth, 1991).

A poster session presented at the National Convention of the American Dietetic Association in 1991 by O'Palka and Harris described significant selection factors of dietetic interns by comparing and studying the profile of successful vs nonsuccessful dietetic intern applications at Montana State University. The most significant factors of selection included cumulative grades in food, nutrition and science courses and letters of reference describing the candidates. Other factors, included work experience and extracurricular activities were deemed important, but did not negate a low grade point average or poor reference letters (O'Palka and Harris, 1991).

A study by this writer was conducted to determine if personal and academic characteristics increased the researchers' ability to discriminate among individuals who would pass or fail the R.D. exam (Fournet and Burnett, 1991). A predictive formula was derived attributing the characteristics of overall grade point average, freshman algebra and biology and senior level management and community nutrition as discriminating variables. The developed equation was applied to all study participants and correctly predicted pass or failure at 89.19% accuracy for this sample. Validation of the equation was not conducted.

A poster session presented at the National Convention of the American Dietetic Association in 1991 described an attempt to developed a predictive equation to derive the score a student in a Coordinated Program would receive on the registration exam. Results reported moderate correlations among pre-professional grade point average with professional grade point average and employer evaluation rating. Professional grade point average was correlated with a knowledge-based registration examination given to one group. In a second group, a performance-based registration examination was administered. A pre-professional grade point average was moderately correlated with professional grade point average and a researcher developed mock exam score. Professional grade point average was moderately correlated with mock exam score. Students scoring high on the mock exam

appeared to have better performance on the R.D. exam than those students who did not have high scores on the mock exam (Burkholder, et al, 1991).

Final dissertation defense and publication release is pending on a research project where dietetic internship application material from students in the past five years, graduating from one of two internship programs are being studied by a doctorate student at Texas Womans University in Houston (name withheld). Selected information from student application packets were used as variables in a stepwide regression procedure to predict the score on the R.D. exam. Preliminary findings acquired verbally from the doctoral student's major professor (Morrow, 1992) concluded that the grade point average in nutrition courses explained a significant amount of the variance in predicting grades during internship. Grades throughout a student's internship were predictors of the student's R.D. exam score.

The R.D. examination for dietitians is a criterion-referenced test, a test measuring performance against predefined criterion. The ADA in conjunction with the American College Testing (ACT) in 1989 began a comprehensive role delineation study. The roles of dietitians in various professional settings were explored in a nationwide survey. The Commission on Dietetic Registration (CDR) translated the role delineation data to the specific content of the exam into five domains as well as the number of items for each

domain. The importance of the criterion-referenced test was to ensure that minimal competence, as well as sufficient knowledge and skills were accomplished by safe entry-level practice and that the public was protected from non-competent practitioners (Webb, Feller, 1992).

Summary

Consistently, in research, the student characteristics that appear to assist in the prediction of success on national and state board exams is: (1) grade point average in nursing, (2) overall GPA (Muklenkamp, 1971, Outtz, 1979, Melcolm, 1981), (3) GPA in biology and GPA in junior and senior courses (Jenks, 1989, Seither, 1980). Student teachers, medical, and chiropractic educators also report that the use of GPA is a variable used to predict success as reported by Egan (1989), Spellacy (1980), and Kalthall (1985), respectively. In the field of dietetics, grade point average, grades in professional classes, GRE scores and mock exams were cited as variables predicting success on the R.D. exam (Carruth and Sneed, 1990; Sneed and Carruth, 1991; Fournet and Burnett, 1991; Morrow, 1992).

Additional research and study to assist educators in assessing students who may be excelling in most areas, but deficient in one or two, is needed to provide counseling and supplemental material. It is only when educators and students identify weaknesses that they have the opportunity to be more successful.

CHAPTER 3

METHODOLOGY

Population and Sample

The target student population for this study was students who were first time eligible (estimated N=700) to take the R.D. exam in April, 1992. The accessible population for this study were individuals whose name appeared on the Dietetic Registry, determined eligible, took the April 1992 test, and agreed to complete the questionnaire. An average of 1300-1500 individuals usually take the exam in April of which, 600-800 persons are first-time eligible. This average was based on the two past years of historical data supplied by ADA. Based on estimates of eligible participants for the R.D. exam, and Cochran's sample size determination formula (Snedecor and Cochran, 1977). A computer generated random selection process was used to select 170 individuals, with an additional 100 for replacements. The replacement selections were used for refusals and/or frame errors.

The population of directors for the study was undergraduate dietetic program directors (N=230) whose names are listed in the ADA Directory of Dietetic Programs 1991-1992 Manual.

Instrumentation

The tool used in collection of data was a researcher-designed questionnaire. The questionnaire consisted of three parts. Part I focused on Personal Information; Part II focused on Academic Achievements, and Part III focused on student perceptions regarding their perceived importance of selected factors on passing the exam. These factors included academic achievement, work experience, type of preprofessional practice completed to meet eligibility requirements, test taking ability, and type and length of preparation for the R.D. exam. A 5-point Likert-type scale was used with "1" indicating "Strongly disagree" and "5" indicating "Strongly agree" that the statement was essential to pass the R.D. exam. The directors' perceptions were recorded on a similar instrument to that of students, using the same perception questions (Part III) as the students (See Appendix B).

Validation and Reliability

The content validity of the instrument/questionnaire was assessed by the Director and Executive Committee of the Commission of Dietetic Registration of the American Dietetic Association and a panel of experts. The panel of experts included a former Program Director from each of the following: undergraduate dietetic program, AP4, and dietetic internship, a practicing dietitian, a dietitian who had taken the exam in October 1991, a senior dietetic major (not

eligible for the April 1992 exam), a physician, a university professor in the field of nutrition and dietetics and the chairman of the Advisory Board for the Dietetic Curriculum at the University of Southwestern Louisiana. Recommendations made by these panel members were considered in making revisions to the final instrument.

A reliability analysis was conducted on the Part III - Personal Perceptions - of the student questionnaire. An overall alpha level of .79 was found for the 22 items. In each of the categories, reliability analysis was conducted. The five items in each of the two categories, academics and work experience, had alpha levels of .68 and .69, respectively. The six items in each of the two categories, professional experience and general test taking ability, had alpha levels of .61 and .50, respectively.

Data Collection

A list of labels for individuals who were registered eligible for the exam was purchased from ADA. A randomly selected sample of 170, and an additional 100 individuals drawn for replacement, were used. Prior to the exam, a letter describing the purpose and objectives of the study was sent with a request for the individual to commit or decline participation in the study. A postage paid return card was provided with the initial letter (See Appendix C). Of those who committed to participate, a telephone number was requested for follow-up purposes. Each student was assigned

a code number to ensure privacy and anonymity for those who committed to participate. After students had taken the exam (April 11), a second cover letter, the questionnaire (postage-paid return) and a sample candidate score report to guide student respondents were mailed to each individual that originally committed to participate (See Appendix D). The sample candidate score report was sent to the student with the scores needed to be reported clearly identified to prevent confusion and error in data collection. A follow-up letter and questionnaire with postage paid return was mailed two weeks later to all nonrespondents. A representative sample of the nonrespondents was telephoned in a final attempt to collect the data.

A list of directors was obtained from the ADA Directory of Dietetic Programs 1991-1992 Manual. All directors were sent a cover letter describing the purpose and objectives of the study along with a perceptions questionnaire (See Appendix E). Each director was assigned a code number to ensure privacy and anonymity. A follow-up postage paid return card was mailed two weeks later to all nonrespondents as a reminder to complete the questionnaire. A representative sample of the non-respondents was telephoned in a final attempt to collect the data.

Data Analysis

Statistical analysis for this research was done using the Statistical Package for the Social Sciences (SPSS). The alpha level was set at .05 'a priori. The following procedures were used in analyzing the data:

Objective 1: The dietetic graduate's personal characteristics (gender and ethnicity) and academic achievement variables (type of postgraduate qualifying experience, work experience, satisfaction, study preparation and feelings before and after the exam) were described using frequencies and percentages for variables measured on a nominal scale. Personal variables (age at time of exam) and academic achievement variables (ACT composite scores, cumulative grade point average, highest academic degree awarded, undergraduate grades and hours spent studying) measured on an ordinal scale are summarized using frequencies and percentages. Interval scale measurements are summarized with means and standard deviations (total scaled score and scores on the five domains of the exam).

Objective 2: Relationships between student scores on the R.D. exam and student personal data were determined by Spearman Rho Correlation Coefficient.

Objective 3: Perceptions of students were described through frequency distribution statistics. Using the five-point Likert-type scale, descriptive statistics, frequencies and

percentages, were used to determine factors which are perceived by students to be essential to pass the R.D. exam.

Objective 4: Relationships between student scores on the R.D. exam and student perceptions were determined by Pearson's Product Moment Correlation Coefficient.

Objective 5: Perceptions of dietetic program directors were described through frequency distribution statistics. Using the five-point Likert-type scale, descriptive statistics, frequencies and percentages were used to determine factors which were perceived by dietetic program directors's to be essential to pass the R.D. exam.

Objective 6: Relationships between perceptions of the students and the dietetic directors were analyzed with a *t*-test on each of the grouped factors (academic, work experience, professional experience and general test taking ability).

Objective 7: Personal, academic and perception scores of students were analyzed by multiple regression to determine if a model could be developed which would explain at least .05 variability. The dependent variable was the R.D. exam scores and the other variables were treated as independent variables and entered for stepwise analysis.

Based on the methodology described in this chapter, the findings will be presented in the next chapter according to the above objectives.

CHAPTER 4

FINDINGS

Based on two year estimates of first time eligible participants for the R.D. exam, the sample size was determined by Cochran's Sample Size Determination Formula. A computer generated random selection process was used to select 170 individuals for data collection, with an additional 100 selected for replacement. Due to provisions of the American Dietetic Association supplying mailing labels, contact was limited with the individuals and participants

Before the exam date, of the 170 candidates who were eligible to take the R.D. exam, a cover letter was sent which described the purpose and objectives. In addition, a request for the respondent to commit or decline participation in the study was included. Ninety-four of those individuals taking the R.D. exam agreed to participate in the study. A second cover letter and request card were mailed approximately two weeks later to the nonrespondents. An additional 25 individuals agreed to participate after the second mailing. Twenty-seven individuals declined participation and were replaced by 27 individuals from the list of 100 replacements. After two request, a total of 146 (or 85.88%) first time candidates agreed to participate in the study.

After the R.D. exam results were mailed to individual participants, a cover letter, questionnaire and a sample

candidate score report was sent to the 146 candidates. One-hundred-seventeen individuals completed the questionnaire from the first mailing. After two weeks, a second cover letter, reminder and questionnaire were sent and three additional questionnaires were returned, one of which was returned due to a candidates' change of address without forwarding. A random calling to 25% of the individuals from the 26 nonrespondents, was conducted. A total of four individuals completed and mailed their questionnaire, two of these questionnaires were received in a timely manner and included in the data. Of the 170 participants, response from a total of 122 (or 83.36%) first time testers were used.

Two-hundred-thirty-eight directors of undergraduate dietetic programs whose names appeared in the ADA Director of Dietetic Programs 1991-1992 Manual were sent a cover letter describing the purpose and objectives of the study along with a perceptions questionnaire. One-hundred-sixty-three directors returned a completed questionnaire after the first mailing. Two weeks later, a cover letter, a reminder and an identical questionnaire was sent to the nonrespondents; 33 additional questionnaires were returned. A 25% sample of the nonrespondents were telephoned in an attempt to collect the data. Of these non-respondents, four directors returned the questionnaire. One director had recently accepted this position and did not feel competent to address the questionnaire; one director was on a leave of absence; two

directors were not able to be reached directly, but messages were left; and one returned the questionnaire at a later date. Of the 238 directors, a total of 200 (or 84%) director responses were used.

Data for this study, collected from 122 first time eligible individuals for the R.D. exam in April, 1992, and 200 directors of undergraduate dietetic programs, is presented to reflect the major objectives of this research. Analysis of the data focuses on predicting performance on the National Dietetic Registration Exam.

Data of this study will be presented in accordance with the seven objectives which focused on: (1) Student Demographics, (2) Relationships between Student Performance on the R.D. exam and Student Demographics, (3) Student Perceptions (4) Relationships between Student Performance on the R.D. exam and Student Perceptions, (5) Director Perceptions, (6) Comparison between Student and Director Perceptions, and (7) Statistical Prediction Model.

Student Demographics

Objective one sought to explore student demographics including personal information and academic achievements. The survey instrument requested information regarding three factors in the area of personal information: gender, ethnicity, and age. In the area of academic achievement, 13 separate factors were explored. These factors dealt with performance data (college entrance scores and grades),

continuing education options, R.D. exam scores in various domains, and work experience. Additionally, some items related to preparation for the R.D. exam, feelings of preparedness before and after the exam, and satisfaction with the chosen career in dietetics were addressed. The third part of the instrument included 22 statements requesting impact responses. Students were to select the response which best expressed their perceptions regarding the influence that each statement had on the ability for an individual to succeed on the R.D. exam.

