

UNDERSTANDING FACILITATORS AND BARRIERS
TO THE SELECTION OF DIETETICS AS A MAJOR
BY AFRICAN-AMERICAN STUDENTS

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Understanding Facilitators And Barriers To The Selection of Dietetics As A Major By African-American Students

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(ABSTRACT)

Less than 5% of registered dietitians are African-American individuals. Little has been done to investigate reasons for the paucity of African-American professionals in the dietetics field. The specific aim of this study was, therefore, to explore facilitators and barriers to the selection of dietetics as a major by African-American students. Individual elicitation interviews and focus group discussions with African-American students currently enrolled as dietetics and non-dietetics majors at Virginia Tech were conducted. It was hypothesized that African-American students who chose to major in dietetics did so primarily for altruistic reasons, whereas African-American students who did not major in dietetics did so, in part, because of a lack of awareness of the major. Forty African-American students (mean \pm SD age = 21.4 \pm 1.4 years) participated in individual elicitation interviews and focus group discussions. Hypotheses were supported. In addition, personal interest was indicated by both dietetics and non-dietetics students as a factor in selection of major. Non-dietetics students believed that barriers to the selection of dietetics as a major included poor advertising and poor recruitment efforts. Directors of didactic programs in dietetics may need to create more visible recruitment and retention programs to increase the number of African-American students majoring in dietetics.

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TABLE OF CONTENTS

| | |
|---|-----|
| ABSTRACT | ii |
| ACKOWLEGEMENTS | iii |
| TABLE OF CONTENTS | v |
| LIST OF TABLES | vii |
| CHAPTER I | 1 |
| INTRODUCTION | 1 |
| REFERENCES | 3 |
| CHAPTER II | 4 |
| REVIEW OF LITERATURE | 4 |
| REFERENCES | 12 |
| CHAPTER III | 14 |
| AFRICAN-AMERICAN STUDENTS' PERCEPTIONS OF THEIR MAJORS, FUTURE PROFESSIONS, AND THE DIETETICS MAJOR AND PROFESSION: A QUALITATIVE ANALYSIS | 14 |
| ABSTRACT | 15 |
| INTRODUCTION | 16 |
| METHODS | 17 |
| RESULTS | 21 |
| DISCUSSION | 36 |
| CONCLUSIONS | 42 |
| ACKNOWLEDGMENTS | 42 |
| REFERENCES | 43 |
| CHAPTER IV | 44 |
| SUMMARY AND FUTURE DIRECTION | 44 |
| APPENDIX | 46 |
| APPENDIX A | 46 |
| Recruitment Flyer for Elicitation Interviews and Focus Groups..... | 47 |
| APPENDIX B | 48 |

| | |
|---|----|
| Informed Consent Form for Interviews and Focus Groups..... | 49 |
| APPENDIX C..... | 52 |
| Demographic Questionnaire..... | 53 |
| APPENDIX D..... | 54 |
| A Brief Description of Dietetics..... | 55 |
| APPENDIX E..... | 56 |
| Elicitation Interviews and Focus Groups Directed Questions and Probes, Dietetics Majors (DIET)..... | 57 |
| APPENDIX F..... | 59 |
| Elicitation Interviews and Focus Groups Directed Questions and Probes, Non-Dietetics Major (ND)..... | 60 |
| APPENDIX G..... | 62 |
| IRB Approval Memos..... | 63 |
| VITA..... | 64 |

LIST OF TABLES

| | | |
|---------|--|----|
| Table 1 | Number of African-American dietetics student and non-dietetics student subjects by type of session and gender..... | 18 |
| Table 2 | Demographic characteristics of African-American subjects..... | 21 |
| Table 3 | Factors influencing choice of college major by African-American dietetics and non-dietetics students..... | 25 |
| Table 4 | Positive qualities about future profession as reported by African-American dietetics and non-dietetics students..... | 27 |
| Table 5 | Negative qualities about future profession as reported by African-American dietetics and non-dietetics students..... | 28 |
| Table 6 | Influences to remain in current major as reported by African-American dietetics and non-dietetics students..... | 30 |
| Table 7 | Methods to increase African-American students in major as reported by African-American dietetics and non-dietetics students..... | 32 |
| Table 8 | Methods to increase African-American individuals in future profession as reported by African-American dietetics and non-dietetics students..... | 33 |
| Table 9 | Guidance of African-American faculty member or professional on decisions as reported by African-American dietetics and non-dietetics students..... | 35 |

CHAPTER I

INTRODUCTION

Dietetics is the field related to the promotion of health through appropriate eating. A Registered Dietitian (RD) is the trained professional that is credentialed to supervise the preparation and service of food, develop modified diets, participate in research, and educate individuals on sound nutritional habits, among other practice roles. During the past two decades, the dietetics field has grown, yet the percentage of minorities within the field has remained static (1). Unfortunately, minorities present with the majority of chronic health conditions (2). In fact, heart disease and stroke are the number one and number three killers of African-American individuals in the United States, accounting for 32% of all deaths among the African-American population (3). Both heart disease and stroke are conditions that can be prevented and/or controlled with lifestyle modifications such as daily physical activity, cessation of cigarette smoking, and intake of a nutritionally balanced diet. Registered dietitians are qualified to provide nutritional guidance to individuals and families to prevent and/or treat major chronic health conditions. As the minority population in the United States increases and more African-American individuals suffer from heart disease and stroke, there is a need for culturally-sensitive and competent African-American dietitians to guide and educate the African-American individual, family, and community.

Previous studies demonstrate that minority recipients of health care services prefer to receive care from minority physicians rather than White physicians (4). When health care providers share an ethnic or racial background with the individual recipient of their care, reports of satisfaction with these services by recipients are very high (4, 5).

Trust in the health care provider and belief of credibility are also rated very high by the recipient who shares an ethnic or racial background with the provider (4, 5).

Dietetics is a field that is vastly represented by White women. In order to effectively intervene and educate African-American individuals on healthy eating, the proportion of RDs who are African-American must increase.

For nearly one decade, the percentage of RDs who are African-American has remained at 2.5% (6). Of this small percentage, only 3% of these African-American RDs have doctorate of philosophy (PhD) degrees (6). Very few African-American RDs possess, then, the credentials (PhD, RD) needed to pursue academic careers in dietetics education. Thus, there is a lack of educators who can provide a culturally diverse education, borne from personal relevance and experience, to future African-American RDs. Moreover, there is not a critical mass of African-American role models to attract interest in and advocate for a career in dietetics among the African-American community. The academic pathway to entering the dietetics profession begins at the level of the undergraduate college student.

Thus, understanding factors that facilitate and hinder selection of the dietetics major by African-American college students must be examined. The specific aim of this work was, therefore, to explore facilitators and barriers to the selection of dietetics as a major by African-American students. Individual elicitation interviews and focus group discussions with African-American students currently enrolled as dietetics and non-dietetics majors at a research intensive land grant university were conducted (Chapter III). It was hypothesized that African-American students did not choose the dietetics major due to a variety of factors but primarily because of a lack of awareness and

advertising of the major. Although students reported that dietetics was an “interesting” and “cool” major, these students did not select dietetics as a major because they were unaware of the major, among other factors. Conclusions are drawn and future research directions are presented in Chapter IV.

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CHAPTER II

REVIEW OF LITERATURE

Dietetics is the field of health promotion and disease prevention through application of food, nutrition, and management sciences. The Registered Dietitian (RD) is the dietetics professional who has completed didactic and experiential training programs and is credentialed to practice. Dietetics practice areas include clinical, community, food service, management, business, and research. Dietitians work in a multitude of settings, some of which include health care, food service, public health, industry, and academia. The field of dietetics has grown over the past 20 years; however, minority groups have remained underrepresented. In 1997, only 2.5% of RDs were African-American (1). Documented evidence shows that when a recipient of service, specifically in health care, shares a racial or ethnic background with the provider of that service, credibility, trust, and satisfaction with the provider are the highest (2, 3). Further, research shows minority patients prefer minority physicians, independent of practice location or other geographic factors (3). African-American men and women suffer from heart disease, stroke, some cancers, obesity, diabetes mellitus, and poverty, at rates greater than all other ethnic and racial groups (4). Thus, the “face” of the RD must change to reflect the patient population so that good health through appropriate eating can be tailored to the context of the African-American individual, family, and community. An increase in the number of African-American RDs may reduce the aforementioned “lifestyle-manageable” diseases and help to eliminate health disparities, defined as the condition or fact of being unequal as it relates to health.

As stated by Williams and Rucker (5), “it is unlikely that personal discrimination on the part of the providers is the sole cause of disparities in health care” (p. 5); however, discrimination has been documented as a contributing factor (5, 6). Additional causes of health disparities include poor education, health behaviors of the minority group, poverty or inadequate financial resources, and environmental factors (6). Suggestions to reduce and/or eliminate health disparities have been published, and not surprisingly, investigators have concluded that increasing the number of underrepresented minorities in health professions and health care leadership roles may reverse health disparities (3, 6, 7). Betancourt and Maina (7) concluded, “Demographic changes anticipated over the next decade magnify the importance of addressing racial/ethnic disparities in health and health care, as groups currently experiencing poorer health status are expected to grow as a proportion of the total U.S. population” (p. 10). Thus, increasing qualified and competent health care providers from underrepresented groups, including dietitians, may assist with alleviating the national issue of health disparities.