Personal Information

One-hundred-forty-six of the 170 respondents (85.88%) agreed to participate in the study. Of the 146, 122 actually participated in the study (83.36%). Of the 122 participants, 117 (95.90%) were female and four (3.28%) were male. One subject did not respond to this item.

Of those responding to the item ethnicity, 107 (88.52%) of the 122 respondents were Caucasian. The remainder of the respondents were distributed among four other ethnic groups (see Table 1).

The mean age of respondents was 28 years. The age range was from 22 to 51 years with a standard deviation of 5.76 (see Table 2).

Table 1

Ethnicity of Student Respondents

Ethnic Groups	n	%
White (not of Hispanic origin)	108	88.5
Black (not of Hispanic origin)	1	.8
Hispanic	3	2.5
Asian or Pacific Islander	6	4.9
Other	3	2.5
No response to item	1	.8
Total	122	100.0

Academic Achievement of Respondents

The questionnaire had 13 items which addressed the area of academic achievement. The average ACT score was 23.16, with a range of scores from 12 to 29 (see Table 3). The average SAT Verbal score was 525, with a range from 370 to 710 (see Table 4). The average SAT Math score was 530, with a range from 360 to 680 (see Table 5). The mean cumulative GPA of respondents was 3.22 based on a 4.00 scale. The range of GPAs was from 2.1 to 3.9 (see Table 6).

Table 2

Age of Student Respondents

Years of age	n	%
< 25	44	36.0
25 - 29	46	38.0
30 - 34	15	12.0
35 - 39	11	9.0
40 - 44	2	1.5
45 - 49	1	1.0
> 49	2	1.5
no response	1	1.0
Total	122	100.0

Note. Mean age = 28.0 years, std dev = 5.76, range of ages from 22 to 51.

The student respondents' highest academic degree, in ascending order, included bachelor, master and doctorate. There were 73 (61%) who had at least a Bachelor's Degree, 44 (37%) a Master's Degree, and two (1.6%) with Doctorate Degrees.

Table 3

ACT Test Scores of Student Respondents

ACT test scores	n	%
< 21	6	19
21 - 23	11	35
24 - 26	7	23
> 26	7	23
Total	31	100

Note. Mean score = 23.16, std dev = 3.89, range of scores from 12 to 29. n = only those respondents who reported an ACT score; 43 "not applicable" responses; 48 "no responses".

Student grades in 11 undergraduate course areas were examined. Of these, four were freshman classes: College Algebra, General Biology, Introductory Chemistry and English Composition. A request for the grades for select Junior and Senior classes in the field of dietetics/nutrition were also included: Clinical Nutrition, Therapeutic/Disease, Experimental Cookery, Foodservice Systems Management, Advanced Nutrition, Undergraduate Internship and Community Nutrition. The grade of "A" was the most frequently cited grade earned and a grade of "D" was the least frequently cited.

Table 4

SAT Verbal Test Scores of Student Respondents

SAT verbal test scores	n	%
< 400	1	3.0
400 - 449	4	11.0
450 - 499	7	19.4
500 - 549	12	33.0
550 - 599	5	14.0
600 - 649	3	8.3
650 - 699	3	8.3
> 699	1	3.0
Total	36	100.0

Note. Mean score = 525.00, std dev = 80.045, range of scores from 370 to 710. n = only those respondents who reported a SAT Verbal score; 34 "not applicable" responses, 52 "no responses".

Table 5

SAT Math Test Scores of Student Respondents

SAT math test scores	n	%
< 400	1	3
400 - 449	6	17
450 - 499	7	19
500 - 549	5	14
550 - 599	9	25
600 - 649	3	8
> 649	5	14
Total	36	100

Note. Mean score = 530.28, std dev = 85.965, range of scores from 360 to 680. n = only those respondents who reported a SAT Math score; 34 "not applicable" responses, 52 "no responses".

The grade of "F" was not reported in any of the identified classes. The five courses with the highest grade mean, in descending order, were undergraduate Internship, Community Nutrition, Food Service Systems Management, Experimental Cookery, and Clinical Nutrition. The courses with the lowest grade mean included College Algebra, Biology, and Chemistry I. Chemistry I was the only course recorded with a mean below a "B" in the course (see Table 7).

Table 6

Grade Point Averages of Student Respondents

Grade point averages	n	%
< 2.6	5	4.0
2.6 - 2.8	13	11.5
2.9 - 3.1	30	26.5
3.2 - 3.4	28	25.0
3.5 - 3.7	28	25.0
> 3.7	9	8.0
Total	113	100.0

Note. Mean Grade point = 3.22, std dev = .388, range of scores from 2.1 to 3.9. n = only those respondents who reported a GPA score; 9 "no responses".

For a student to become eligible to take the dietetic registration exam, a qualifying experience must be completed. Qualifying experiences include Coordinated Programs (CP), Dietetic Internships (DI), Approved Preprofessional Practice Programs (AP4) and combined program. A combined program is any one of the above mentioned in addition to a Master's program. Respondents were asked to state their type of qualifying experience. Of the respondents, the two most popular areas were the DI and the AP4. Each of these two options were reported by 36 (29.75%) of the students.

Table 7

Frequencies of Student Grades in Undergraduate Courses

Undergrad. courses[a]	A	B	C	D	mean	n
Internship	65	9	0	1	3.84	75
Community Nutr.[b]	82	26	3	0	3.71	111
Food Mgmt.[c]	75	33	6	0	3.61	114
Experimental Cook.[d]	70	32	13	0	3.50	115
Therapeutic Nutr.[e]	61	48	6	0	3.48	115
Clinical Nutr.[f]	62	45	8	0	3.47	115
Advanced Nutr.[g]	63	40	11	0	3.46	114
English I	61	40	13	0	3.42	114
Algebra	49	36	20	4	3.19	109
Biology	41	50	19	1	3.18	111
Chemistry I	33	47	36	2	2.94	118

Note. Response values include: 4=A, 3=B, 2=C, 1=D, no F's were reported. [a] Undergraduate Courses. [b] Community Nutrition. [c] Food Service Systems Management. [d] Experimental Cookery. [e] Therapeutic Nutrition. [f] Clinical Nutrition. [g] Advanced Nutrition.

Several participants, depending upon starting date of their program, have completed qualifying experiences which have been discontinued by the American Dietetic Association. These are listed in the "other" category. Students presently

entering qualifying experiences are not allowed to seek approval through these avenues (see Table 8).

Table 8

Postgraduate Qualifying Experience of Student Respondents

Experience type	n	%
Coordinated Program	10	8
Dietetic Internship	36	30
Preprofessional Practice	36	30
Combined Program with Master's	25	21
Other	14	11
Total	121	100

Note. Other includes: 3-year pre-planned qualifying experience; Ph.D.; six months work experience with Masters.

Student preparation for and performance on the R.D. exam was addressed. The self reported total score on the exam had a mean of 30.98, with a range from six to 50 (perfect score) and a standard deviation of 5.68. A total score of 25.00 denotes passage of the exam. Mean scores in each of the five domains were reported as follows: Nutrition Services - 79.10; Foodservice Systems - 49.88; Management - 35.04; Education and Communications - 17.71; Evaluation and Standards - 13.81. The percent of correct answers scored by students in each of the domains ranged from 80 to 82 percent.

The area the students scored the best (82%) was Nutrition Services. The area the students scored 80% was Foodservice Systems (see Table 9).

Table 9

Performance on the R.D. Exam Reported by Student Respondents

Scores	Mean	Range	Total Correct %	n
Total Score	30.98	6-50	50 62	116
Nutrition Services	79.10	52-93	96 82	106
Foodservice Systems	49.88	38-58	62 80	111
Management	35.04	18-42	43 81	110
Educ. & Comm.[a]	17.71	9-22	22 81	111
Eval. & Stand.[b]	13.81	7-17	17 81	111

Note. std dev. - 5.68 [a] Education and Communications. [b] Evaluation and Standards.

Respondents were asked about their personal work experience. Of the 117 respondents, 55 (47.01%) reported having voluntary work experience prior to the exam. Forty-five respondents (38.5%) worked in the field of dietetics and 26 (22%) worked in a field not related to dietetics. Of the 118 respondents, 104 (88.14%) reported they had paid work experience prior to the exam. One-hundred individuals (85%) worked in the field of dietetics and 56 individuals (47%) reported paid work experience in a non-dietetic related field.

Fifty-three students (45%) volunteered on a part time basis and eight individuals (7%) volunteered full time. Individuals who volunteered in both the dietetic and non-dietetic fields and who may have worked full time and part time, were not identified as such. Eighty-two (69.5%) individuals worked full time and 59 (50%) worked part time. Individuals who worked for pay in both dietetic and non-dietetic fields and who may have worked full time as well as part time, were not identified as such.

Student respondents reported their attendance at workshops, seminars, or review courses in exam preparation. Of the 121 respondents, 49 (40.50%) stated that they had attended at least one of the above exam preparation opportunities.

An investigation of time in specific preparation for the R.D. exam was addressed. Respondents reported preparing an

average of 88.7 specific hours for the exam, with the range being from zero to 501 hours.

Student respondents reported about feeling prepared to take the exam before and after the exam. Regarding feelings before the exam, of the 122 respondents, 85 (69.67%) indicated that they felt prepared to take the exam, five (4.10%) felt unprepared and 31 (25.41%) felt uncertain about their preparation for the R.D. exam. The respondents reported their perceptions of whether they felt like they had passed the exam after taking the exam. Of the 122 respondents, 65 (53.28%) of them felt like they had passed the exam, eight (6.56%) felt as if they had not passed the exam, and 48 (39.34%) felt uncertain of their test outcome.

Respondents reported their satisfaction with their career choice of dietetics. Of the 122 responding, 88 (72%) stated that they were satisfied with their career choice; 13 (11%) were not satisfied with their career choice; and 20 (16%) were uncertain how they felt regarding their career choice of dietetics.

Students were asked if they had to do it all over, would they choose dietetics as a career. Fifty-four (44.3%) of the respondents stated that they would choose dietetics again; 25 (20%) stated they would not choose dietetics again; and 42 (34%) were uncertain whether they would choose the field again.

Four participants volunteered reasons for their comments. They cited low pay scales, or salaries, in the dietetic profession as compared to other health care professionals as being very disappointing.

Relationship between Student Performance on the R.D. Exam and Student Demographics

The second objective was to determine if relationships exist between selected student demographics and the student's performance on the exam as measured by total R.D score, the correct answers scored on each of the five domains (Nutrition Services, Foodservice Systems, Management, Education and Communication, and Evaluation and Standards). These relationships were analyzed using Spearman Rho Correlation. Davis' (1971) descriptors of association were used in the explanation of relationships. Davis descriptors are described as the following: r=.70 or higher - very strong association; r=.50-.69 - substantial association; r=.30-.49 - moderate association; r=.10-.29 - low association; r=.09 or lower - negligible association.

Thirteen demographics were found to be significant with the overall R.D. score. Moderate relationships, according to Davis's descriptors (Davis, 1971), were recorded in SAT Verbal r= .45, grades in Clinical Nutrition r= .45, Therapeutics r= .43, GPA r= .42, SAT Math r= .39, grades in Advanced Nutrition r=.37, and Internship class r= .34. Low association was found with grades in English Composition I,

Introductory Chemistry, Experimental Cookery, and General Biology I. A negative low association was found between the demographics paid work experience in a non dietetic field, and paid part time work experience. Significant levels <.001 were found for grades in Clinical Nutrition, Therapeutics, Advanced Nutrition and GPA. Significance at the <.01 were found for SAT Verbal and grades in Internship, English Composition I, Introductory Chemistry I, and paid work experience in a non dietetic field (see Table 10). A list of all correlations between demographics and overall R.D> score are presented in Appendix F.

A significant relationship was found between ten of the demographic characteristics and the score on the Nutrition Services domain. Moderate relationship, according to Davis's descriptors (Davis, 1971), was found among grade in therapeutic $\underline{r}$= .40, SAT Verbal $\underline{r}$= .39, grade in clinical nutrition $\underline{r}$= .33, and grade in internship $\underline{r}$= .30 with the Nutrition Services domain. Low association was found among the demographics GPA, grades in General Biology I, and Advanced Nutrition. Negative low association was found among feelings of preparedness before the exam, paid work experience in a non dietetic field, and gender with the Nutrition Services domain. Grade in therapeutic was at the significant level of <.001. Grades in Clinical Nutrition, General Biology I, Advanced Nutrition and GPA were significantly related at <.01. (see Table 11). A list of all

correlations between demographics and Nutrition Services domain score are presented in Appendix G.