The percentage of RDs who are African-American has held steady at 2.5% over the last 8 years; moreover, only 3% of these individuals have earned doctorate of philosophy (PhD) degrees (8). Based on these statistics from the American Dietetic Association (ADA), approximately 50 African-American professionals possess the credentials required to serve as faculty members in the field of dietetics. If evenly distributed, approximately 1 of every 5 accredited dietetics programs would have a faculty member who is African-American with the PhD, RD credentials. In actuality, approximately 1 of every 9 undergraduate didactic programs in dietetics does. Who will provide a culturally competent education to future RDs and change the face of dietetics

professionals if African-American faculty are not available to serve as role models and advocates for diversity? This “pipeline” issue begins at the level of the undergraduate student.

Since its establishment in 1872, Virginia Tech has experienced many changes including the evolution of its name from the Virginia Agricultural and Mechanical College (1872) to Virginia Agricultural and Mechanical College and Polytechnic Institute (1968) followed by Virginia Polytechnic Institute and State University (1970). The university has also experienced changes in its African-American student population over the years. In 1953, Irving L. Peddrew, III, enrolled as the first African-American student at Virginia Tech. Five years later, Charlie L. Yates, an African-American mechanical engineering major became the first African-American man to graduate from Virginia Tech. Over 90 years passed before Virginia Tech hired its first African-American faculty member in 1969. Dr. Overton Johnson, Virginia Tech’s first African-American faculty member later became the Assistant Dean of the College of Agriculture and Life Sciences.

During the 2006-2007 academic year, the number of African-American undergraduate, graduate, and professional students enrolled at the Blacksburg campus of Virginia Tech was 976, 168, and 5 students, respectively (9). The total enrollment of African-American undergraduate, graduate, and professional students (on- and off-campus) accounted for 4.7% of the student population (9). Increasing ethnic diversity at Virginia Tech has been cited as a goal as early as 1979 (10) and has continued to be pursued. Virginia Tech’s *Faces of Change: The University Diversity Plan, 2000-2005* (11) had three missions, one of which included “developing and sustaining an increasingly diverse and inclusive community of learners” (p. 5). Furthermore, an

important goal of this diversity plan (11) was to “develop and implement activities and programs designed to increase and enhance student, faculty, and staff diversity at all levels of the university, with particular focus on racial/ethnic and gender differences” (p. 7).

At Virginia Tech, the undergraduate student population in dietetics mirrors the national organization. Only 2.8% of graduates from the dietetics program, in the years 2002 through 2004, were African-American (12). Since 1990, few African-American, Black, or Black-American individuals have been members of the faculty in the Department of Human Nutrition, Foods and Exercise (HNFE) at Virginia Tech.

The need to increase racial, ethnic, and cultural diversity within the field to enrich the knowledge and skills necessary for serving a diverse population (13) has been recognized by the ADA. The organization adapted strategies and materials from other programs (13, 14) in the design of the *Building Our Future: Toolkit for Mentoring Diverse Students for Dietetics Careers* (13). However, the face of the dietetics profession has not changed.

Kobel (15) examined ethnic differences in the timing of the decision to study dietetics; 89% of these subjects were Caucasian women, limiting the voice of African-American individuals. In a separate study, 11 dietetic interns participated in interviews designed to identify concerns surrounding the low number of dietetics professionals from underrepresented groups (16). Only 6 of these individuals were African-American. Clearly, facilitators and barriers to selection of dietetics as a major and profession remain poorly identified. As Virginia Tech attempts to increase the overall diversity of the student population (11, 17, 18), the Department of HNFE in the College of Agriculture

and Life Sciences (CALs) may desire to do the same by acknowledging ADA's attempt to increase diversity within dietetics and more specifically, the African- American population in the field.

Markley and Huyck (19) developed a self-administered questionnaire and surveyed 419 junior-level dietetics students enrolled at 38 institutions concerning factors that affected their choice of dietetics as a profession. Many students (43.9%) first became interested in dietetics while in college; 24.9% became interested before or during secondary school, and 17.7% became interested after leaving college. The remainder of respondents (13.4%) developed interest in dietetics after high school but before enrollment in college. In addition, leading factors that led to selection of dietetics as a major included: (1) taking a course in nutrition (32.9%), (2) influence from a friend or relative other than parent (31.0%), and (3) influence from a dietitian (30.3%). More specifically, Markley and Huyck (19) found that minority students indicated more often than did white students that a high school teacher ($P < 0.05$) and television ($P < 0.001$) influenced their choice. All students reported that recruitment films (0.5%), posters (1.2%), and career days or fairs (2.9%) were not effective in leading them to consider dietetics. In this survey, < 4% of respondents were African-American.

Kobel (15) mailed self-administered questionnaires to 1,695 students in Plan IV/V dietetics programs to gather information on factors that influenced students' decisions to choose dietetics as a career. Leading factors reported by students included an interest in nutrition (96.3%) and job enjoyment (93.8%). Similar to results of Markley and Huyck (19), Kobel (15) found that 54.5% of respondents reported making their dietetics career choice while in college, followed by 16.0% making the choice during the 11th or 12th

grade of high school. Markley and Huyck (19) also sought to understand the usefulness of various informational sources in helping students make their career choice. Students rated university/college catalogs as being most useful. In contrast, more than 50% of students indicated that computer-based career searches, career videos/films/film strips, and literature from high school guidance offices were not used to make their decision to study dietetics (19).

Greenwald and Davis (1) conducted telephone surveys with 83 RDs, and dietetic technicians, registered (DTR), and 20 dietetics program directors in order to better understand reasons why minorities and males were underrepresented in the field. Registered dietitians and DTRs attributed minority underrepresentation primarily to the field's lack of visibility. However, the program directors who responded attributed this underrepresentation mostly to educational disadvantages. Greenwald and Davis (1) also sought to identify why RD and DTR respondents entered the field of dietetics. Interest in health/nutrition was mentioned 38 times followed equally by family health and interest in food (13 responses). Further, RDs and DTRs mentioned lack of knowledge (33 responses), rewards not commensurate with effort (10 responses), lack of role models (8 responses), academic qualifications/interest (8 responses), do not recognize need (8 responses), view profession as closed (8 responses), and lack of resources (3 responses) as reasons for minority underrepresentation (1). Suggestions for increasing minorities in the field of dietetics were provided by all groups of respondents. Developing a relationship with minority student services was reported by 61% of RDs and DTRs, and 60% of directors suggested this method. Greater differences among RDs and DTRs (63%) compared to program directors (35%) were apparent related to the suggestion of attending school

functions including career days and fairs. This wide difference was consistent with the reasons why RDs, DTRs, and program directors indicated minorities were underrepresented. Fifty nine percent of RDs and DTRs suggested supplying schools and community agencies with brochures, videotapes, and other promotional material to increase minorities in dietetics compared with only 25% of program directors (1). In addition, 85% of program directors compared with 52% of RDs and DTRs suggested offering introductory nutrition courses for lower-division college students as a means to increase diversity within the field. Again, the belief among RDs and DTRs that minorities were underrepresented because of a lack of visibility was in contrast to the program directors' greater emphasis on educational disadvantages. Similar percentage differences were presented among the program directors, RDs and DTRs when asked to suggest steps that ADA could take to increase minority representation. Greenwald and Davis (1) concluded that potential interventions should include program flexibility, outreach, tutoring/mentoring, and demonstrating commitment to education and training of students from underrepresented groups.

Colson and colleagues (20) mailed surveys to 231 African-American members of ADA to gather demographic, employment, educational recruitment activity information, and factors that influenced career choice. Over half of the surveys (n=128; 55.4%) were returned. Slightly over 41% of the 125 Black professionals who responded to the question inquiring about attractions that led them to the dietetics/nutrition field answered always enjoyed working with food, followed by instructor attracted them to the career (34.4%). Approximately one-third of respondents indicated that they had a desire to help others (20). Similar to findings reported by Markley and Huyck (19), subjects in Colson's and

colleagues (20) study reported job/career fairs (8.8%) least among the factors that attracted them to dietetics/nutrition. In addition, books, money, and magazine/journal articles were reported as factors that least attracted respondents to dietetics/nutrition at 3.2%, 3.2%, and 4.8%, respectively (20). These low percentages suggest that other factors were more salient to choice of profession by dietetics professionals. However, visibility of African-American dietetics professionals as role models, career mentors, and/or recruiters may influence African-American individuals to pursue dietetics. Colson and colleagues (20) concluded that “programs seeking to increase minority enrollment must establish relationships with minority high school and junior/community college instructors, as well as with minority students enrolled in nonmajor nutrition courses” (p. 1341).

Although some similarities exist among studies regarding selection of dietetics as a major and career, conflicting results are also evident. Moreover, few African-American individuals were included as subjects in previous studies. Recruiters cannot dismiss the importance of any factor in the choice of dietetics major by individuals. Rather, recruiters must incorporate strategies that best fit the atmospheres of their universities although these strategies are not entirely clear. Investigating facilitators and barriers to selection of dietetics as an undergraduate major by African-American students at Virginia Tech is a critical first step toward developing and further implementing recruitment strategies for this educational institution.

The specific aim of this work was, therefore, to explore facilitators and barriers to the selection of dietetics as a major by African-American students. Individual elicitation interviews and focus group discussions with African-American students currently enrolled as dietetics and non-dietetics majors at Virginia Tech were completed. These individual

interviews and focus groups identified common themes regarding facilitators and barriers to selection of dietetics as an undergraduate major by African-American students. It was hypothesized that African-American individuals chose their majors based on a variety of factors. It was further hypothesized that African-American students did not choose the dietetics major because of a lack of awareness and advertising of this major.

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CHAPTER III

**AFRICAN-AMERICAN STUDENTS' PERCEPTIONS OF THEIR MAJORS,
FUTURE PROFESSIONS, AND THE DIETETICS MAJOR AND PROFESSION:
A QUALITATIVE ANALYSIS**

To be submitted to the *Journal of the American Dietetic Association*.

ABSTRACT

Objective African-American professionals are underrepresented in dietetics. This study identified students' perceptions of their majors, future professions, and the dietetics major and profession to understand why African-American students did or did not enter dietetics. It was hypothesized that dietetics (DIET) students chose the major primarily for altruistic reasons, whereas nondietetics (ND) students did not choose dietetics due, in part, to a lack of awareness of dietetics.

Design Qualitative analysis.

Subjects/setting African-American college students, aged ≥ 18 years, engaged in individual elicitation interviews or focus group discussions. Twenty-eight women and 12 men participated. Dietetics (n=3) and ND (n=37) students were included.

Data analyses Phenomenological analysis was used to identify common themes and meanings.

Results African-American DIET and ND students selected their major for a variety of reasons, including the desire to help people, interest in field, recommendation from another adult and family influence. African-American ND students believed that the dietetics major was not selected due to a lack of awareness about dietetics attributed to poor advertising and recruitment. Both DIET and ND students found versatility, ability to work with and to help people, and to make an impact as positive qualities about their future profession. The need for an advanced degree, lack of diversity, and lack of respect for the profession were identified as negative qualities about their future profession.

Conclusion The dietetics major, careers, and profession are not visible to African-American students.

Implication Recruitment efforts should begin as early as junior high in order to increase the number of African-American students in dietetics.

INTRODUCTION

African-American adults experience cardiovascular disease, cerebrovascular accidents, some cancers, diabetes mellitus, and obesity at greater rates than other racial and ethnic groups (1). The risk and severity of these conditions is well-known to be modified by diet. Registered dietitians are the allied health professional qualified to recommend dietary approaches to prevent these conditions and, when these diseases manifest, to prescribe medical nutrition therapy for treatment.

Cooper-Patrick and colleagues (2) have shown that patients from minority groups prefer to receive care from minority physicians. Similarly, health care recipients report the highest level of satisfaction with care and trust of the service provider (i.e., practitioner) when the recipient shares the same racial/ethnic background with the practitioner (2, 3). Dietary intervention with African-American individuals may be most effectively administered, then, by African-American registered dietitians.

The need for ethnic diversity among dietetics professionals has been previously acknowledged (4, 5). However, efforts designed to increase minorities within this allied health profession have had limited success. Unfortunately, < 5% of registered dietitians are African-American (4), far below the demand presented by health needs of the African-American population.

Increasing the “pipeline” for African-American registered dietitians begins at the undergraduate student level. At Virginia Tech, < 3% of dietetics graduates were African-American in the years 2002-2004 (6). Only a few studies (7-10) have documented

facilitators and barriers to the selection of dietetics as a major by African-American students. Some of these previous studies included on a few African-American persons. The purpose of this study was, therefore, to conduct elicitation interviews and focus group discussions with African-American students currently enrolled as dietetics (DIET) and non-dietetics (ND) majors at Virginia Tech. It was hypothesized that African-American students who chose to major in dietetics were motivated to pursue a profession for altruistic reasons, whereas African-American students who did not major in dietetics did so, in part, because of a lack of awareness of the major.

METHODS

Subjects

This study was approved by the Institutional Review Board for Human Subjects Testing at Virginia Tech. Currently enrolled students at an agricultural/technical research intensive land grant university in the mid-Atlantic region of the United States (i.e., Virginia Tech) who declared themselves as African-American, Black, and/or Black-American participated in this study. Subjects were required to be at least 18 years of age and willing to participate in a 2-hour interview or focus group.

Subjects were recruited by word-of-mouth and posted flyers (APPENDIX A). In addition, electronic mail notices were circulated to members of the Black Student Association (BSA), the African Student Association (ASA), the Ronald E. McNair Scholars Program, Black Organizations Council (BOC), Each One Reach One (EORO), and the Multicultural Academic Opportunities Program (MAOP). Interested men and women were asked to contact an investigator via electronic mail or telephone to obtain a general description of the study. Students who self-selected to participate in the study

were presented with a copy of the Informed Consent Form (APPENDIX B) and a demographic questionnaire (APPENDIX C) upon arrival at the interview or focus group. All subjects provided written informed consent prior to completion of the demographic survey and participation in an interview or focus group. Each subject identified his or her major. Based on these responses, subjects were classified as DIET or ND majors.

Elicitation interviews and focus group discussions

Elicitation interviews were conducted with only one subject per interview. Focus group discussions included two to five subjects per group (see Table 1). A facilitator (study investigator) conducted all interviews and focus groups, according to standard methods (11). Each interview and focus group began with a brief explanation of the purpose and guidelines of the session (Appendix D). For all interviews and focus groups, a description of the field of dietetics, roles/responsibilities of registered dietitians, and curriculum requirements for the didactic program in dietetics was read for consistency of information and background.

Table 1. Number of African-American dietetics student and non-dietetics student subjects by type of session and gender

| Type of Session | Number of Subjects | Dietetics Students | Non-dietetics Students | Number of Men/Women |
|------------------------|--------------------|--------------------|------------------------|---------------------|
| Elicitation Interviews | n = 22 | n = 1 | n = 21 | 5/17 |
| Focus Groups | n = 18 | n = 2 | n = 16 | 7/11 |
| Group 1 | n = 2 | n = 2 | n = 0 | 0/2 |
| Group 2 | n = 5 | n = 0 | n = 5 | 2/3 |
| Group 3 | n = 2 | n = 0 | n = 2 | 1/1 |
| Group 4 | n = 2 | n = 0 | n = 2 | 2/0 |
| Group 5 | n = 3 | n = 0 | n = 3 | 2/1 |
| Group 6 | n = 2 | n = 0 | n = 2 | 0/2 |
| Group 7 | n = 2 | n = 0 | n = 2 | 0/2 |
| Total | N = 40 | n = 3 | n = 37 | N = 40 |

All DIET majors responded to directed “Dietetics Majors” questions (Appendix E), and all ND majors responded to directed “Non-Dietetics Majors” questions (Appendix F). Subjects were asked to respond to: (1) reason(s) that they chose their major; (2) positive qualities about their future profession; (3) negative qualities about their future profession; (4) experiences that influenced them to remain in their major; (5) methods to increase African-American students in their major; (6) ways to increase African-American individuals in their future profession; and (7) whether the guidance of an African-American faculty member or professional would have influenced their decisions. Dietetics students were also asked to comment on what information would be helpful to African-American individuals considering dietetics as a major. Non-dietetics majors were asked what they thought of the dietetics major and why so few African-American individuals select dietetics as a major.

One facilitator guided each interview and focus group using probing statements when needed. The facilitator was an African-American graduate student in human nutrition and a former graduate of the didactic program in dietetics at Virginia Tech. The facilitator was also in the age range of subjects and, thereby, considered a peer. A co-facilitator attended each interview and focus group to maintain written records. Co-facilitators were graduate and undergraduate students in human nutrition at Virginia Tech and were African-American, Hispanic, or White. All interviews and focus groups were tape-recorded. Concerns and issues that would affect successful completion of subsequent interviews and focus groups were resolved prior to any further sessions. At the end of each interview or focus group, each subject was provided with a \$10.00 gift card to a local grocery store.

All interviews and focus groups took place in the Human Nutrition, Foods and Exercise (HNFE) Departmental conference room, Wallace Hall, Room 342A, on the Virginia Tech campus. This room contained comfortable chairs surrounding an oval table and was conducive to the successful completion of elicitation interviews and focus group discussions. All sessions were conducted during the Spring 2006 and Fall 2006 semesters.