Table 10

Relationship between Student Demographics and Overall R.D. Score of Student Respondents

Demographics	r	n	p
Clinical Nutrition grade	.45	110	<.001
SAT Verbal score	.45	35	.006
Therapeutic grade	.43	100	<.001
GPA	.42	109	<.001
SAT Math score	.39	35	.021
Advanced Nutrition grade	.37	109	<.001
Internship grade	.34	71	.003
Pd work in other field[a]	-.27	116	.004
Eng. Comp. I grade[b]	.26	110	.007
Intro. Chemistry grade[c]	.25	113	.030
General Biology I grade	.21	106	.029
Experimental Cookery grade	.21	110	.030
Pd part time experience[d]	-.20	116	.033

Note. A list of all correlations between demographics and Overall R.D. score are presented in Appendix F. [a] Paid work

(table continues)

experience in a non-dietetic field. [b] English Composition I Grade. [c] Introductory Chemistry Grade. [d] Paid part time work experience.

Table 11

Relationship between Student Demographics and Nutrition Services Domain Score of Student Respondents

Demographics	r	n	p
Therapeutic grade	.40	101	<.001
SAT Verbal	.39	30	.031
Clinical Nutrition grade	.33	100	.001
Internship grade	.30	64	.015
GPA	.28	99	.004
General Biology I grade	.28	98	.006
Advanced Nutrition grade	.27	100	.007
In prep. for exam[a]	-.23	106	.015
Pd. work exp. in other[b]	-.21	106	.027

Note. A list of all correlations between demographics and Nutrition Services domain score are presented in Appendix G. [a] Feelings of preparedness going into the exam. [b] Paid work experience in a non dietetic field.

Ten demographics were found to be significantly related with scores on the Foodservice Systems domain. Moderate relationships, according to Davis's descriptors (Davis,

1971), were found in SAT Verbal r= .46, SAT Math r= .44, grades in Clinical Nutrition r= .41, Therapeutics r= .38, Internship r= .35, and GPA r= .32 with the Foodservice Systems domain. Low association was found among grades in Advanced Nutrition, Introductory Chemistry, and paid full time work experience with the Foodservice Systems domain. A negative low association was found among paid work experience in a non dietetic field with the Foodservice Systems domain. Grades in Clinical Nutrition, Therapeutics, and GPA were significantly related at the <.001 level. Significance found at the <.01 level were the relationships among demographics, SAT Verbal, SAT Math, grades in Internship, Advanced Nutrition and paid work experience in a non dietetic field (see Table 12). A list of all correlations between demographics and Foodservice Systems domain score are presented in Appendix H.

Significant with scores on the Management domain of the exam were four variables. A moderate association, according to Davis's descriptors (Davis, 1971), was recorded in GPA r= .35 with the Management domain. Low association was found among grades in College Algebra, Clinical Nutrition and Advanced Nutrition with the Management domain. GPA has a significant relationship at the <.001 level. Grades in College Algebra was significant at the <.01 level (see Table 13). A list of all correlations between demographics and Management domain score are presented in Appendix I.

Table 12

Relationship between Student Demographics and Foodservice Systems Domain Score of Student Respondents

Demographics	r	n	p
SAT Verbal	.46	34	.006
SAT Math	.44	34	.010
Clinical Nutrition grade	.41	105	<.001
Therapeutic grade	.38	106	<.001
Internship grade	.35	68	.004
GPA	.32	104	.001
Advanced Nutrition grade	.28	104	.004
Pd. work exp. in other[a]	-.25	111	.009
Intro. Chemistry grade[b]	.21	108	.026
Pd. full time exp.[c]	.20	111	.034

Note. A list of all correlations between demographics and Foodservice Systems domain score are presented in Appendix H.

[a] Paid work experience in a non dietetic field.

[b] Introductory Chemistry Grade. [c] Paid full time work experience.

Table 13

Relationship between Student Demographics and Management Domain Score of Student Respondents

Demographics	r	n	p
GPA	.35	103	<.001
College Algebra grade	.27	99	.007
Clinical Nutrition grade	.24	104	.013
Advanced Nutrition grade	.21	103	.030

Note. A list of all correlations between demographics and Management domain score are presented in Appendix I.

Ten demographic variables were significantly related with the Education and Communication Domain. A moderate relationship, according to Davis's descriptors (Davis, 1971), was found among GPA r= .40 with the Education and Communication domain. Low associations were found among grades in Therapeutics, Clinical Nutrition, English Composition I, Introductory Chemistry, Internship, Advanced Nutrition, and College Algebra with the Education and Communication domain. Negative low relationships were found among paid work experience in a non dietetics field and paid part time work experience with the Education and Communication domain. GPA was significant at the <.001 level. Grades in Therapeutics, Clinical Nutrition, English

Composition I, Introductory Chemistry, and paid work experience in a non dietetic field were significant at the <.01 level (see Table 14). A list of all correlations between demographics and Education and Communications domain score are presented in Appendix J.

Five demographic variables were found to be significant with the score on the Evaluation and Standards domain. A moderate association, according to Davis's descriptors (Davis, 1971), was found among grade in Internship r= .34 with the Evaluation and Standards domain. Low associations were found among grade in Food Management, GPA, Grades in English Composition I and Experimental Cookery with Evaluation and Standards domain. Grades in Internship and Food Management were significant at the <.01 level (see Table 15). A list of all correlations between demographics and Evaluation and Standard domain score are presented in Appendix K.

Student Perceptions

The third objective was to determine the perceptions of students who had completed the R.D. exam regarding the influence of selected factors on their ability to pass the R.D. exam. The questionnaire explored a list of 22 statements which focused on the areas of academic achievement, work experience, professional experience and general testing information. Whether the listed variables

Table 14

Relationship between Student Demographics and Education and Communication Domain Score of Student Respondents

Demographics	r	n	p
GPA	.40	104	<.001
Therapeutic grade	.29	106	.003
Clinical Nutrition grade	.28	105	.004
English Composition I grade	.26	105	.006
Introductory Chemistry grade	.25	108	.010
Internship grade	.25	68	.042
Pd. work exp. in other[a]	-.25	111	.008
Advanced Nutrition grade	.23	104	.019
Pd. part time exp.[b]	-.21	111	.030
College Algebra grade	.20	100	.042

Note. A list of all correlations between demographics and Education and Communications domain score are presented in Appendix J. [a] Paid work experience in a non dietetic field. [b] Paid part time work experience.

Table 15

Relationship between Student Demographics and Evaluation and Standards Domain Score of Student Respondents

Demographics	r	n	p
Internship grade	.34	68	.005
Food Management grade	.26	104	.007
GPA	.25	104	.011
English Composition I grade	.20	105	.038
Experimental Cookery grade	.19	105	.049

Note. A list of all correlations between demographics and Evaluation and Standards domain score are presented in Appendix K.

were essential to ensure passage of the R.D. exam was addressed. The respondents reported their perceptions using scores ranging from "1" strongly disagree to "5" strongly agree. Overall, student perceptions of 22 items of the essential elements for success on the R.D. exam were reported. The five items with the highest mean scores reported, in descending order were: (1) Good time management skills and organization (mean=4.48); (2) Effective study skills (mean=4.47); (3) Use of a Study Review manual for the exam (mean=4.08); (4) Completion of a Dietetic Internship (mean=4.07); and (5) Paid work experience in the

dietetic field (mean=3.73). The five items rating lowest in mean scores were: (1) An ACT composite score above 21, or SAT verbal score above 424 and math score above 476 (mean=2.45); (2) Membership in and materials and publications available from professional organizations other than the American Dietetic Association (mean=2.44); (3) Volunteer work experience in a non-dietetic related field (mean=2.31); (4) Obtaining a master's degree (mean=1.98); (5) Obtaining a doctorate degree (mean=1.60).

Students felt that statements in the category, academic achievement, was the least essential to passage (grand mean = 2.47). Professional and work experience were considered intermediate in being essential (grand means = 3.21, 3.09 respectively). The items under general test information were deemed most essential (grand mean = 3.96).

Each of the major categories in the perceptions questionnaire were explored. The three student responses with the highest mean scores on the influence that academic achievement has on the ability for an individual to succeed on the R.D. exam, in descending order were: (1) A GPA of last 30 undergraduate hours above a 3.0 on a 4.0 scale (mean=3.31); (2) An overall GPA above 3.0 on a 4.0 scale (mean=3.0); and (3) An ACT composite score above 21 or SAT verbal score above 424 and math score above 276 (mean=2.45). The lowest mean score response was obtaining a doctorate degree (mean=1.60) (see Table 16).

Table 16

Student Perceptions of the Influence That Academic Achievement Has on the Ability for an Individual to Succeed on the R.D. Exam

Academic achievement	x	n
GPA of last 30 hrs > 3.0	3.31	120
GPA overall > 3.0	3.00	120
ACT > 21, SATV > 424, SATM > 476[a]	2.45	117
Master's degree	1.98	120
Doctorate degree	1.60	120

Note. Grand mean = 2.47; Response values include: 1 = I strongly disagree that this is essential to pass the R.D. exam; 2 = I disagree that this is essential to pass the R.D. exam; 3 = I am undecided that this is essential to pass the R.D. exam; 4 = I agree that this is essential to pass the R.D. exam; 5 = I strongly agree that this is essential to pass the R.D. exam. [a] An ACT composite score above 21, or SAT Verbal score above 424 and a SAT Math score above 476.

The three student responses with the highest mean scores on the influence that work experience has on the ability for an individual to succeed on the R.D. exam, in descending order were: (1) Paid work experience in the dietetic field

(mean=3.73); (2) Professionally employed in the dietetic field at time of exam (mean=3.48); and (3) Volunteer work experience in dietetics (mean=3.46). The response with the lowest mean score was volunteer work experience in a non-dietetic related field (mean=2.31) (see Table 17).

Table 17

Student Perceptions of the Influence That Work Experience Has on the Ability for an Individual to Succeed on the R.D. Exam

Work experience	x	n
Paid in the dietetic field	3.73	121
Professional employment at time of exam in dietetics	3.48	122
Volunteer in dietetic field	3.46	121
Paid in non-dietetic field	2.46	120
Volunteer in non-dietetic field	2.31	120

Note. Grand mean = 3.09. Response values include: "1" strongly disagree to "5" strongly agree.

Describing professional experience, the three student responses with the highest mean scores on the influence that professional experience has on the ability for an individual to succeed on the R.D. exam, in descending order were: (1) Completion of a Dietetic Internship (mean=4.07); (2) Completion of an Approved Preprofessional practice program

(AP4) (mean=3.61); and (3) Completion of a Coordinated Program (CP) (mean=3.33). The response with the lowest mean score was membership in, and material and publications available form, any professional organization, other than the American Dietetic Association (mean=2.44) (see Table 18).

Table 18

Student Perceptions of the Influence That Professional Experience Has on the Ability for an Individual to Succeed on the R.D. Exam

Professional experience	x	n
Completion of a DI[a]	4.07	120
Completion of an AP4[b]	3.61	120
Completion of a CP[c]	3.33	119
Membership in ADA[d]	2.90	121
Completion of a Combined Program	2.89	120
Membership in other organizations	2.44	115

Note. Grand mean = 3.21. [a] Dietetic Internship. [b] Approved Preprofessional Practice Program. [c] Coordinated Program. [d] American Dietetic Association.

The three student responses with the highest mean score on the influence that general test information has on the ability for an individual to succeed on the R.D. exam, in descending order were: (1) Good time management skills and

organization (mean=4.48); (2) Effective study skills (mean=4.47); and (3) Use of a Study Review manual (mean=4.08). The lowest mean score in this section was the response to attendance of a review course or workshop for the exam (mean=3.18) (see Table 19).

Table 19

Student Perceptions of the Influence That General Test Information Has on the Ability for an Individual to Succeed on the R.D. Exam

General test information	x	n
Good time mgmt & orgn. skills[a]	4.48	120
Effective study skills	4.47	120
Use of study manual	4.08	120
Low test anxiety	3.78	120
Low stress anxiety	3.78	120
Attendance of course of workshop	3.18	120

Note. Grand mean = 3.96. [a] Good time management and organization.

Relationship between Student Performance on the R.D. Exam and Student Perceptions

The fourth objective was to determine if relationships existed between the student's performance on the exam as measured by total R.D score, the correct answers scored on each of the five domains (Nutrition Services, Foodservice Systems, Management, Education and Communication, and Evaluation and Standards) and the student's perceptions regarding the influence that statements have on the ability for an individual to succeed on the R.D. exam. These relationships were analyzed using the Pearson's Product Correlation Coefficient.

Statements pertaining to general test taking ability had a negative low association with the overall R.D. score (r=-.20, p=.033), the domains Education and Communication (r=-.23, p=.014) and the domain Evaluation and Standards (r=-.25, p=.008), according to Davis's descriptors (Davis, 1971). Higher scores on perceptions of general test taking ability tended to be associated with lower scores on overall R.D. score and scores on the domains, Education and Communications and Evaluation and Standards.

Statements dealing with perceptions about Professional Experience had a negative low association with the domain Evaluation and Standards (r=-.20, p=.038), reflecting that higher scores on student perceptions about Professional

Experience tended to be associated with lower scores on the domain Evaluation and Standards (see Table 20).