Data treatment

Raw data recorded on audiotapes were transcribed verbatim. The transcriptionist (study investigator) was a White faculty member in the Department of HNFE and older than subjects. The transcriptionist did not attend interviews or focus group discussions and did not interact with subjects. Transcripts were merged into one continuous document, but separated by date of interview or focus group.

Data analysis

Demographic information was used to describe subjects. Phenomenological analysis was used to evaluate transcriptions, according to the method of Colaizzi (12). The facilitator and transcriptionist (study investigators) independently read these transcriptions at least five times each. Non-repetitive significant statements and their meanings were then extracted from transcripts, and lists of these statements and meanings were developed independently by the investigators. The investigators then agreed on a single list of non-repetitive statements and meanings. Common themes were identified by one investigator and shared with the second investigator who confirmed these themes based on original transcripts. Discrepancies were reconciled by the investigators.

Common themes and meanings of these phenomena were categorized and described in the context of directed questions.

RESULTS

Subject characteristics

Demographic characteristics of subjects are presented in Table 2. The mean \pm standard deviation age of subjects was 21.3 ± 1.4 years. Seventy percent of subjects were female, while 30.0% were male. As required for participation, all subjects identified themselves as African-American, Black, or Black-American. Subjects were enrolled in a variety of majors, and 43.0% of subjects entered their current major as a freshman. Two subjects were freshmen, three were sophomores, seven were juniors, 22 were seniors, five were graduate students, and one student did not respond to this item. Nearly 48.0% of subjects had never changed their major. Five (12.5%) subjects were paying for college by their own means, while 26 (65.0%) subjects received some form of scholarly financial support, other than from their parent(s).

Table 2. Demographic characteristics of African-American subjects (N=40)

| Characteristic | Dietetics Students n (%) | Non-Dietetics Students n (%) |
|--------------------------------------|-----------------------------|---------------------------------|
| Age (y) | | |
| 18-21 | 1 (2.5) | 24 (60.0) |
| 22-25 | 2 (5.0) | 13 (32.5) |
| | | |
| Gender | | |
| Male | 0 (0.0) | 12 (30.0) |
| Female | 3 (7.5) | 25 (62.5) |
| | | |
| Major | | |
| Dietetics | 3 (7.5) | 0 (0.0) |
| Biochemistry | 0 (0.0) | 2 (5.0) |
| Biology | 0 (0.0) | 3 (7.5) |
| Communications | 0 (0.0) | 3 (7.5) |
| Consumer Sciences | 0 (0.0) | 1 (2.5) |
| Crop and Soil Environmental Sciences | 0 (0.0) | 1 (2.5) |

| | | |
|--|---------|-----------|
| Engineering, Civil | 0 (0.0) | 1 (2.5) |
| Engineering, General | 0 (0.0) | 1 (2.5) |
| Engineering, Industrial Systems | 0 (0.0) | 1 (2.5) |
| Finance | 0 (0.0) | 1 (2.5) |
| Hospitality and Tourism Management | 0 (0.0) | 1 (2.5) |
| Human Development | 0 (0.0) | 1 (2.5) |
| Human Nutrition, Foods and Exercise, Science of | 0 (0.0) | 3 (7.5) |
| Interdisciplinary Studies | 0 (0.0) | 4 (10.0) |
| Marketing | 0 (0.0) | 2 (5.0) |
| Political Science | 0 (0.0) | 1 (2.5) |
| Psychology | 0 (0.0) | 8 (20.0) |
| Sociology | 0 (0.0) | 1 (2.5) |
| University Studies | 0 (0.0) | 1 (2.5) |
| Urban Planning | 0 (0.0) | 1 (2.5) |
| | | |
| Academic Level | | |
| Freshman | 0 (0.0) | 2 (5.0) |
| Sophomore | 1 (2.5) | 2 (5.0) |
| Junior | 0 (0.0) | 7 (17.5) |
| Senior | 0 (0.0) | 22 (55.0) |
| Graduate | 2 (5.0) | 3 (7.5) |
| Unknown | 0 (0.0) | 1 (2.5) |
| | | |
| Number of times changed major | | |
| 0 | 2 (5.0) | 17 (42.5) |
| 1 | 0 (0.0) | 18 (45.0) |
| 2 | 1 (2.5) | 2 (5.0) |
| > 3 | 0 (0.0) | 0 (0.0) |
| | | |
| How paying for college | | |
| Parents only | 0 (0.0) | 3 (7.5) |
| Self only | 0 (0.0) | 5 (12.5) |
| Self along with parents | 0 (0.0) | 6 (15.0) |
| Scholarships only | 0 (0.0) | 7 (17.5) |
| Scholarships and parents | 1 (2.5) | 9 (22.5) |
| Scholarships and self | 1 (2.5) | 7 (17.5) |
| Other (assistantship) | 1 (2.5) | 0 (0.0) |

Reasons for selection of major

African-American ND students selected their major based on a variety of reasons (Table 3). A common theme was a desire to help people. One student said, “It is going

to sound, what everybody says, but really to help people.” African-American ND students selected a major for which their future career would allow them the ability to help other people live high quality lives. African-American DIET students also chose their major for this reason. In addition, ND students indicated that they chose their major based on a desire to work with people, as evidenced by one student who stated that “I like working with people, so see I think that’s the number one thing.” Social interaction and teamwork in the academic environment as well as perceived social interaction and teamwork in their future career led ND students to their desired major. Dietetics majors did not mention that working with other people was a major influence for their decision.

Personal interest was one influence over the choice of major by DIET and ND students. The topic or major area was of interest for a variety of personal reasons such as a desire to “improve the Black family,” to “work with plants,” or a “need to see immediate results.” For DIET and many ND students, no one else influenced them to choose a major; they simply chose their major based on what they liked, what they thought was interesting or practical, and what would hold their attention and be enjoyable to study. Specifically for African-American DIET students, an interest or fascination with “food,” “nutrition,” and “fitness” led them to major in dietetics. In interviews and focus groups, ND students indicated that selecting a major that fit their personal strengths, such as outstanding math skills or writing abilities, or their personality, such as business or communications, was important. A marketing major reflected this theme by stating, “I thought marketing would be good, because I felt that it was something that I would be good at, as far as being able to talk to people and in front of people.”

During individual interviews, ND students noted that a high salary was a major influence over their choice of major. African-American ND students voiced a concern for economic equity of Blacks and that a high salary was critical to achieving this in society. There was a sentiment that if an African-American youth had the opportunity and/or ability to attend college, then selection of a major that would yield a high salary was important. Selection of a major that would not lead to a high salary was considered a poor choice of major. Job security was identified as an influence over choice of college major by ND students in individual interviews and focus groups. Job security was perceived to ensure an income stream.

Many ND students revealed a need to explore a variety of topics and interests and that a major that offered such breadth would be advantageous to their future. Career choices were perceived to be greater with a broad-based major. An interdisciplinary studies student reported that “this major allowed me to do that [study several different things], so I know that in the future, I’ll have lots of options as to what I’m going to do.”

In individual interviews, ND students indicated that scholarships influenced their choice of major by enabling them to attend college to pursue a designated area of study. Many of these scholarships were tied to specific majors.

Both DIET and ND students indicated that their major was recommended to them by a high school guidance counselor, college advisor, college faculty, or college recruiter. This outside recommendation was perceived to have both negative and positive tones. Students believed that these outside individuals told them to avoid certain majors, because African-American individuals have not been successful in those majors or because of low grade point average. In contrast, African-American students perceived

that they were encouraged to pursue other majors because of their abilities, skills, and interests. Family, including parents and siblings, had an important influence over choice of major by DIET and ND students. Students believed that mothers were particularly influential in directing choice of major toward one and away from others. One psychology major said, “I guess one of the reasons why I chose it is because my mom said that I’d make a good clinical psychologist.” Media sources, including television, influenced DIET students but only a few ND students. Commercials about food and magazine articles about registered dietitians were important for DIET students. Portrayals of African-Americans in certain careers in television shows influenced a few ND students to select the career-related major (e.g., psychology).

During focus group discussions, ND students indicated that previous experiences influenced their choice of major. Work experiences before college and specific other life experiences led students to their major. For ND students, an introductory course completed in high school or early in college sparked their interest enough to influence them to pursue the major.

The decision to pursue a specific major was more often made earlier (junior high and high school and freshman year of college) rather than later (sophomore or junior year of college). However, some ND students indicated that they chose their major in their sophomore and junior years of college.

Table 3. Factors influencing choice of college major by African-American dietetics and non-dietetics students (N=40)^a

| Factor | Dietetics Students – Interviews | Dietetics Students – Focus Groups | Non-Dietetics Students – Interviews | Non-Dietetics Students – Focus Groups |
|------------------|---------------------------------|-----------------------------------|-------------------------------------|---------------------------------------|
| Help people | X | X | X | X |
| Work with people | | | X | X |
| Interesting | X | X | X | X |

| | | | | |
|---|---|---|---|---|
| Personal interest | X | X | X | X |
| Interest in food, nutrition, or fitness | X | X | | |
| Personal strength/fit with personality | | | X | X |
| High salary | | | X | |
| Job security | | | X | X |
| Breadth of major | | | X | X |
| Scholarships | | | X | |
| Recommendation by other | X | X | X | X |
| Family | X | X | X | X |
| Media sources | | X | X | |
| Previous experiences | | | | X |
| Introductory course | | | X | X |

^a“X” indicates that factor was a major theme for the category of students.