Table 20

Relationship between Student Perceptions with Overall R.D. and Domain Scores

Domains	ACA[a] r n p	WE[b] r n p	PE[c] r n p	TT[d] r n p
Overall score	-.01 116 .95	-.01 116 .28	-.12 116 .21	-.20 115 .03
Nutrition	.06 106 .55	.01 106 .94	-.01 106 .91	-.08 105 .43
Foodservice	-.01 111 .95	-.08 111 .40	-.03 111 .73	-.04 110 .66
Management	-.06 110 .52	-.05 110 .62	-.17 110 .08	-.01 109 .94
Educ/Comm[e]	-.06 111 .56	-.02 111 .81	-.17 111 .08	-.23 110 .01
Eval/Stand[f]	-.12 111 .22	-.17 111 .08	-.20 111 .04	-.25 110 .01

[a] Academic Perceptions. [b] Work Experience Perceptions. [c] Professional Experience Perceptions. [d] Test Taking Information Perceptions. [e] Education and Communications Domain. [f] Evaluation and Standards Domain.

Director Perceptions

To address the fifth objective, a separate but similar instrument to that of students was sent to 238 Directors of undergraduate programs in dietetics. The inquiry addressed their personal perceptions regarding the influence that issues had on the ability for an individual to succeed on the R.D. exam.

The directors dealt with a list of 21 statements focused on the areas of academic achievement, work experience, professional experience and general testing information. Whether the listed variables were essential for students to ensure passage of the R.D. exam was addressed. The respondents reported their perceptions using scores ranging from "1" strongly disagree to "5" strongly agree. The statement under the category of work experience, "volunteer work experience in a non-dietetic related field" was not included on the director's personal perceptions. The panel of experts added this statement at the time the student's data regarding personal perceptions were collected.

Overall, directors' perceptions of 21 items of the essential elements for success on the R.D. exam were reported. The five responses with the highest mean scores were, in descending order, were: (1) Effective study skills (mean=4.52); (2) Good time management skills and organization (mean=4.43); (3) Completion of a Dietetic Internship (mean=4.22); (4) Low test anxiety (mean=4.14); and

(5) Completion of an Approved Preprofessional Practice Program (mean=4.00). The five overall items rating lowest in mean scores were: (1) Completion of a CP, DI or AP4 with a Master's degree (mean=2.88); (2) Membership in, any materials and publications available from a professional organization, other than the American Dietetic Association (mean=2.31); (3) Paid work experience in any non-dietetic related field (mean=2.30); (4) Completing a Master's degree (mean=2.06); and (5) Completing a Doctorate degree (mean=1.81).

Directors felt that academic achievement was the least essential to passage (grand mean = 2.90). Professional and work experience were considered intermediate in being essential (grand means = 3.33, 3.15 respectively). The items under general test information were deemed most essential (grand mean = 4.03).

Each of the major categories in the director's perceptions questionnaire were explored. The three responses from the directors with the highest mean scores on the influence that academic achievement has on the ability for an individual to succeed on the R.D. exam, in descending order were: (1) A GPA of last 30 undergraduate hours above a 3.0 on a 4.0 scale (mean=3.88); (2) An overall GPA above 3.0 on a 4.0 scale (mean=3.62); and (3) An ACT composite score above 25 (mean=3.14). The response with the lowest mean score was obtaining a doctorate degree (mean=1.8) (see Table 21).

Table 21

Director Perceptions of the Influence That Academic Achievement Has on the Ability for an Individual to Succeed on the R.D. Exam

Academic achievement	x	n
GPA last 30 hours > 3.0	3.88	195
GPA overall > 3.0	3.62	195
ACT > 25	3.13	184
Master's degree	2.06	193
Doctorate degree	1.81	193

Note. Grand mean = 2.90.

The three responses from the directors with the highest mean score on the influence that work experience has on the ability for an individual to succeed on the R.D. exam, in descending order were: (1) Paid work experience in the dietetic field (mean=3.51); (2) Volunteer work experience in dietetics (mean=3.42); and (3) Professionally employed in the dietetic field at time of exam (mean=3.36). The response with the lowest mean score was paid work experience in any non-dietetic related field (mean=2.30) (see Table 22).

Table 22

Director Perceptions of the Influence That Work Experience Has on the Ability for an Individual to Succeed on the R.D. Exam

Work experience	x	n
Paid in the dietetic field	3.51	194
Volunteer in dietetic field	3.42	193
Professional employment at time of exam in dietetics	3.36	192
Paid in non-dietetic field	2.30	192

Note. Grand mean = 3.15.

Describing professional experience, the three responses from the directors with the highest mean score on the influence that professional experience has on the ability for an individual to succeed on the R.D. exam, in descending order were: (1) Completion of a Dietetic Internship (DI) (mean=4.22); (2) Completion of an Approved Preprofessional Practice Program (AP4) (mean=4.00); and (3) Completion of a Coordinated Undergraduate Program (CP) (mean=3.58). The response with the lowest mean score was membership in, and material and publications available from, any professional organization, other than the American Dietetic Association (mean=2.31) (see Table 23).

Table 23

Director Perceptions of the Influence That Professional Experience Has on the Ability for an Individual to Succeed on the R.D. Exam

Professional experience	x	n
Completion of a DI[a]	4.22	193
Completion of an AP4[b]	4.00	192
Completion of a CP[c]	3.58	190
Membership in ADA[d]	3.01	195
Completion of a Combined Program	2.88	192
Membership in other organizations	2.31	183

Note. Grand mean = 3.33. [a] Dietetic Internship. [b] Approved Preprofessional Practice Program. [c] Coordinated Program [d] American Dietetic Association.

The three responses from the directors with the highest mean score on the influence that general test information has on the ability for an individual to succeed on the R.D. exam, in descending order were: (1) Effective study skills (mean=4.52); (2) Good time management skills and organization (mean=4.43); (3) Low test anxiety (mean=4.14). The lowest mean score in this section was the response to attendance of a review course or workshop for the exam (mean=3.31) (see Table 24).

Table 24

Director Perceptions of the Influence That General Test Information Has on the Ability for an Individual to Succeed on the R.D. Exam

General test information	x	n
Effective study skills	4.52	194
Good time mgmt skills and orgn.[a]	4.43	194
Low test anxiety	4.14	194
Low stress anxiety	3.95	194
Use of study review manual	3.82	194
Attendance of a review course	3.31	193

Note. Grand mean = 4.03. [a] Good time management skills and organization.

Comparison between Student and Director Perceptions

The sixth objective was to determine if differences existed between perceptions of students and dietetic program directors regarding the influence of selected factors on their ability to pass the R.D. exam. Data were analyzed with t-test for each of the statements.

Differences existed between perceptions of students and directors regarding six statements, three addressing academic achievement, one pertaining to professional experience, and two in the category general test taking information.

Significant differences which existed between directors and students were: having an ACT composite score above 21-25 ($t_{(299)}$=5.77, p <.001); having a GPA of the last 30 undergraduate hours above 3.0 ($t_{(313)}$=4.59, p <.001); having an overall GPA above 3.0 ($t_{(313)}$=4.75, p <.001); completion of an AP4 program ($t_{(310)}$=3.46, p <.001); and low test anxiety ($t=_{(312)}$=3.33, p <.001). A negative significance occurred addressing the use of a study review course or workshop manual. No significant differences were found among the other statements in the perception questionnaire (see Table 25).

Prediction Model

The seventh objective was to determine if a model existed that would explain a significant portion of the variance in the R.D. exam scores from personal demographics, academic achievements, and perceptual characteristics.

The objective was accomplished using multiple regression analysis with the dependent variable being the overall R.D. exam score. The other variables were treated as independent variables and entered by stepwise analysis due to the exploratory nature of the study. In this regression equation, variables were added that increased the explained variance by one percent or more as long as the regression equation remained significant.

Table 25

Relationship between Perceptions of Directors and Students

Perceptions	t value
ACT composite score	5.77 ***
Overall GPA > 3.0	4.75 ***
GPA last 30 hrs. > 3.0	4.59 ***
Completion of AP4	3.46 ***
Low test anxiety	3.33 ***
Use of a review manual	-2.26 *
Completion of CP program[a]	1.93
Completion of doctorate	1.84
Low stress anxiety	1.67
Paid work in other field	1.37
Completion of Dietetic Intern.[b]	1.36
Attendance of review course	.89
Membership in ADA[c]	.81
Professional work at test time	.77
Effective study skills	.70
Completion of masters	.64
Completion of combined program	.08
Time mgmt. skills & organ.[d]	-.11
Volunteer work in dietetics	-.37

(table continues)

Membership in other organ.[e]	-1.00
Paid work in dietetics	-1.71

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*<.05, **<.01, ***<.001.

[a]Completion of a Coordinated Program. [b]Completion of a Dietetic Internship. [c]Membership in and material and publications available from, the American Dietetic Association. [d]Good time management skills and organization. [e]Membership in, and materials and publications available from, any other professional organization.

Five variables were found to increase the explained variance. These variables in the order in which they entered the regression model were: (1) GPA, (2) Paid work experience in a non-dietetic field, (3) Subscore of perception statements dealing with professional experience, (4) Whether a student had attended a workshop, seminar or review course in preparation for the R.D. exam, and (5) Subscore of perception statements dealing with general testing information. Table 26 describes the results of the multiple regression analysis. The five variables in the model explained 23% of the variance in the R.D. exam score (see Table 26).

Table 26

Regression of R.D. Exam Scores on Selected Demographic Characteristics

Sources of Variation	df	MS	F-ratio	p
Regression	5	172.1	7.8	<.001
Residual	116	24.6		
Total	121	196.7		

Variables in the equation

Variable	Multiple R	R^2	R^2 change	t	Sig t	Beta
GPA	.375	.141	.141	4.51	.0001	.381
Paid other[a]	.412	.170	.029	-2.21	.0289	-.183
Pro. Exp.[b]	.440	.194	.024	-1.63	.1070	-.140
Workshop[c]	.459	.210	.016	-2.03	.0445	-.180
Testing[d]	.481	.232	.022	-1.81	.0736	-.162

Variables not in the equation

Variables	t	Sig.t
Inprep[e]	-1.096	.2754
Vol. Other[f]	1.055	.2935
Outprep[g]	-.796	.4279

(table continues)

Paid[h]	.785	.4340
Degree[i]	.779	.4376
Academic[j]	-.687	.4936
Hours[k]	.652	.5158
Age[l]	.332	.7407
Pd. Work Diet[m]	.157	.8754
Vol.Work[n]	.128	.8983
Vol.Diet[o]	.086	.9317
Work Exper.[p]	-.074	.9412

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[a] Paid work experience in a non-dietetic field. [b] Subscore of perception statements dealing with professional experience. [c] Attendance at a workshop, seminar or review course in preparation for the R.D. exam. [d] Subscore of perception statements dealing with general test taking information. [e] Feelings of preparedness walking into the exam. [f] Volunteer work in a non-dietetic field. [g] Feelings of preparedness walking out of the exam. [h] Paid work experience. [i] Highest academic degree awarded. [j] Subscore of perception statements dealing with academic achievement. [k] Number of hours spent in specific preparation for the R.D. exam. [l] Age at time of exam. [m] Paid work experience in the field of dietetics. [n] Volunteer work experience. [o] Volunteer work in the field of dietetics. [p] Subscore of perception statements dealing with work experience.

It seems appropriate to the researcher to note that twelve additional variables explained only an additional 4.50% of the variance in the R.D. exam score.

Findings indicated that grade point average, grades in specific undergraduate freshman and senior courses, and paid work experience (full or part time) had a relationship with the total scale scores and domains on the R.D. exam.

Differences existed between the perceptions of student and directors on the influence that specific statements had on the ability of students to pass the R.D. exam. The specific statements reported were ACT composite scores, GPA of last 30 hours and overall GPA, general test taking ability. A negative relationship was indicated in the use of a study review course or workshop manual.

CHAPTER 5

SUMMARY, CONCLUSIONS, RECOMMENDATIONS, AND DISCUSSION

Summary

The purpose of this study was to determine if relationships exist between student demographic or personal data, academic achievement and student perceptions of factors relative to predicting performance and student scores on the R.D. exam. This information was used in an attempt to develop a predictive model which would explain a significant proportion of the variance in R.D. exam scores. Perceptions of factors relative to predict performance on the R.D. exam was also determined from undergraduate dietetic program directors, to explore extent of agreement between students and educators.

Specific objectives of the study were:

1. Describe the dietetic graduate using Personal Information - gender, ethnicity, age at time of exam; Academic Achievements - ACT composite score, cumulative college grade point average (on a 4.0 scale), the highest academic degree awarded, and freshman course grades in algebra, general biology, chemistry, English composition, senior level courses in dietetics including clinical nutrition, therapeutic or disease, experimental foods, foodservice systems management, advanced nutrition, undergraduate internship, and community nutrition; the type of postgraduate qualifying experience; type of work experience; completed total scaled score and the

number of questions answered correctly in each domain; test preparedness and career satisfaction.