Positive qualities about future profession

African-American students cited numerous positive qualities about their future profession (Table 4). Common themes for DIET and ND students included versatility, opportunity to help and work with people, and perceived ability to make an impact on the immediate work environment, the profession, and society. “Travel,” “job security,” “high salary,” and “challenging work” were indicated as positive qualities by ND students. During individual interviews, ND students identified personal growth, career advancement, and personal fulfillment through realization of their dreams as positive qualities of their future profession. For example, a student said, “So I like to live out my childhood dreams, and one thing I really want to do, I know you might laugh, but I want to make a power range robot, so I know that engineering will give me the skills to kind of head towards that.” In focus group discussions, ND students revealed that a lack of diversity in their future profession was positive, because it presents an opportunity to bring diversity to the field and to serve as role models for others. Unique to DIET students, “working with food” was reported as a positive quality.

Table 4. Positive qualities about future profession as reported by African-American dietetics and non-dietetics students (N=40)^a

| Positive Quality | Dietetics Students – Interviews | Dietetics Students – Focus Groups | Non-Dietetics Students – Interviews | Non-Dietetics Students – Focus Groups |
|----------------------|---------------------------------|-----------------------------------|-------------------------------------|---------------------------------------|
| Versatility | X | X | X | X |
| Help people | X | X | X | X |
| Work with people | X | X | X | X |
| High impact | X | X | X | X |
| Travel | | | X | X |
| Job security | | | X | X |
| High salary | | | X | X |
| Challenging work | | | X | X |
| Personal growth | | | X | |
| Career advancement | | | X | |
| Personal fulfillment | | | X | |
| Lack of diversity | | | | X |
| Work with food | | X | | |

^a“X” indicates that positive quality was a major theme for the category of students.

Negative qualities about future profession

Both DIET and ND students identified the need for an advanced degree or additional training, such as an internship, as a negative aspect of their future profession (Table 5). One student reported, “I have to get my Master’s or maybe my PhD in order to do what I want to do.” Students believed that this would delay their ability to earn a salary, repay student loans, or begin to build a career. A lack of diversity in the profession was also perceived as a negative quality by DIET and ND students. Racism in the workplace was a concern. Dietetic students specifically indicated that dietetics does not have many African-American professionals. Both DIET and ND students mentioned that a lack of respect for the profession by other professionals was another negative quality.

African-American ND students cited a lack of amenities in the profession as a negative quality. This included a less than ideal job location, working with a company

that is disliked or not outstanding, inflexibility in the work schedule, “long hours” and “sleepless nights,” “high stress,” and working in hazardous conditions. These students also indicated that independent work was required and was a negative quality of their future profession, noting that without a network, it would be hard to advance. Perceived lack of promotion of African-American professionals was also an overall concern by ND students.

During interviews, ND students identified a lack of benefits and limited upward mobility as negative qualities. These ND students, as well as DIET students in focus groups, believed that “low salary” was a negative quality of their future profession. During focus groups, ND students discussed that their fields were “saturated” such that opportunities were limited. They also noted that their fields were “political,” citing changes in public funding for professional programs due to political agendas and power shifts. Some of the ND students indicated that there were no negative qualities to their future profession.

African-American DIET students believed that the image of the professional was a negative quality. They perceived that the image of the dietitian was “healthy,” “skinny,” and “perfect.” These students also mentioned that many African-American men and women do not fully fit this stereotype.

Table 5. Negative qualities about future profession as reported by African-American dietetics and non-dietetics students (N=40)^a

| Negative Quality | Dietetics Students – Interviews | Dietetics Students – Focus Groups | Non-Dietetics Students – Interviews | Non-Dietetics Students – Focus Groups |
|--------------------------------------|---------------------------------|-----------------------------------|-------------------------------------|---------------------------------------|
| Advanced degree or training required | X | X | X | X |
| Lack of diversity | X | X | X | X |
| Lack of respect for the profession | X | X | X | X |

| | | | | |
|--|---|---|---|---|
| Lack of amenities | | | X | X |
| Requirement for independent work | | | X | X |
| Lack of promotion | | | X | X |
| Lack of benefits | | | X | |
| Limited upward mobility | | | X | |
| Low salary | | X | X | |
| Limited opportunities because the field is saturated | | | | X |
| Political | | | | X |
| Image of the professional | X | X | | |
| None | | | X | |

^a“X” indicates that negative quality was a major theme for the category of students.

Experiences that influenced remaining in current major

African-American DIET and ND students indicated that faculty, staff, and academic advisors provided encouragement and assistance that motivated them to remain in their major (Table 6). Both DIET and ND students believed that classes, personal interest or passion for the major, and real-world experiences also influenced them to continue their major. Non-dietetics students mentioned that characteristics of the department, such as a “small size,” national reputation, and “research focus,” influenced their decision to continue their major. These ND students also noted that involvement in student organizations facilitated social interactions with peers and increased awareness of the major, classes, and future profession. These organizations promoted a sense of belonging.

Other influences cited by ND students included family, time already invested (“I have too many grades; I’m almost done with my degree, so there is no purpose in changing my major.”), challenge, scholarships, career goals, friends and peer mentors, and role models. In interviews, ND students indicated that personal growth from

constantly learning influenced them to stay in their major. Specifically to DIET students, a belief that they will make a difference in the field and have an impact on society influenced them to remain in dietetics. A lack of diversity in the field and potential opportunities that this may bring was described during ND student focus groups as an influence to continue their major.

Table 6. Influences to remain in current major as reported by African-American dietetics and non-dietetics students (N=40)^a

| Influence | Dietetics Students – Interviews | Dietetics Students – Focus Groups | Non-Dietetics Students – Interviews | Non-Dietetics Students – Focus Groups |
|--|---------------------------------|-----------------------------------|-------------------------------------|---------------------------------------|
| Mentor (faculty, staff, advisor) | X | X | X | X |
| Classes | X | X | X | X |
| Personal interest/passion | X | X | X | X |
| Real world experiences | X | X | X | X |
| Characteristics of the department | | | X | X |
| Student organizations | | | X | X |
| Family | | | X | X |
| Time already invested | | | X | X |
| Challenge | | | X | X |
| Scholarships | | | X | X |
| Career goals | | | X | X |
| Friends and peer mentors | | | X | X |
| Role models | | | X | X |
| Personal growth from constantly learning | | | X | |
| Belief of making a difference | X | X | | |
| Opportunities from lack of diversity | | | | X |

^a“X” indicates that influence was a major theme for the category of students.

Methods to increase African-American students in major

Both DIET and ND students believed that more African-American individuals would enroll in their major if the major were more widely advertised and visible (Table 7). Students cited Virginia Tech as being primarily known for its engineering, chemistry,

physics, biology, psychology, sociology, interdisciplinary studies, English, and architecture programs.

Both DIET and ND students indicated that more African-American individuals would enroll in their major if there were more faculty mentors, if the need for African-American students in their major were publicized, and if there were recruitment and retention practices targeted toward African-American individuals. Students specifically suggested recruiting as early as junior high and high school, partnering with historically black colleges and universities and community colleges, and using programs such as the MAOP to increase the number of African-American students in their major. Both DIET and ND students verbalized that more African-American students would enroll in their major if there were more African-American faculty in their department. Students desired more African-American faculty in their major to serve as role models and mentors and to more easily form connections with faculty who share similar experiences.

During ND sessions, students noted that more African-American students would enroll in their major if more African-American individuals enrolled at Virginia Tech in general. One student commented, “If Tech were out to get more African-Americans, then that would trickle-down to whatever specific major we’re talking about.” In addition, ND students believed that scholarships or other funding would increase students in their major. Advertising of careers that are available with a degree in the major and the need for African-American professionals in these careers was cited by ND students as a method to increase African-American students in their major.

Increasing salary, establishing peer mentoring programs, requiring introductory courses, and organizing student groups were identified by ND students during interviews

as ways to increase African-American students in their major. Some ND students were unsure. Some noted that nothing would help to increase the number of African-American students in their major, because the choice depended on personal interests.

Table 7. Methods to increase African-American students in major as reported by African-American dietetics and non-dietetics students (N=40)^a

| Method | Dietetics Students – Interviews | Dietetics Students – Focus Groups | Non-Dietetics Students – Interviews | Non-Dietetics Students – Focus Groups |
|---|---------------------------------|-----------------------------------|-------------------------------------|---------------------------------------|
| Advertise | X | X | X | X |
| Faculty mentors | X | X | X | X |
| Publicize need | X | X | X | X |
| Recruitment and retention | X | X | X | X |
| Increase African-American faculty in department | X | X | X | X |
| Increase African-American individuals enrolled at Virginia Tech | | | X | X |
| Scholarships | | | X | X |
| Advertising of careers | | | X | X |
| Increasing salary | | | X | |
| Establishing peer mentoring programs | | | X | |
| Requiring introductory courses | | | X | |
| Organizing student groups | | | X | |
| Nothing | | | X | |
| Unsure | | | X | |

^a“X” indicates that method was a major theme for category of students.