2. Determine if relationships exist between the student's performance, including the total scale score and the number of correct answers scored on each of the domains (or domain subscores), and selected personal (gender, ethnicity, age at time of exam) and academic characteristics (ACT composite score, cumulative grade point average, highest academic degree awarded, grades in undergraduate courses and qualifying experience).

3. Determine the perceptions of students who have completed the R.D. exam regarding the influence of selected factors (academics, work experience, professional experiences, and general test taking ability), on their ability to pass the R.D. exam.

4. Determine if relationships exist between student scores on the R.D. exam, including the total scale score and the number of correct answers in each of the domains (or domain subscores), and their perceptions of the influence of selected factors (academics, work experience, professional experiences, and general test taking ability), on their ability to pass the exam.

5. Determine the perceptions of dietetic program directors regarding the influence of selected factors (academic, work experience, professional experiences and general test-taking ability), on student's ability to pass the R.D. exam.

6. Determine if differences exist between perceptions of students and dietetic program directors regarding the influence of selected factors (academic, work experience, professional experiences and general test-taking ability), on their ability to pass the R.D. exam.

7. Determine if a model exists explaining a statistically significant portion of the variance in R.D. exam scores from selected personal, academic, and perceptual characteristics.

The target student population for this study was students who were first time eligible (N=700) to take the R.D. exam in April, 1992. The accessible population for this study was a random sample of individuals whose name appeared on the Dietetic Registry, was eligible, and took the April 1992 test and agreed to complete the questionnaire. Based on the Cochran's sample size determination formula (Snedecor & Cochran, 1977) for sample size, a computer generated random selection process was used to select 170 individuals, with an additional 100 for replacements. The replacement selections were used for refusals and/or frame errors.

The target population of program directors for the study was undergraduate dietetic program directors (N=230) whose names are listed in the ADA Directory of Dietetic Programs 1991-1992 Manual.

The tool used in data collection was a researcher-designed questionnaire. The questionnaire consisted of three parts. Part I focused on the personal information; Part II

focused on academic achievements; and Part III focused on student perceptions regarding their perceived importance of academic achievement, work experience, type of preprofessional practice completed to meet eligibility requirements, test-taking ability, and type and length of preparation for the R.D. exam. A 5-point Likert-type scale was used with "1" indicating "Strongly disagree" and "5" indicating "Strongly agree" that the statement was essential to pass the R.D. exam. The directors' perceptions were recorded on a similar instrument using the same perception questions (Part III) as the students. The content validity of the instrument/questionnaire was assessed by the Director and Executive Committee of the Commission of Dietetic Registration of the American Dietetic Association and a panel of experts.

Statistical analysis for this research was done using the Statistical Package for the Social Sciences (SPSS). The alpha level was set at .05 'a priori. The following procedures were used in reporting population parameters:

Objective 1: The dietetic graduate's personal characteristics (gender and ethnicity) and academic achievement variables (type of postgraduate qualifying experience, work experience, satisfaction, study preparation and feelings before and after the exam) was described using frequencies and percentages for variables measured on a nominal scale. Personal variables (age at time of exam) and

academic achievement variables (ACT composite scores, cumulative grade point average, highest academic degree awarded, undergraduate grades and hours spent studying) measured on an ordinal scale were summarized using frequencies and percentages. Interval scale measurements were summarized with means and standard deviations (total scaled score and scores on the five domains of the exam).

Objective 2: Relationships between scores on the R.D. exam and personal data was treated by Spearman Rho Correlation Coefficient.

Objective 3: Perceptions of students were described through frequency distribution statistics. Using the five-point Likert-type scale, descriptive statistics, frequencies and percentages, were used to determine factors which are perceived by students to be essential to pass the R.D. exam.

Objective 4: Relationships between scores on the R.D. exam and perceptions were treated by Pearson's Product Moment Correlation Coefficient.

Objective 5: Perceptions of dietetic program director's were described through frequency distribution statistics. Using the five-point Likert-type scale, descriptive statistics, frequencies and percentages were used to determine factors which are perceived by dietetic program directors's to be essential to pass the R.D. exam.

Objective 6: Relationships between student and dietetic director's perceptions were analyzed with a t-test on each of

the factors categorized in academic, work experience, professional experience and general test-taking ability.

Objective 7: Personal, academic and perception scores were analyzed by multiple regression to determine if a model could be developed which would explain at least .05 variability. The dependent variable is R.D. exam scores and the other variables were treated as independent variables and entered for stepwise analysis.

The following is a summary of the major findings of the study:

1. Six hundred and ninety-seven first time candidates took the dietetic registration exam in April 1992.
2. Of the 122 student participants, 117 (95.9%) were females and four (3.28%) were males.
3. Of the respondents, 108 (88.52%) were Caucasian, six (4.9%) were Asian or Pacific Islander, and the remainder of the respondents were either Black, Hispanic, or other.
4. The mean age of respondents was 28 years with a range from 22 to 51 years.
5. The average ACT score was 23.16 with a range of scores from 12 to 29. The average SAT Verbal score was 525 with a range from 370 to 710. The average SAT Math score was 530 with a range from 360 to 680.

6. The mean cumulative GPA was 3.22 based on a 4.0 scale. The range of GPAs was from 2.1 to 3.99.
7. The highest academic degrees awarded were Bachelor's (61%), a Master's (37%), and Doctorate degrees (1.6%).
8. Student grades in 11 undergraduate course areas reflected that the grade of "A" occurred more frequently than grades of B, C, or D.
9. The two most frequently chosen type of qualifying experience is Dietetic Internships and Preprofessional Practice (36% each).
10. Individuals who took the R.D. exam in April, 1992 reported that the total score on the exam had a mean of 30.98, with a range from six to 50. The mean scores in each of the five domains were reported as follows: Nutrition Services - 79.10, Foodservice Systems - 49.88, Management - 35.04, Education and Communications - 17.71, and Evaluation and Standards - 13.81.
11. Thirty-eight percent of the subjects reported that they volunteered in the field of dietetics and 84.75% of them work for pay in the field of dietetics.
12. Of the 121 respondents, 49 (40.5%) stated that they had attended a workshop, seminars or review courses in exam preparation.

13. Respondents reported studying an average of 88.7 hours for the exam, with a range from zero to 501 hours.

14. Respondent's feelings before the exam indicated that 69.67% felt prepared. After the exam, 59.28% felt like they had passed the exam and 39.34% felt uncertain.

15. Of the 122 respondents, 72% stated that they were satisfied with their career choice, and 44.3% stated that they would choose it again.

16. Relationships existed between the student's performance on the exam, the correct answers scored on each of the domains and the student's demographics. Grade point average correlated with the overall R.D. score and each of the five domains with a low relationship. Grades in clinical nutrition, advanced nutrition, and undergraduate internship correlated with the overall R.D. exam and with four domains with low and moderate relationships. Paid work experience in a non-dietetic related field and grades in therapeutic nutrition was significant with the total R.D. score and three of the domains. Grades in Introductory Chemistry, English Compositions I, Freshman Algebra, and SAT Verbal score were significant with the overall R.D. score and two domains. Other

demographics significant with the overall R.D. score and one domain included: SAT Math score, grades in General Biology, Experimental Cookery and paid part time work experience.

17. Students reported their perceptions of certain statements on their influence on the ability to pass the R.D. exam. The five items with the highest mean scores were, in descending order: (1) Good time management skills and organization; (2) Effective study skills; (3) Use of a study review course or workshop manual for the exam; (4) Completion of a dietetic internship; and (5) Paid work experience in the dietetic field. The five overall items rating lowest were: (1) An ACT composite score above 21, or SAT verbal above 424 and math score above 476; (2) Membership in an materials and publications available from professional organizations other than the ADA; (3) Volunteer work experience in a non-dietetic related field; (4) Obtaining a master's degree and; (5) Obtaining a doctorate degree.

18. Relationships existed between the student's performance on the exam, the correct answers scored on each of the domains and the student's perceptions. Negative low relationships were measured between general test taking ability and

overall R.D. score, the domains Education and Communication, and Evaluation and Standards. Statements dealing with Professional Experience were significant with a negative low relationships with the domain Evaluation and Standards.

19. Perceptions of dietetic program directors regarding the influence of selected factors on their ability to pass the R.D. exam were reported. The five items with the highest mean scores were, in descending order: (1) Effective study skills; (2) Good time management skills and organization; (3) Completion of a Dietetic Internship; (4) Low test anxiety; and (5) Completion of an Approved Preprofessional Practice Program. The five overall items rating lowest were: (1) Completion of a CP, DI or AP4 with a Master's degree; (2) Membership in, any materials and publications available from a professional organization, other than the American Dietetic Association; (3) Paid work experience in any non-dietetic related field; (4) Completing a Master's degree and; (5) Completing a Doctorate degree;

20. Relationships existed between the perceptions of students and dietetic program directors regarding the influence of selected factors on their ability to pass the R.D. exam. Significant statements in

academic achievement included an ACT composite score above 21-25, having a GPA of the last 30 undergraduate hours above 3.0, and having an overall GPA above 3.0. The statement pertaining to completion of an AP4 program was significant in the section of professional experience. Significant relationships were also found in the category of general test taking ability with the statements low test anxiety and a negative significant relationship addressing the use of a study review course or workshop manual.

21. A model was explored that would explain statistically significant portion of the variance in the R.D. exam score from personal demographics, academic achievements and perceptual characteristics from both the student and director's. Five variables were found to increase the explained variance. These variables in the order which they entered the regression model were: (1) GPA; (2) Paid work experience in a non-dietetic field; (3) Subscore of perceptions statements dealing with professional experience; (4) Whether a student had attended a workshop, seminar or review course in preparation for the R.D. exam; and (5) Subscore of perceptions statements dealing with general testing information. The five variables in

the model explained 23% of the variance in the R.D. exam score.

Conclusions and Recommendations

Based on the findings of this study, the researcher makes the following conclusions and recommendations:

1. The typical dietetic graduate is a 28 year old caucasian female.

This conclusion is based on the findings that 95.9% of the participants were female and 28 years of age. It is further supported with the 1992 enrollment data statistics from ADA which reflect 91% of students enrolled in dietetic education programs were female. Findings from this study reflected that 88.5% of the respondents were Caucasian. The 1992 ADA data on ethnicity reflected that 81% of students enrolled in dietetic education programs are caucasian (white) (Education Newsletter, May 1992).

Recommendations. A concerted effort should be made to diversify the ethnic and gender composite of the dietetic student population.

2. A majority of the dietetic majors are high academic achievers. This conclusion is based on several factors. ACT scores, SAT Verbal and SAT Math scores, and overall grade point averages on dietetic majors are above average with a majority of undergraduate grades reflecting an "A" grade. Dietetic Internships and Preprofessional Practice programs

are the most frequently chosen type of qualifying experience with many choosing combined Master's programs.

Average ACT scores were 23.16, SAT Verbal scores were 525, SAT Math scores were 530 and GPA's were 3.22. The basic minimum academic requirements for dietetic students to become registered is a Bachelor degree. Master degrees appear on the rise, however, no data has been collected to support this assumption. Data recorded from 1992 enrollment studies reflect that 17% of graduates are from internships, 13.6% from coordinated programs, and 10% from preprofessional practice programs (Education Newsletter, May 1992). A 78.1% increase in change in graduates was recorded from 1990 to 1991 (Education Newsletter, May 1992) in preprofessional practice program which is in agreement with the findings of this study

In support of the findings from the study reported herein, Kaltholl (1985) describes that for students to score average on the Chiropractic National Boards, they must perform at an above average level in the curriculum.

Recommendations. To improve student passage of the R.D. exam, curriculum evaluation, at both the undergraduate and postgraduate level, should be conducted or continued. Student remediation and career advisement should occur when a students' course grades are below average in order to diminish possibilities of failure at the stage of the R.D. exam.

3. A student who has a high academic achievement record is not assured of a high level score on the R.D. Exam.

Of the students who pass the exam, scores are average (Total Score = 30.98). Summary information received from ADA is in agreement with the average scores found in this study. The nationwide mean scaled score for all first time candidates was reported at 29.69. This conclusion is also supported by three year ADA scores.

4. Work experience in the field, formal preparation for the exam, and possible additional workshops, manuals and test questions help students feel prepared to take the R.D. exam.

The conclusion is based on the findings that 38% of the subjects reported volunteering, and 84.7% of the subjects reported working for pay, in the field of dietetics. Of the respondents, 40.5% attended a formal workshop or seminar and the average time spent preparing for the exam was 88.7 hours.

Studies in the literature expressed a growing interest and focus on exam preparedness. Directors continue to recommend work experience, workshops and seminars to students in attempt to encourage proper studying techniques. Feelings about preparedness and passage have not been reflected in the literature, to date.

Recommendations. Work experience is important to the preparation of students, but not at the detriment of academic achievement (good grades). Educators should specifically focus on exam preparedness for students. Offering study

workshops, educational tips, and advice for success and mentoring to better equip students for avenues of their career will enhance their preparedness. Research in the areas of exam preparation and student's learning style is needed.