Methods to increase African-American individuals in future profession

Both DIET and ND students indicated that professional organizations could assist with increasing the number of African-American individuals in their profession by offering awareness of the profession, networking, advancement, and social interactions (Table 8). Students also believed that the number of African-American individuals in

their profession would increase with more “active recruitment” efforts, “increased salary,” emphasis of the impact of the profession, improved career benefits, and greater access to and affordability of advanced education. During interviews, African-American ND students indicated that the number of African-American individuals in their profession would increase if changes in hiring practices were made, such as hiring employees based solely on applicant qualifications and not by who the applicant knew. An example of this sentiment was provided by one student who stated, “I feel as if the good-old-boy system, the networking system, it does hinder the fact that qualified people don’t get jobs very often because of the system. So, I feel as if networking should be downplayed slightly and qualification should be taken in more consideration, higher consideration.” These ND students also noted that having more African-American role models would increase the number of African-American individuals in their profession.

African-American ND students perceived that a positive office environment and career laddering would help. Some ND students were unsure about methods to increase African-American individuals in their profession.

Table 8. Methods to increase African-American individuals in future profession as reported by African-American dietetics and non-dietetics students (N=40)^a

| Method | Dietetics Students – Interviews | Dietetics Students – Focus Groups | Non-Dietetics Students – Interviews | Non-Dietetics Students – Focus Groups |
|---|---------------------------------|-----------------------------------|-------------------------------------|---------------------------------------|
| Professional organizations | X | X | X | X |
| Active recruitment efforts | X | X | X | X |
| Increased salary | X | X | X | X |
| Emphasis of the impact of profession | X | X | X | X |
| Improved career benefits | X | X | X | X |
| Greater access to and affordability of advanced education | X | X | X | X |

| | | | | |
|------------------------------|--|--|---|---|
| Changes in hiring practices | | | X | |
| African-American role models | | | X | |
| Positive office environment | | | X | X |
| Career laddering | | | X | X |
| Unsure | | | X | X |

^a X” indicates that method was a major theme by category of students.

Guidance of African-American faculty member or professional on decisions

Both DIET and ND students mentioned that the guidance of an African-American faculty member or professional in their field would have impacted their decisions (Table 9). However, some ND students indicated that this would not have made a difference, because the genuine interest in the student on the part of the faculty member was more important than racial/ethnic origin. Some DIET and ND students were unsure if this would have made a difference for them.

African-American DIET and ND students further revealed that a critical mass of African-American faculty at Virginia Tech was crucial. They also perceived that having an African-American faculty member as a mentor or role model would have been helpful for building relationships in addition to helping with recommendations for personal needs, such as “hair care” and “medical care”. They could have shared common ground and experiences, and guidance would have been provided within an African-American context. A male student reported, “I identify more so with people of my, my own race or ethnicity easier. And it’s a lot easier to talk to and they understand where you’re coming from when you’re asking a question.” During interviews, ND students believed that student organizations could have provided an avenue for African-American student-faculty interactions, speakers, and other activities.

Table 9. Guidance of African-American faculty member or professional on decisions as reported by African-American dietetics and non-dietetics students (N=40)^a

| Would the guidance of an African-American made an impact on decisions | Dietetics Students – Interviews | Dietetics Students – Focus Groups | Non-Dietetics Students – Interviews | Non-Dietetics Students – Focus Groups |
|---|---------------------------------|-----------------------------------|-------------------------------------|---------------------------------------|
| Would have | X | X | X | X |
| Would not have | | | X | X |
| Unsure | X | X | X | X |

^a“X” indicates response provided by category of students.

Information helpful to African-American individuals considering the dietetics major

Dietetic students cited the importance of paid, volunteer, research, and other dietetics-related work experiences as a critical piece of information that African-American students considering dietetics as a major should have. These DIET students also indicated that prospective students should be informed as early as possible about the dietetic internship so that internships could be researched, carefully evaluated, and considered from a financial perspective.

Thoughts about the dietetics major by ND students

African-American ND students revealed their thoughts about the dietetics major. Students called the major “interesting,” “good/great,” “hard” (math and science courses), “relevant,” “specialized,” “easy,” “credible,” and “challenging.” During interviews, ND students identified the dietetics major as “cool,” “not stressful,” “manageable,” “respectable/prestigious,” “fine/neat,” and “uninteresting.” During ND student focus groups, the internship requirement was noted as a negative aspect of the major.

Why few African-American individuals select dietetics as a major

African-American ND students suggested that so few African-American individuals select dietetics as a major because of the volume of math and sciences in the coursework. In addition, ND students did not perceive that the major was known to

African-American individuals, citing a lack of awareness about the major, poor advertising, and poor recruitment efforts. “Low salary,” “lack of interest,” and lack of role models were also indicated by ND students during interviews and focus groups as barriers. The relevance of dietetics to African-American individuals and families was stated as a reason why so few African-American individuals major in dietetics, noting that the African-American community does not focus on healthy eating and prevention of chronic disease. One student said, “And probably because a lot of African-Americans were raised in like, me personally, my family eats everything. And many meals are different from any of my White friends. Our traditions are different from any of my White friends. And they’re a lot, a lot of the White students that I’ve come in contact with are a lot health oriented, more so than my Black friends.” In addition, ND students in interviews believed that careers that could be pursued with a dietetics degree may not be known among African-American youth.

Based on the coursework, ND students noted that dietetics would be manageable, if science was an interest and if one was good at math. Also, after reviewing the coursework, ND students indicated that dietetics was probably not an easy major. African-American ND students inquired about the image of dietetics and stated the notion that one must look healthy to be in the major.

DISCUSSION

The hypothesis that African-American DIET students selected dietetics as their major for altruistic reasons such as “a desire to help people” was supported by this study. Unique to DIET students, these individuals also selected the major due to an interest in food, nutrition, and fitness. African-American ND students did not select the dietetics

major, due, in part, to a lack of awareness of the dietetics major, supporting the hypothesis related to ND students. In this exploratory qualitative study, other factors were also highlighted in the choice of college major by African-American ND students.

Due to many African-American individuals not being aware of dietetics as a major and career, perhaps the profession should target African-American youth, beginning as early as junior high. One ND student stated, “You can never start recruiting too early.” This suggestion appears valid as many of these African-American students reported being introduced to their chosen major in their junior high or high school years. The aforementioned recommendation also supports previous findings that demonstrated that partnerships with predominantly minority high schools, community colleges, and undecided majors early in college was important to attracting underrepresented students into dietetics (10). One DIET and 20 ND students (> 50% of respondents) reported changing their major one or more times. Clearly, there is a window of opportunity in which African-American college students can be recruited into dietetics. Moreover, some ND students indicated that they might have “considered a minor in dietetics” if they were aware that this academic program existed. Markley and Huyck (9) found that 17.7% of their survey participants chose dietetics as a second career, supporting the idea that dietetics awareness and advertising among African-American individuals must begin in youth and be continuously provided.

Colson and colleagues (10) reported that job/career fairs were least effective among factors that attracted African-American professionals to dietetics/nutrition. Among a student audience of respondents, career days or fairs were also reported as ineffective in leading students to consider dietetics. However, African-American

students in the current study identified the lack of African-American professionals represented at career days or fairs as problematic. Specifically, DIET students remarked that there are “not very many African-American dietitians.” As suggested by both DIET and ND students, having African-American representatives at career fairs may make the major and career more visible to African-American individuals and increase interest in the field. This visibility may allow African-American youths to witness the professional success of African-American dietitians. One ND student stated that “...people could see them and be like, oh that’s something I could do.”

Positive qualities about their future profession reported by ND students are those same qualities offered by a career in dietetics. Versatility, working with and helping people, having an impact on the profession and society, challenging work, and job security are all positive aspects of the dietetics profession. Advertising these qualities to African-American pre-professionals is critical. One African-American ND student remarked, “I didn’t know what career that a dietetics major could lead to.” The multitude of career paths afforded by a degree in dietetics must be better advertised in the African-American population.

An important concern verbalized by both DIET and ND students related to requirements for advanced degrees and/or additional training beyond the undergraduate degree. African-American individuals considering dietetics as a major and career should be informed of this requirement early so that individuals may plan accordingly and select program, work, and/or financial assistance pathways that support their success in undergraduate, internship, and potentially, graduate programs. Dietetic internship and graduate programs may need to consider academic support mechanisms and financial

packages that promote recruitment and retention of African-American students in dietetics programs.

Student retention is also an important aspect of the student experience. Advisors and mentors were cited as helpful to remaining in a major by students. More specifically, many African-American DIET and ND students believed that having the guidance of an African-American faculty would have made an impact on their decisions, if the faculty member were genuinely interested in their success. It was not enough to merely have African-American faculty present, but it was essential to have knowledgeable, resourceful, and caring African-American faculty members available to relate to, encourage, and motivate students. African-American faculty and mentors are severely underrepresented in many dietetics programs. Less than 5% of all registered dietitians are of African-American race, and very few of these individuals possess doctorate degrees along with the registered dietitian credential (4). The dietetics profession must make a commitment to increasing the “pipeline” for African-American faculty at colleges and universities in the United States. Communicating the importance of having African-American individuals in the dietetics profession to provide more culturally relevant dietetics services is critical.

Educating African-American communities regarding relationships among food, nutrition, and health may need greater prioritization, if one desires to increase the number of African-American dietitians. Both DIET and ND students mentioned that African-American individuals do not focus on healthy eating and prevention of chronic disease. In general, this statement appears true as the African-American community is affected by cardiovascular disease, diabetes, stroke, and some cancers at rates greater than any other

racial group. A necessary step to increasing the number of African-American dietitians may be the awareness of the relevance and importance of proper nutrition among African-American individuals through targeted messages. Related to appropriate nutrition and health implications for African-American communities, one ND student remarked that “you have to look the part to be a dietitian.” In another interview, a ND student asked if the profession or major “would accept someone who is overweight and had bad eating habits.” African-American DIET students described the dietitian image as “perfect,” “skinny,” and “healthy,” noting that these physical features are not characteristic of many African-American men and women. Dietetics as a professional organization may need to dispel some stereotypes attributed to professionals, such as “thin” and “eats only healthy foods all the time” if the profession is to appear open to African-American pre-professionals.

Representation of African-American students and professionals on promotional posters and flyers and in textbooks at Virginia Tech has been adequate; however, African-American faces have been missing in academic classrooms, at career fairs, and on advisory boards. Advances in these areas must be made if recruitment and retention efforts in the African-American community are to be successful.

Limitations to this qualitative study exist. Approximately 4% of the African-American student population at Virginia Tech participated in this study. Each elicitation interview and focus group discussion was facilitated by an African-American female graduate student to create a nonthreatening environment for DIET and ND students to share honest remarks. Although efforts were made to provide a safe and open situation for exchanges, some DIET and ND students may have experienced discomfort and may

have withheld comments or provided appeasing remarks. Both elicitation interviews and focus groups were conducted due to the small study population. Students were in various stages of their college experiences and in a variety of majors. Despite these limitations, many common themes arose.

One strength of this study is that only African-American students were included. As a result, students' perceptions of their majors, future professions, and the dietetics major relevant to African-American individuals were identified. Although, the 40 participants included in this study did not represent the entire voice of the African-American student population or African-American students at other universities, these participants' insightful remarks provide valuable information for program planning. Intense and active recruitment of African-American youth at an early age is important. Making the dietetics major visible and attractive to students in junior high and high school was a resounding theme. Increasing targeted messages of healthy eating for well being and disease prevention in the African-American community may increase the awareness of dietetics and nutrition among African-American individuals and families. Dispelling the myth that dietitians are "perfect," "skinny," and "always eat healthfully" is an important task in the African-American population. If pre-professionals know about the dietetics major and profession, but cannot envision themselves in the role, then additional efforts are required to showcase dietetics as an inclusive profession. African-American faculty in dietetics programs appears critical to increasing the number of African-American youth who select dietetics as a major.

To meet the level of trust and satisfaction with care (2, 3) desired by African-American individuals, more African-American registered dietitians are needed. If

recipients of nutrition interventions share the same racial/ethnic background as the dietitian, misunderstanding of the psychosocial environment, dietary patterns, and food preferences and tolerances may decrease, potentially improving compliance, health, and well being of African-American individuals, families, and communities.

CONCLUSIONS

African-American ND students do not select dietetics as a major for a variety of reasons, one of which is a lack of awareness of the dietetics major. African-American DIET students select this major due to a desire to engage in an altruistic profession, among some other factors. Directors of didactic programs should create recruitment and retention strategies that fit the culture of their respective universities and colleges and implement these strategies to increase awareness of the dietetics major and the advantages of a career in dietetics. In order to increase diversity in the field of dietetics, academic needs and interests of African-American students must be assessed and implementation goals for program-specific changes must be set. It is imperative that awareness of dietetics as a major and career increase among African-American youth if culturally sensitive nutrition education and guidance is to be optimally provided to our increasingly diversified United States population.

ACKNOWLEDGMENTS

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CHAPTER IV

SUMMARY AND FUTURE DIRECTION

Elicitation interviews and focus group discussions revealed that African-American students do not select dietetics as a major for a variety of reasons, including lack of awareness and poor advertising. Many African-American students chose their majors due to a desire to help other people and/or to work with individuals. Recruitment efforts aimed to increase the number of African-American individuals in the dietetics profession should begin as early as junior high school and include an assortment of advertising and recruiting strategies. Once the facilitators and barriers to the selection of dietetics as a major by African-American students are understood, it is imperative that didactic programs interested in racially diversifying their programs establish specific program recruitment and retention strategies conducive to their campus environment.

A major limitation to this study was the small sample size ($n=40$); however, major themes emerged. Due to the fact that less than 4% of Virginia Tech's population is African-American and less than 3% of dietetics students at Virginia Tech are African-American, this line of research must be extended to other college and university campuses. Although it is important that campus-specific recruitment and retention strategies are implemented at each college or university, gathering a generalized census of effective recruitment and retention strategies suggested by African-American students is even more critical. Targeting historically black universities and colleges, where African-American students are the majority is an ideal setting to recruit participants for

future studies. Also, targeting junior high and high schools highly populated by African-American students would be ideal.

The development of a quantitative survey created from the results of a qualitative survey may serve as a valuable instrument to assist researchers interested in surveying a greater sample of African-American students and further investigating the facilitators and barriers to the selection of dietetics as a major by African-American students. These instruments can be disseminated via electronic messages and/or postal mail to didactic program directors and/or high school counselors. Results can be published in scholarly research journals and distributed to interested didactic program directors and high school guidance counselors. These results can be used to further assist administrators to develop campus-specific recruitment and retention strategies aimed to increase enrollment of African-Americans in dietetics.

APPENDIX A

Recruitment Flyer for Elicitation Interviews and Focus Groups

Recruitment Electronic-mail Message

SHARE YOUR OPINIONS ABOUT YOUR MAJOR AT VIRGINIA TECH!

Investigators in the Department of Human Nutrition, Foods and Exercise are conducting a study to identify the reasons that African-American students choose their majors and not the dietetics major. You may be eligible to participate in this study if you are:

- African-American, Black, or Black-American;
- 18 years of age or older;
- currently enrolled as a student at Virginia Tech;

You will be asked to complete a demographic survey and participate in one, 2-hour focus group discussion or interview. After completion of the focus group, you will be provided with a \$10.00 gift card to a local grocery store. If interested in this study, please contact Ms. Felton (tfelton@vt.edu) for more information.

| | | | | | |
|---|---|---|---|---|---|
| Major Study tfelton@vt.edu |
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APPENDIX B

Informed Consent Form for Elicitation Interviews and Focus Groups

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Informed Consent for Participants in Research Projects Involving Human Subjects

Title of Project: Lack of African-American Students in Dietetics: Where is the Faulty Pipeline?

Investigator: Sharon M. (Shelly) Nickols-Richardson, PhD, RD

- I. Purpose of this Research/Project:** Undergraduate students at Virginia Tech who identify themselves as African-American, Black, and/or Black-American will be invited to participate in this study. Students will include those who are enrolled in the dietetics and non-dietetics majors at Virginia Tech. All students will be at least 18 years of age. About 110 students will participate in this research. The purpose of the study is to collect information about what students think about the dietetics and non-dietetics majors here at Virginia Tech, with the goal of identifying why African-American students do and do not choose dietetics as a major. All of this information will be used to plan programs to increase the number of African-American students in the dietetics major at Virginia Tech, with the long-term plan to help increase the number of African-American faculty in dietetics.
- II. Procedures:** If you participate in this study, you will be asked to complete a demographic data questionnaire. Then, you will be asked to attend one focus group session, which will last approximately 2 hours. During the focus group, you will discuss your perceptions and experiences during your time as a student at Virginia Tech related to our major and your future career. There will be approximately 12 participants in each focus group, all recruited from Virginia Tech. Ms. Teena Felton, an African-American graduate student in the Department of Human Nutrition, Foods and Exercise (HNFE) will lead the discussion. Dr. Nickols-Richardson, a faculty member in HNFE will serve as an assistant and will take notes during the discussion. The discussion will also be audiotaped. No names will be included on the notes taken, but first names may inadvertently be used during the discussion and appear in the audiotape.
- III. Risks:** The risks or discomforts involved with this study are small. If you do not wish to answer any question on the demographic data questionnaire, you do not have to. If you do not wish to respond or participate in the discussion of a particular issue, you will not be forced to do so. You may be asked to respond in a focus group if you have not yet done so during the discussion, but you may choose to not respond without penalty. None of the questions will be

about sensitive information, since we will be asking only about your major and your future career.