5. Dietetic majors are generally satisfied with their career choice.

The conclusion is based on the findings that 72% of the respondents felt satisfied; however, only 44.3% of the respondents would choose it again.

Recommendation. The need for continuous career education and guidance, and providing practical applications to work in the field, may better prepare the student for career options. The inclusion of an undergraduate internship or field experience during undergraduate studies is advised. Further research is needed to answer why students would not choose the career of dietetics again. Based on unsolicited comments from respondents, salary was a concern and may have contributed to their lower satisfaction with their career choice.

6. Overall grade point average and the score of "A" on junior and senior nutrition scores correlates with the overall scaled score on the R.D. exam and the domains. Paid work experience in non-dietetic related fields as well as grades in freshman classes and SAT Verbal were significantly

related with the overall R.D. exam score and a few of the domains.

The conclusion is based on the findings of this research and is in partial agreement with the studies reporting a correlations between nursing student GPA's and scores on state board examinations (Muhlenkamp, 1971; Outtz, 1979; Melcolm, 1981). SAT Verbal exam scores and senior level courses in high school were also predictors of success on nursing State Board Test Exams (Outtz, 1979). That also supports the above variables which support the findings.

7. Good time management skills and organization, effective study skills, and completion of a dietetic internship are essential considerations for students to pass the R.D. exam.

Supporting this conclusion was the complete agreement of perceptions of the student's and the dietetic directors in this study. However, this researcher notes additional consideration may be warranted; Directors perceive that low test anxiety and completion of an Approved Preprofessional Practice Program were essential; Students perceive that use of a review manual and paid work experience were essential.

Additional research in this area is needed to clarify the essentials for R.D. Exam passage. Questions to ask may include: How are the educator perceptions affecting student preparedness? What are the causes for differing perceptions of educator and students?

8. Above average ACT and GPA of a student's last 30 hours of academic preparation and overall GPA above 3.0 on a 4.0 scale, are significant variables in predicting success on the R.D. exam.

These findings are extensively supported by the literature previously detailed in this study. Students and directors lacked complete agreement regarding professional experience and test-taking ability. Further study is needed to answer questions, e.g. why directors and students perceive variables of R.D. exam success the way that they do.

9. A predictive model can explain variance in the R.D. exam score.

The variables found in the predicted model of this study included (in order of entry): GPA, paid work experience, statements dealing with professional experience, ACT scores, student preparedness in attendance of a workshop or review course, statements from general testing information and SAT Math scores. The findings of this research are in at least partial agreement with the research directed by Morrow (1991) where grade point average described a significant percent of the variance in predicting grades during internship, and internship grades to the R.D. exam score. Student preparedness and review for the exam is supported by Burkholder (1991) who correlates passing the R.D. exam with high score performance on a mock exam.

Discussion

Predicting performance on the National Dietetic Registration Exam is an important issue to educators and to students embarking on a career in Dietetics. To the educator, passage of the R.D. exam results in identifying successful, effective programs. To the student, it is a rite of passage for those who are given professional privileges, i.e. placement of R.D. after their name. The responsibility of predicting performance must fall on both. To educators, assessment of students from college entrance exams, freshman scores through senior level courses is necessary. Educators must encourage and teach students early in their curriculum pursuit of the importance of learning as noted by good grades and the influence that GPA has on acceptance into a preprofessional practice, and for success on the R.D. exam.

The curriculum must be evaluated, updated, and have an intense focus on the changing issues of the profession and dietetic practice. Educators must keep abreast and provide practical hands-on learning exposures for students. When students become aware of the demands of the profession, satisfaction may increase and a greater devotion or commitment may result. Students should be encouraged to work in the field and gain experience in their career choice.

Remediation, career advisement, counseling and guidance throughout the students academic career is essential. Research on successful factors needed by students to

accomplish the goals of the professional must by continued so that effective career counseling can guide students to sound decisions and an increased awareness of career options. Learning and personality styles of students must be investigated to further improve advisement and performance as well as pursuits in the various areas of the profession. How the students perceive and process information may affect outcomes of student exam.

Educators must formally prepare students for the R.D. exam. Each domain should be reevaluated, reassessed, and studied. Provisions of outlines and manuals may be the basis of developing workshops, study sessions, question-and-answer sharing periods with students nearing exam test date. Techniques in test taking, organization and studying, reduction of test anxiety may also prepare students. Working with students throughout their educational programs to impress upon them the importance of first time passage of the R.D. exam is necessary.

Educators and students alike are accountable in predicting success on the R.D. exam. One cannot succeed without the other. When advising and counseling new students, educators should strongly explore the student's college entrance exam scores. Students should be made aware of the importance of above average grades in freshman as well as throughout the senior year and instant attention to remediation, if needed. Encouraging work experience and

making students aware of the qualifying experience and professional organizations early in their studies is important. Upon completion of their degree, educators must impress the importance of student R.D. exam preparedness through study guides, workshops, seminars and manuals available. These factors are high priority to be considered when advising and counseling students. Future research regarding dietetic programs is needed for predicting student success in the areas of career selection and satisfaction, styles of learning, methods of remediation, and student preparedness.

REFERENCES

ACT. (1990). Registration examination for dietitians. Iowa City: American College Testing Program.

ACT. (1991). Registration examination for dietitians. Iowa City: American College Testing Program.

ACT. (1992). Registration examination for dietitians. Iowa City: American College Testing Program.

ADA. (1990). Membership application. Chicago: American Dietetic Association.

Ayers, J., & Qualls, G. (1979). Concurrent and predictive validity of the national teacher examinations. Journal of Educational Research, 73(2), 86-92.

Bolman, L., & Deal, T. (1991). Reframing Organizations: Artistry, Choice, and Leadership. San Francisco: Jossey-Bass Publication.

Burkholder, V., Walz, S., & Magel, R. (1991). Correlates of passing the registration examination for graduates of a coordinated program in dietetics. The American Dietetic Association Abstract Supplement. 74th Annual Meeting, Dallas.

Carruth, B., & Sneed, J. (1990). Selection criteria for dietetic internship admission: What do internship directors consider most important? Journal of the American Dietetic Association, 90(9), 999-1001.

CDR. (1993). Registration Examination for Dietitians: 1993 Handbook for Candidates. Commission of Dietetic Registration. Chicago: The American Dietetic Association.

CDR. (1990). Registration examination for dietitians fact sheet. Commission on Dietetic Registration. Form 0589. Chicago: The American Dietetic Association.

Davis, J. A. (1971). Elementary survey analysis. Englewood Cliffs, New Jersey: Prentice-Hall.

Education Newsletter. (Aug. 1991). Enrollment trends. The American Dietetic Association.

Education Newsletter. (Jan. 1992). Division of Education Standards. The American Dietetic Association.

Education Newsletter. (Aug. 1992). Enrollment trends. The American Dietetic Association.

Egan, P., & Ferre, V. (1989). Predicting performance on the national teacher examinations core battery. Journal of Educational Research, 82(4), 227-230.

Fournet, R., & Burnett, M. (1991). The use of demographic data to predict performance on the R.D. exam. The American Dietetic Association Abstract Supplement 74th Annual Meeting. Dallas, TX; American Dietetic Association.

Jenks, J., Selekman, J., Bross. T., & Paquet, M. (1989). Success in NCLEX-RN: Identifying predictors and optimal timing for intervention. Journal of Nursing Education, 28(3), 112-118.

Kalthoff, T. (1985). National board scores versus student GPA's in chiropractic education. College and University, 61(1) 61-67.

Lengacher, C., & Keller, R. (1990). Academic predictors of success on the NCLEX-RN examination for associate degree nursing students. Journal of Nursing Education, 29(4), 163-169.

Melcolm, N., Venn, R., & Bausell, R. (1981). The prediction of state board test pool examination scores within an integrated curriculum. Journal of Nursing Education, 20(5), 24-28.

Morrow, S. (1/92). Personal telephone conversation interview with C. Morrow, Houston VA Medical Center, Houston, TX.

Muhlenkamp, A. (1971). Prediction of state board scores in a baccalaureate program. Nursing Outlook, 19, 57.

O'Palka, J, & Harris, P. "Profile and comparisons of successful vs nonsuccessful internship applications". Abstract of poster session. Journal of the American Dietetic Association, 91(9) 58. Bozeman, MT: Department of Health and Human Development, Montana State University.

Outlook 2000. Washington, D.C.: Bureau of Labor Statistics, US Department of Labor; April 1990.

Outtz, J. (1979). Predicting the success on state board examinations for blacks. Journal of Nursing Education, 18(9), 35-40.

Seither, F. (1980). Prediction of achievement in baccalaureate nursing education. Journal of Nursing Education, 19(3), 28-36.

Snedecor, G. W., & Cochran, W. G. (1980). Statistical Methods,(7th ed.). Ames, Iowa: The Iowa State University Press.

Sneed, J., & Carruth, B. (1991). Selection criteria for approved preprofessional practice programs: Are they different from those for dietetic internships? Journal of the American Dietetic Association, 91(8), 950-953.

Spellacy, W., & Dockery, J. (1980). A comparison of medical student performance on the obstetrics and gynecology national board part II examination and a comparable examination given during the clerkship. The Journal of Reproductive Medicine, 24(2), 76-78.

Veloski, J. (1979, April). Prediction of pass/fail on a certifying examination using discriminant analysis with cross validation. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, California.

Villeme, M. (1982, November). The use of student background factors and college of education entry factors to predict performance on the Florida teacher certification examination. Paper presented at the Annual Conference of the Florida Educational Research Association, Orlando, Florida.

Webb, L., & Fellers, R. (1992). Setting the standards for passing the registration examinations. Journal of the American Dietetic Association, 92(11), 1409-1411.

APPENDIX A

DIETETIC REGISTRATION EXAMINATION SUMMARY

Dietetic Registration Examination Summary

TESTING PERIOD	TOTAL TESTED	NUMBER PASSING	NUMBER FAILING
OCT. 92			
FIRST TESTING	1724	1527 (89%)	197 (11%)
REPEATING	416	187 (45%)	229 (55%)
TOTAL	2140	1714 (80%)	426 (20%)
APRIL 92			
FIRST TESTING	697	562 (81%)	135 (19%)
REPEATING	576	291 (51%)	285 (49%)
TOTAL	1273	853 (67%)	420 (33%)
OCT. 91			
FIRST TESTING	1688	1427(85%)	261(15%)
REPEATING	554	245(44%)	309(56%)
TOTAL	2242	1672(75%)	570(25%)
APRIL 91			
FIRST TESTING	600	467(78%)	133(22%)
REPEATING	747	353(47%)	394(53%)
TOTAL	1347	820(61%)	527(39%)
OCT. 90			
FIRST TESTING	1650	1227(74%)	423(26%)
REPEATING	630	251(40%)	379(60%)
TOTAL	2280	1478(65%)	802(35%)
APRIL 90			
FIRST TESTING	737	520(71%)	217(29%)
REPEATING	856	340(40%)	516(60%)
TOTAL	1593	860(54%)	733(46%)
3 YEAR AVERAGE			
FIRST TESTING	1183	955(81%)	228(19%)
REPEATING	630	278(44%)	352(56%)
TOTAL	1813	1233(68%)	580(32%)

APPENDIX B

INSTRUMENT/QUESTIONNAIRE

NATIONAL DIETETIC REGISTRATION EXAM EXPERIENCES

Directions: Please complete the statements with the most appropriate response either by placing an (X) between the parenthesis provided or by filling in the blank.