- IV. Benefits:** If you participate in this study, you will benefit from participating in a focus group discussion by hearing about how other students chose their majors and what they think about their future careers. The major benefit of this study will be information that we can use to help make it easier for future students to choose dietetics as a major.
- V. Extent of Anonymity and Confidentiality:** All of your information from the study will be confidential. Your name will not appear on your demographic data questionnaire. Your full name will not be used on the notes taken during the discussion, and only first names if any will be used during the discussion (and thus be included in the audiotape). The only record of your participation will be on a list that must be kept for accounting purposes. We will need your name, social security number, address and phone number recorded on a list before we can give you the Kroger's grocery store gift card.
- VI. Compensation:** If you participate in this study, you will receive a \$10.00 gift card to Kroger's grocery store at the conclusion of the focus group discussion.
- VII. Freedom to Withdraw:** If you agree to participate in this study, you are free to withdraw or stop participation at any time without penalty. You will receive the \$10.00 gift card if you begin the focus group discussion but determine that you need to leave during the discussion. If the researchers decide that you should not continue as a subject for any reason, you may be asked to withdraw from the study. If this happens, you will still receive the \$10.00 gift card.
- VIII. Subject's Responsibilities:** I voluntarily agree to participate in this study. I have the following responsibilities:

*Complete a demographic data questionnaire.

*Attend one, 2-hour focus group discussion. During this focus group, I will discuss with a group of my peers my experiences and perspectives related to my major at Virginia Tech and future career.

- IX. Subject's Permission:** I have read and understand the Informed Consent and conditions of this project. I have had all my questions answered and have been given a copy of this form to keep. I hereby acknowledge the above and give my voluntary consent:

PRINTED NAME OF SUBJECT: _____

Signature of Subject

Date _____

Signature of Investigator

Date

Should I have any pertinent questions about this research or its conduct, and research subjects' rights, and whom to contact in the event of a research-related injury to the subject, I may contact:

Dr. Sharon M. (Shelly) Nickols-Richardson
Investigator

(540) 231-5104/ snrichar@vt.edu
Telephone/e-mail

Dr. Kathy Hosig
Departmental Reviewer

(540) 231-4900/ khosig@vt.edu
Telephone/ e-mail

Dr. David Moore
IRB Chair

(540) 231-4991/ moored@vt.edu
Telephone/ e-mail

APPENDIX C

Demographic Questionnaire

Demographic Questionnaire

Please complete the following questions as honestly and completely as possible. Insert or circle the response that is most appropriate to you.

1. What is your age? _____ years
2. What is your gender? Male Female
3. What is your race? _____
4. What is your ethnicity? _____
5. What is your academic level? Freshman Sophomore Junior Senior
Graduate
6. What is your current major? _____
7. Did you enter this major as a Freshman? Yes No
If you responded No, at what level did you enter your major?
8. How many times have you changed your major? 0 1 2 3 4 5 >5
9. What do you think is the number of African-American students in your major?

10. What do you think is the number of African-American faculty in your major?

11. How are you paying for college? (Please circle all that apply.)

My parents are paying for college

I am paying for college all by myself

I am paying for college along with my parents

I receive scholarships to pay for college

Other (please explain) _____

APPENDIX D

A Brief Description of Dietetics

Brief Description of Dietetics

Dietetics is the field related to the promotion of good health through appropriate eating. A Registered Dietitian (RD) is the trained professional that is credentialed to supervise the preparation and service of food, develop modified diets, participate in research, and educate individuals on sound nutritional habits. Registered Dietitians must complete a minimum of a bachelor's degree at a U.S. regionally accredited university or college and course work approved by the Commission on Accreditation for Dietetics Education (CADE), complete a CADE –accredited supervised practice program, and pass a national examination administered by the Commission on Dietetic Registration (CDR). In addition, RD's must complete continuing professional educational requirements to maintain registration.

Dietitians work in a multitude of settings, some of which include healthcare, food service, public health, industry, and academia. As with any profession, salaries and fees vary by region of the country, employment settings, scope of responsibility and supply of RD's. According to ADA's 2002 Dietetics Compensation and Benefits Survey, the median annual income for registered dietitians in the United States who have been working in the field for at least a year is \$45,000, however, salaries increase with experience.

The Human Nutrition Foods and Exercise program here at Virginia Tech is accredited by the American Dietetics Association (ADA). This diverse program covers course work from chemistry to nutrition, foods to management, and counseling to microbiology. Upon completion of the B.S. degree, students apply to a supervised ADA-approved dietetic internship as a required component of the process towards becoming a Registered Dietitian (R.D.).

APPENDIX E

*Elicitation Interviews and Focus Groups Directed Questions and Probes,
Dietetics Majors (DIET)*

Focus Group Questionnaire

Dietetics Major (DIET)

1. What are some reasons that you chose dietetics as a major?
Probes: Family involvement/influence; childhood aspirations; self-interest in nutrition and dietetics; influence of an advisor/mentor

2. What do you consider the most positive qualities about the dietetics profession?
Probes: Flexibility; consumer demand; career opportunities; security; routine work

3. What do you consider the most negative qualities about the dietetics profession?
Probes: Stereotyping; second-tier health professional; mentoring

4. What are some experiences that influenced your choice to stay in the dietetics major?
Probes: Faculty interactions; sense of belonging in classroom; experiential learning; mentoring; peer group influences

5. What do you think can be done to increase the number of African-Americans in the dietetics major?
Probes: Scholarships; awareness of major; mentoring

6. What do you think can be done to increase the number of African-Americans in the dietetics profession?
Probes: Internship funding/scholarships; targeted programs; mentoring; salary base; career laddering

7. What type of information might be helpful to African-American students who are considering dietetics as their major?

Probes: Job responsibilities; career laddering; salaries; professional involvement

8. Thinking back over your educational experiences, do you believe that having the guidance of an African-American faculty member or dietetics professional would have made an impact on your decisions?

Probes: mentoring; networking; communication; understanding of experiences and culture

APPENDIX F

Elicitation Interviews and Focus Groups Directed Questions and Probes, Non-Dietetics,

Majors (ND)

Focus Group Questionnaire

Non-Dietetics Majors (ND)

1. What are some reasons that you chose your major?
Probes: Family involvement/influence; childhood aspirations; self-interest; influence of an advisor/mentor
2. What do you consider the most positive qualities about your future profession?
Probes: Flexibility; consumer demand; career opportunities; security; routine work
3. What do you consider the most negative qualities about your future profession?
Probes: Stereotyping; mentoring; salary
4. What are some experiences that influenced your choice to stay in your major?
Probes: Faculty interactions; sense of belonging in classroom; experiential learning; mentoring; peer group influences
5. What do you think can be done to increase the number of African-American in your major?
Probes: Scholarships; awareness of major; mentoring
6. What do you think can be done to increase the number of African-Americans in your profession?
Probes: Internship funding/scholarships; targeted programs; mentoring; salary base; career ladder

7. Thinking back over your educational experiences, do you believe that having the guidance of an African-American faculty member in your field would have made an impact on your decisions?

Probes: Mentoring; networking; communication; understanding of experiences and culture

8. What do you think of the dietetics major?

Probes: Rigor; credibility; career opportunities

9. Why do you think very few African-American students select dietetics as a major?

Probes: Rigor; salaries; peer groups

APPENDIX G

IRB Approval Memo

DATE: December 16, 2005

MEMORANDUM

TO: Sharon M. Nickols-Richardson Human Nutrition, Foods, & Exercise 0430

FROM: David Moore 

SUBJECT: **IRB Expedited Approval:** "Lack of African-American Students in Dietetics:
Where is the Faculty Pipeline?" IRB # 05-771

This memo is regarding the above-mentioned protocol. The proposed research is eligible for expedited review according to the specifications authorized by 45 CFR 46.110 and 21 CFR 56.110. As Chair of the Virginia Tech Institutional Review Board, I have granted approval to the study for a period of 12 months, effective December 16, 2005.

Virginia Tech has an approved Federal Wide Assurance (FWA00000572, exp. 7/20/07) on file with OHRP, and its IRB Registration Number is IRB00000667.

cc: File

Vita**Defense Date: May 7, 2007**

Teena M. Felton was born in Elizabeth City, NC on January 1, 1982. She graduated with a Bachelor of Science degree in Human Nutrition Foods and Exercise from Virginia Polytechnic Institute and State University, in 2004. During her Master's studies at Virginia Tech she was the Peer Mentor Program Coordinator for the Multicultural Academic Opportunities Program (MAOP) and one of the Ronald E. McNair graduate assistants. She will engage in a dietetic internship in Peoria, IL in the fall of 2007.