Part I
Personal Information

1. *Gender:*
   - ( ) *Female*
   - ( ) *Male*

2. *Ethnicity:*
   - ( ) *White (not of Hispanic origin)*
   - ( ) *Black (not of Hispanic origin)*
   - ( ) *Hispanic*
   - ( ) *Asian or Pacific Islander*
   - ( ) *American Indian or Alaskan native*
   - ( ) *Other* _____

3. *Age at time of exam:* _____

Part II
Academic Achievement

4. *ACT Composite score:* _____ *or SAT Verbal score:* _____
   SAT Math Score: _____

5. *Cumulative undergraduate college grade point average, (based on 4.0 scale)* _____

6. *Highest academic degree awarded:* _____

7. *Undergraduate grades in the courses listed below, or those that best relate to the identified courses: (please circle A,B,C, or D)*
   - *A B C D College Algebra I*
   - *A B C D General Biology I*
   - *A B C D Introductory Chemistry I*
   - *A B C D English Composition I*
   - *A B C D Clinical Nutrition*
   - *A B C D Therapeutic/Disease*
   - *A B C D Experimental Cookery*
   - *A B C D Foodservice Systems Management*
   - *A B C D Advanced Nutrition*
   - *A B C D Undergraduate Internship*
   - *A B C D Community Nutrition*

8. *Type of Postgraduate (graduate) qualifying experience completed:*
   - ( ) *Coordinated Program*
   - ( ) *Dietetic Internship*
   - ( ) *Approved Preprofessional Practice Program (AP4)*
   - ( ) *Combined Program with Master's describe* _____
   - ( ) *Other (specify)* _____

9. *ADA exam Score:* *Total Scaled Score:* _____
   Number of questions answered correctly:
   - _____ *I. Nutrition Services*
   - _____ *II. Foodservice Systems*
   - _____ *III. Management*
   - _____ *IV. Education and Communications*
   - _____ *V. Evaluation and Standards*

10. *Type of work experience (mark all that apply in each section):*

Volunteer		Paid	
( ) yes	( ) no	( ) yes	( ) no
( ) full time	( ) part time	( ) full time	( ) part time
( ) dietetics	( ) other fields	( ) dietetics	( ) other fields

11. *Did you attended a workshop, seminar or review course in preparation for the R.D. exam?*
    - ( ) *yes*
    - ( ) *no*

12. *How many hours did you spend in specific preparation for the R.D. exam including workshops, seminars or review courses, if attended?* _____

13. *Walking into the exam, I felt prepared to take the exam:*
    - ( ) *yes*
    - ( ) *no*
    - ( ) *uncertain*

    comments: _____

14. *Walking out of the exam, I felt:*
    - ( ) *like I had passed the exam*
    - ( ) *like I had not passed the exam*
    - ( ) *uncertain*

    comments: _____

15. *Are you satisfied with dietetics as a career choice?*
    - ( ) *yes*
    - ( ) *no*
    - ( ) *uncertain*

16. *If you had to do it all over, would you still choose dietetics as your career?*
    - ( ) *yes*
    - ( ) *no*
    - ( ) *uncertain*

Part III
Personal Perceptions

Directions: Please circle the number that corresponds to the responses which best express your perception regarding the influence that each statement has on the ability for an individual to succeed on the R.D. exam.

The ratings are:

1 = I strongly disagree that this is essential to pass the R. D. exam.
2 = I disagree that this is essential to pass the R. D. exam.
3 = I am undecided that this is essential to pass the R. D. Exam.
4 = I agree that this is essential to pass the R. D. exam.
5 = I strongly agree that this is essential to pass the R. D. exam.

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

Statement	Response
1. An ACT composite score above 21, or SAT verbal score above 424 and math score above 476	1 2 3 4 5
2. A GPA of last 30 undergraduate hours above 3.0	1 2 3 4 5
3. An overall GPA above 3.0	1 2 3 4 5
4. Master's degree	1 2 3 4 5
5. Doctorate degree	1 2 3 4 5
Work Experience:	
6. Paid work experience in the dietetic field	1 2 3 4 5
7. Paid work experience in any non-dietetic related field	1 2 3 4 5
8. Volunteer work experience in dietetics	1 2 3 4 5
9. Volunteer work experience in a non-dietetic related field	1 2 3 4 5
10. Professionally employed in the dietetic field at time of exam	1 2 3 4 5
Professional Experience:	
11. Completion of a Coordinated Program (CP)	1 2 3 4 5
12. Completion of a Dietetic Internship	1 2 3 4 5
13. Completion of an Approved Preprofessional Practice program (AP4)	1 2 3 4 5
14. Completion of one of the above programs with a Master's degree	1 2 3 4 5
15. Membership in, and materials and publications available from, the American Dietetic Association	1 2 3 4 5
16. Membership in, and materials and publications available from, any other professional organization, please list _____.	1 2 3 4 5

Please go to page 4.

Part III
continued

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

Statement	Response
General Information:	
17. Low test anxiety	1 2 3 4 5
18. Low stress anxiety	1 2 3 4 5
19. Attendance of a review course or workshop for the exam	1 2 3 4 5
20. Use of a Study Review course or workshop for the exam	1 2 3 4 5
21. Effective study skills	1 2 3 4 5
22. Good time management skills and organization	1 2 3 4 5

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE. IT IS APPRECIATED!!

This code number is for use in following up non-respondents. To maintain confidentiality and anonymity, the list that matches your name to this code number will be destroyed after we receive your response.

Please fold and staple.
Postage is paid by researcher.

APPENDIX C

FIRST MAILING: INITIAL COVER LETTER/POSTCARD

April 1, 1992

Dear (name):

Congratulations on meeting eligibility for writing the April 11, 1992, R.D. exam. I realize that this is a very hectic yet exciting time, as you study and prepare for the exam. As an educator and Dietetic Program Director, I am interested in your success.

I need your help. I am currently researching factors that may predict the degree of success on the R.D. exam and student perceptions of characteristics needed to pass the R.D. exam. The purpose of my research is to find ways to help both program directors and students like you be better prepared for the exam.

You are a very important **asset** to this study, as well as to our profession. Results of this research may help to identify areas of weakness so that preparation for the exam may be more effective and passage rates higher. Would you be willing to complete a questionnaire addressing these issues <u>after</u> you receive your exam results? The questionnaire is approximately two pages in length and includes 35 questions. Your privacy and anonymity will be protected. Individuals will not be identified in the study or in presentations of the results. Please provide me with your decision to <u>participate by April 25, 1992</u> by marking and returning the self-addressed and postage-paid postcard enclosed.
However, if you should decline (I hope you won't), please return the completed card anyway. In appreciation for your time today, please keep and enjoy the bookmarker enclosed.

The dietetic profession eagerly awaits your membership and expertise! You will find members very encouraging and supportive of each other. Thank you for your commitment to the field. **Best wishes** on April 11. If you have questions, please call 318-231-5724.

Sincerely yours,

Rachel Fournet, M.S.,LDN,R.D.
DPD, AP4 Director
University of Southwestern Louisiana

Betty C. Harrison, Ph.D.
Professor
Louisiana State University

Please place an (x) in the appropriate spaces provided for the following two areas below.

Area I.

_____I **will** be taking the April 1992 R.D. exam.

_____I **will not** be taking the April 1992 R.D. exam.

Area II.

_____I **will** participate in the study to "Predict Performance " on the R.D. exam.
My home telephone number is: ( ) -_____
My office telephone number is: ( ) -_____

_____I **will not** participate in the study to "Predict
Performance on the R.D. exam.

APPENDIX D

SECOND MAILING: COVER LETTER/CANDIDATE SCORE REPORT FOLLOW-UP

May 16, 1992

Dear (name):

You have agreed to participate in a research study to identify factors that may predict the degree of success on the R.D. exam. Input from you is **critical** in an attempt to determine how directors and students should prepare for the registration exam. You will not be identified in the report of the study or in presentation of the results.

I need your help. Your response is important to the success of this project, and we hope you will help us by taking the time to complete and return the enclosed self-addressed, stamped questionnaire by **June 6, 1992.** Every one of your responses may have a valuable impact on the study and we value your expertise and input. I often have students that find it difficult to understand all of the scores and numbers when receiving their results and are only interested in the final outcome. I am interested in the total scaled score and the number of questions answered correctly for each of the five domains. Number 9 on the questionnaire ask for this information, rather than your final outcome. A sample of the "Registration Examination for Dietitians Candidate Score Report" is enclosed with the information that I need highlighted to assist you in recording the correct numbers. I appreciate your time and involvement in this sensitive issue.

Thank you for your cooperation and help. If you have any questions, please call 318-231-5724, collect.

Sincerely yours,

Rachel Fournet, MS,LDN,RD
DPD, AP4 Director
University of Southwestern Louisiana

Betty C. Harrison, Ph.D.
Professor
Louisiana State University

Enclosure (2)

REGISTRATION EXAMINATION FOR DIETITIANS
CANDIDATE SCORE REPORT

ID NUMBER: XXXXXX

LAST NAME, FIRST NAME
STREET ADDRESS
CITY, STATE, ZIP CODE

SAMPLE

We regret to inform you that you have failed the APRIL 1991 Registration Examination for Dietitians. Your total scaled score was 19 out of a possible 50. A total scaled score of 25 is required to pass the examination. Scaled scores represent an adjustment to the raw score that compensates for any slight variations in difficulty of the examination from one administration to another. The decision of pass/fail on the examination is based upon your total scaled score.

Percentile ranks range from 1-99 and indicate the percentage of candidates who scored below you. The percentile rank for your total scaled score is 8.

The total number of questions you answered correctly in each of the five content domains (refer to the 1991 Handbook For Candidates) is presented in Column 1 below. Column 2 lists the total number of questions in each domain. Column 3 provides you with a percentile rank which indicates your performance compared to other examinees.

Domain	Column 1 Number of Questions Answered Correctly	Column 2 Number of Questions In Domain	Column 3 Percentile Rank
I. Nutrition Services	68	96	18
II. Foodservice Systems	44	62	29
III. Management	24	43	5
IV. Education and Communication	9	22	2
V. Evaluation and Standards	11	17	24

Please refer to the enclosed information sheet for a detailed explanation of the scoring process and an interpretation of the score report.

IF YOU PLAN TO WRITE THE EXAMINATION AGAIN, CONTACT THE OFFICE ON DIETETIC CREDENTIALING. AN EXAMINATION APPLICATION WILL NOT AUTOMATICALLY BE SENT FOR THE NEXT EXAMINATION. THE DEADLINE FOR CANDIDATES TO REQUEST AN EXAMINATION APPLICATION FOR THE OCTOBER 19, 1991 EXAMINATION IS AUGUST 16, 1991.

For information about applying for re-examination or about other aspects of registration, please direct your inquiry to:

Administrator of Credentialing
Office on Dietetic Credentialing
The American Dietetic Association
216 W. Jackson Blvd., Suite 800
Chicago, Illinois 60606-6995

(Follow-up students)

Dear (name)

I need your help. Two weeks ago we sent you a questionnaire addressing personal, academic, and perceptions regarding to possible factors which may predict the degree of success on the R.D. exam. If you have returned the questionnaire, please accept our thanks!

If not, please take a few minutes today to complete and return it. Your response is **critical** to the success of our study. If you have question, please call 318-231-5724, collect.

Sincerely yours,

APPENDIX E

DIRECTOR'S COVER LETTER/QUESTIONNAIRE/FOLLOW-UP

April 1, 1992

Dear (name):

I am currently a DPD and an AP4 director at the University of Southwestern Louisiana. A part of my dissertation study consist of identifying perceptions of DPD directors on student characteristics need to pass the R.D. exam. The purpose of my research is to identify factors that may predict the degree of success on the R.D. exam and to find ways to help both program directors, like you, and students be better prepared for the exam.

You are a very important **asset** to our profession, as well as to each student that you counsel and educate. Results of this research may help to identify areas of weakness so that preparation for the exam may be more effective and passage rates higher.

Your response is **critical** to the success of this project, and we hope you will help us by taking the time to complete and return the enclosed self-addressed, postage paid questionnaire by April 15. Your privacy and anonymity will be protected.

Thank you for your cooperation and help. If you have any questions, please call 318-231-5724.

Sincerely yours,

Rachel Fournet, MS, LDN, RD
DPD, AP4 Director
University of Southwestern Louisiana

Betty C. Harrison, Ph.D.
Professor
Louisiana State University

Enclosure (1)

Directions: Please circle the number that corresponds to the response which best expresses your perception regarding the influence that each statement has on the ability for an individual to succeed on the RD exam.

The ratings are:

1 = I **strongly disagree** that this is essential to pass the R.D. exam.
2 = I **disagree** that this is essential to pass the R.D. exam.
3 = I am **undecided** that this is essential to pass the R.D. exam.
4 = I **agree** that this is essential to pass the R.D. exam.
5 = I **strongly agree** that this is essential to pass the R.D. exam.

1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree

Statement	Response
Academic:	
1. An ACT composite score above 25	1 2 3 4 5
2. A GPA of last 30 undergraduate hours above 3.0	1 2 3 4 5
3. An overall GPA above 3.0	1 2 3 4 5
4. Completing a Master's degree	1 2 3 4 5
5. Completing a Doctorate degree	1 2 3 4 5
Work Experience:	
6. Paid work experience in the dietetic field	1 2 3 4 5
7. Paid work experience in any non-dietetic related field.	1 2 3 4 5
8. Volunteer work experience in dietetics	1 2 3 4 5
9. Professionally employed in the dietetic field at time of exam.	1 2 3 4 5
Professional Experience:	
10. Completion of a Coordinated Undergraduate Program (CUP).	1 2 3 4 5
11. Completion of a Dietetic Internship	1 2 3 4 5
12. Completion of an Approved Preprofessional Practice Program (AP4).	1 2 3 4 5
13. Completion of one of the above programs with a Master's degree.	1 2 3 4 5
14. Membership in, and materials and publications available from, the American Dietetic Association	1 2 3 4 5
15. Membership in, and materials and publications available from, any other professional organization. Please list_____.	1 2 3 4 5
General Test-Taking Ability:	
16. Low test anxiety	1 2 3 4 5
17. Low stress anxiety	1 2 3 4 5
18. Attendance of a review course or workshop for the exam.	1 2 3 4 5
19. Use of a Study Review manual for the exam	1 2 3 4 5
20. Effective study skills	1 2 3 4 5
21. Good time management skills and organization	1 2 3 4 5

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE. IT IS APPRECIATED!!

This code number is for use in following up non-respondents. To maintain confidentiality and anonymity, the list that matches your name to this code number will be destroyed after we receive your response.

(Follow-up Directors)

April 15, 1992

Dear (name)

On April 1, 1992 a questionnaire was sent asking for your perceptions of factors needed for students to successfully pass the R.D. exam. If you have returned the questionnaire please accept our thanks!

If not, please take a few minutes today to complete and return it. Your response is **critical** to the success of our study.

Sincerely yours,

APPENDIX F

RELATIONSHIP BETWEEN STUDENT DEMOGRAPHICS AND OVERALL R.D. SCORE OF STUDENT RESPONDENTS

Relationship between Student Demographics and Overall R.D. Score of Student Respondents

Demographics	r	n	p
Clinical Nutrition grade	.45	110	<.001
SAT Verbal score	.45	35	.006
Therapeutic grade	.43	100	<.001
GPA	.42	109	<.001
SAT Math score	.39	35	.021
Advanced Nutrition grade	.37	109	<.001
Internship grade	.34	71	.003
Paid work in other field	-.27	116	.004
English Composition I grade	.26	110	.007
Introductory Chemistry grade	.25	113	.030
General Biology I grade	.21	106	.029
Experimental Cookery grade	.21	110	.030
Paid part time work	-.20	116	.033
ACT	.34	30	.062
College Algebra grade	.16	105	.110
In prep. for exam[a]	-.15	116	.110
Choose career again	.15	116	.120
Highest degree awarded	.14	115	.134
Out prep. exam[b]	-.11	116	.222
Food Management grade	.10	109	.324
Volunteer part time work	-.09	116	.358
Volunteer work experience	.08	116	.400
Volunteer work in other field	.08	116	.398
Paid full time work	.08	116	.418
Volunteer full time work	.08	116	.418
Attendance at a workshop	.07	116	.442
Qualifying experience	.05	116	.579
Volunteer work in dietetics	-.05	116	.610
Hours spent studying for exam	.02	109	.867
Satisfaction with career	.01	116	.936
Paid work experience	.01	113	.950
Community Nutrition grade	-.01	106	.960
Age at time of exam	<.01	116	.987

[a] Feelings of preparedness going into the exam. [b] Feelings of preparedness walking out of the exam.

APPENDIX G

RELATIONSHIP BETWEEN STUDENT DEMOGRAPHICS AND NUTRITION SERVICES DOMAIN SCORE OF STUDENT RESPONDENTS

Relationship between Student Demographics and Nutrition Services Domain Score of Student Respondents

Demographics	r	n	p
Therapeutic grade	.40	101	<.001
SAT Verbal	.39	30	.031
Clinical Nutrition grade	.33	100	.001
Internship grade	.30	64	.015
GPA	.28	99	.004
General Biology I grade	.28	98	.006
Advanced Nutrition grade	.27	100	.007
In prep. for exam[a]	-.23	106	.015
Paid work in other field	-.21	106	.027
ACT	.35	26	.078
SAT Math	.21	30	.271
Choose career again	.18	106	.065
Paid part time work	-.18	106	.071
Experimental Cookery grade	.17	100	.088
English Composition I grade	.17	100	.098
Highest degree awarded	.16	106	.096
Qualifying experience	.14	106	.151
Attendance at a workshop	-.13	106	.181
Outprep. exam[b]	-.12	106	.218
Volunteer work in other field	-.11	106	.246
Volunteer part time work	-.10	106	.311
Introductory Chemistry I grade	.08	103	.426
Volunteer work experience	-.07	102	.463
Food Management grade	.07	100	.493
Paid full time work	.07	106	.485
Community Nutrition grade	.06	96	.536
Volunteer work in dietetics	-.05	106	.584
College Algebra grade	.05	95	.628
Hours spent studying for exam	.04	99	.708
Paid work experience	.03	104	.754
Age at time of exam	-.02	106	.829
Satisfaction with career	-.02	106	.846
Paid work in dietetics	-.02	106	.847
Volunteer full time work	.02	106	.859

[a] Feelings of preparedness going into the exam. [b] Feelings of preparedness walking out of the exam.

APPENDIX H

RELATIONSHIP BETWEEN STUDENT DEMOGRAPHICS AND FOODSERVICE SYSTEMS DOMAIN SCORE OF STUDENT RESPONDENTS

Relationship between Student Demographics and Foodservice Systems Domain Score of Student Respondents

Demographics	r	n	p
SAT Verbal	.46	34	.006
SAT Math	.44	34	.010
Clinical Nutrition grade	.41	105	<.001
Therapeutic grade	.38	106	<.001
Internship grade	.35	68	.004
GPA	.32	104	.001
Advanced Nutrition grade	.28	104	.004
Paid work in other field	-.25	111	.009
Introductory Chemistry I grade	.21	108	.026
Paid full time work	.20	111	.034
ACT	.34	27	.079
General Biology I grade	.18	102	.067
Paid part time work	-.15	111	.124
Experimental Cookery grade	.14	105	.164
Choose career again	.12	111	.214
English Composition I grade	.11	105	.251
Volunteer work	-.11	107	.251
Volunteer work in other field	.11	111	.264
Volunteer work part time	-.10	111	.299
College Algebra grade	.09	100	.379
Paid work experience	.09	109	.373
Volunteer full time work	.08	111	.383
Satisfaction with career	-.08	111	.389
Volunteer work in dietetics	-.08	111	.397
Out prep. exam[a]	-.08	111	.418
Paid work in dietetics	.07	111	.463
In prep. for exam[b]	-.06	111	.532
Attendance at a workshop	-.05	111	.570
Hours spent studying for exam	-.04	104	.708
Qualifying experience	.01	111	.899
Community Nutrition grade	.01	101	.943
Age at time of exam	<.01	111	.991
Highest degree awarded	<.01	111	.994
Food Management grade	<.01	104	.996

[a] Feelings of preparedness walking out of the exam.
[b] Feelings of preparedness going into the exam.

APPENDIX I

RELATIONSHIP BETWEEN STUDENT DEMOGRAPHICS AND MANAGEMENT DOMAIN SCORE OF STUDENT RESPONDENTS

Relationship between Student Demographics and Management Domain Score of Student Respondents

Demographics	r	n	p
GPA	.35	103	<.001
College Algebra grade	.27	99	.007
Clinical Nutrition grade	.24	104	.013
Advanced Nutrition grade	.21	103	.030
ACT	.30	26	.136
Internship grade	.19	68	.127
Therapeutic grade	.18	105	.063
Paid work in other field	-.18	110	.448
General Biology I grade	.17	101	.091
SAT Verbal	.15	34	.384
English Composition I grade	.12	104	.223
SAT Math	.11	34	.554
Paid part time work	-.10	110	.311
Introductory Chemistry I grade	.10	107	.322
Experimental Cookery grade	.08	104	.409
Volunteer work in other field	.08	110	.410
Paid work in dietetics	.07	110	.448
Volunteer full time work	.07	110	.459
Community Nutrition grade	.07	101	.493
Volunteer part time work	-.06	110	.523
Food Management grade	.06	103	.542
Hours spent studying for exam	.05	103	.610
Paid work experience	.04	108	.648
Attendance at a workshop	-.03	110	.739
Highest degree awarded	.03	110	.750
Satisfaction with career	.03	110	.771
Qualifying experiences	-.03	110	.788
Choose career again	.02	110	.796
Volunteer work in dietetics	.02	110	.816
Age at time of exam	-.02	110	.838
Paid full time work	.02	110	.859
Volunteer work experience	-.02	106	.865
In prep. for exam[a]	.01	110	.899
Out prep. exam[b]	-.01	110	.955

[a] Feelings of preparedness going into the exam. [b] Feelings of preparedness walking out of the exam.

APPENDIX J

RELATIONSHIP BETWEEN STUDENT DEMOGRAPHICS AND EDUCATION AND COMMUNICATION DOMAIN SCORE OF STUDENT RESPONDENTS

Relationship between Student Demographics and Education and Communication Domain Score of Student Respondents

Demographics	r	n	p
GPA	.40	104	<.001
Therapeutic grade	.29	106	.003
Clinical Nutrition grade	.28	105	.004
English Composition I grade	.26	105	.006
Introductory Chemistry grade	.25	108	.010
Internship grade	.25	68	.042
Paid work in other field	-.25	111	.008
Advanced Nutrition grade	.23	104	.019
Paid part time work	-.21	111	.030
College Algebra grade	.20	100	.042
ACT	.32	27	.099
SAT Verbal	.21	34	.226
General Biology I grade	.19	102	.053
Experimental Cookery grade	.17	105	.082
Volunteer work experience	-.16	107	.097
Food Management grade	.13	104	.176
In prep. for exam[a]	-.13	111	.172
Volunteer work in other field	.13	111	.180
Volunteer work in dietetics	-.13	111	.188
Volunteer part time work	-.11	111	.240
Attendance at a workshop	.11	111	.241
Paid work in dietetics	.11	111	.268
SAT Math	.10	34	.581
Paid full time work	.08	111	.377
Out prep. exam[b]	-.07	111	.485
Highest degree awarded	.05	222	.579
Community Nutrition grade	-.05	101	.609
Age at time of exam	-.05	111	.600
Satisfaction with career	-.04	111	.705
Choose career again	.04	111	.705
Volunteer full time work	.02	111	.817
Paid work experience	-.02	109	.851
Qualifying experience	-.02	111	.852
Hours spent studying for exam	<.01	104	.978

[a] Feelings of preparedness going into the exam. [b] Feelings of preparedness walking out of the exam.

APPENDIX K

RELATIONSHIP BETWEEN STUDENT DEMOGRAPHICS AND EVALUATION AND STANDARDS DOMAIN SCORE OF STUDENT RESPONDENTS

Relationship between Student Demographics and Evaluation and Standards Domain Score of Student Respondents

Demographics	r	n	p
Internship grade	.34	68	.005
Food Management grade	.26	104	.007
GPA	.25	104	.011
English Composition I grade	.20	105	.038
Experimental Cookery grade	.19	105	.049
ACT	.26	27	.185
Therapeutic Nutrition grade	.19	106	.054
Choose career again	.13	111	.169
SAT Math	.13	34	.472
In prep. for exam[a]	-.13	111	.189
SAT Verbal	.12	34	.502
Clinical Nutrition grade	.10	105	.287
Highest degree awarded	.10	111	.321
Introductory Chemistry I grade	.09	108	.336
General Biology I grade	.09	102	.371
Advanced Nutrition grade	.08	104	.409
Paid full time work	.08	111	.422
Paid work in dietetics	-.07	111	.457
Paid part time work	-.07	111	.469
Paid work in other field	-.04	111	.457
College Algebra grade	-.04	100	.666
Volunteer work experience	-.04	107	.682
Hours spent studying for exam	-.04	104	.719
Volunteer part time work	-.03	111	.728
Satisfaction with career	-.03	111	.728
Volunteer work in other field	.03	111	.761
Out prep. for exam[b]	-.03	111	.762
Volunteer full time work	.03	111	.792
Volunteer work in dietetics	-.02	111	.861
Community Nutrition grade	.01	101	.896
Attendance at a workshop	.01	111	.920
Paid work experience	.01	109	.929
Age at time of exam	-.01	111	.928
Qualifying experience	-<.01	111	.995

[a] Feelings of preparedness going into the exam. [b] Feelings of preparedness walking out of the exam.

VITA

Rachel Martin Fournet is a native of Broussard, Louisiana. She received a Bachelors of Science Degree in Dietetics and Vocational Education simultaneously, with honors, from the University of Southwestern Louisiana in 1980. She was accepted into the Houston VA Medical Center Dietetic Masters Internship Program where she completed qualifying experience in the dietetic field and achieved a Masters in Nutrition from Texas Women's University in 1983.

For more than three years, Rachel worked as a Clinical Dietitian at M.D. Anderson Cancer and Research Hospital. She has served as an adjunct professor at the University of Texas Medical Center in Houston. She is active as a professional consultant.

Rachel is presently an instructor at the University of Southwestern Louisiana (Lafayette, LA), an advisor for dietetic majors, and the director of the Didactic Program in Dietetics and the Preprofessional Practice Program in Dietetics (AP4). She is active in numerous professional organizations and has presented at several professional meetings and seminars.

Rachel lives in Broussard, Louisiana, with her husband, Kenneth, and children, Ken and David. She is the daughter of Lee and Ethel Martin of Broussard, Louisiana; the sister of Carla Richard and Lee Martin, Jr.

DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: Rachel Martin Fournet

Major Field: Vocational Education

Title of Dissertation: Predicting Performance on the National Dietetic Registration Exam

Approved:

Betty C. Harrison
Major Professor and Chairman

David Boyd
Dean of the Graduate School

EXAMINING COMMITTEE:

Edwin W. Owen

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Michael J. Burnett

Date of Examination:

April 2, 1993